WORK PACKAGE 5: PARTICIPATORY RESEARCH

DEL 5.4 REPORT ON THE QUANTITATIVE CASE STUDIES

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SocIEtY: SOCIAL INNOVATION - EMPOWERING THE YOUNG FOR THE COMMON GOOD

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SocIEtY
Social Innovation | Empowering the Young for the Common Good

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SocIEtY: SOCIAL INNOVATION - EMPOWERING THE YOUNG FOR THE COMMON GOOD

CHAPTER 1

UNDERSTANDING AGENTS' VIEWS OF YOUTH UNEMPLOYMENT AND YOUNG PEOPLE'S INTEGRATION INTO SOCIETY

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1. Executive Summary

Introduction

Using the Capability Approach as a framework, this chapter seeks to understand the assumptions operated and valued by agents responsible for the development and implementation of policy in different parts of Europe (UK (Scotland), France, Italy, Denmark and Romania). It explores the attitudes of agents towards the barriers and challenges to young people getting into employment, as well as their integration into, and participation in, society more generally.

Methods

In order to probe and expose underlying attitudes, this chapter applies an approach developed in the 1930s to tease out people's underlying value system; the approach is known as the 'Q method approach'. The Q method approach is neither a quantitative nor a qualitative method; rather, it is a blend of the two, aiming to apply statistical thinking to small samples in a way that the subject sets the measurement system. In this sense, the method is 'participatory'. This approach has merits over the traditional quantitative approaches, called R methods, which are perceived as too restrictive and reductionist, by forcing the subject to report their view, values, attitudes or beliefs on a pre-set measurement system.

The method involves presenting the subject with a series of statements in a random order, pertaining to the issue being investigated. The statements are presented on individual cards. These statements range from very negative to very positive in nature, often controversially so, in order that extremes of a scale can be set. The respondent first sorts the statements into three piles; those they agree with, those they disagree with and those they are neutral about. Next the respondent performs a finer sort called a Q sort. Here the respondent is 'forced' to slot the statements into a grid along a scale of completely disagree to completely agree. This allows statements to be ranked. Creating the z-scores allows methods designed in the R method domain to be applied, such as factor analysis. This means that responses to questions become cases and subjects become variables – a transposition of convention. By doing this, one can get a deep analytic insight into the feelings, attitudes, beliefs etc. of a few individuals.

In this application of the method, the aim was to compare the attitudes towards the young (defined as those aged 16 to 24 years) by agents in five participating countries: the UK (Scotland), France, Italy, Denmark and Romania. The responding agents were chosen to represent a range of facilitating positions who were involved in developing or implementing policy. The agents often represented local and regional areas. For example for France, agents were selected from Agen within the Aquitaine region. Therefore, these agents and the results cannot be taken as nationally representative of views.

Two aspects of agents' influence on young people's lives were investigated:

1. Attitudes to young people getting into employment
2. Attitudes to young people's integration into society

The statements used were chosen based on findings from earlier work packages combined with statements relating to young people from a review of their representation in popular media. Thirty-four statements were selected for each topic.

The respondents were also asked some follow up interview questions to list 'inhibitors' and 'promoters' relating to a young person with no or low qualifications getting into employment, and integrating into society.

Results

Entry into employment

- The majority think that young people lack awareness about labour market opportunities. This is not a view held by some Romanian agents.

- All agents, apart from those in Italy, think that young people have unrealistic expectations about their earning potential.

- Opinions are divided over the question that young people have rich and diverse social networks that can help them get into work - most think that the young people's networks are weak - but Italian and Romanian agents seem to consider young people's networks satisfactory.

- The consensus is that young people have poor job search skills; this view is especially held by agents in France.

- Agents in the UK believe that young people are trustworthy. Agents in other groups do not hold this opinion.

- All, with the exception of French agents, do not agree with the statements *"young people are not respectful to their peers"* and *"young people are not reliable"*.

Integration into society

Most agents were positive about young people's capability to integrate into society, agreeing with positive statements about young people and disagreeing with negative statements about the young. Notable exceptions are a particular group of agents from the UK and Denmark, who strongly agree that young people do not make good bosses, and a mixed group of agents who agree with the statements that young people have no civic interest, lack the energy to engage in civic duties, are not interested in work and do not conform to society's rules. Agents from France strongly agree with

the statement *"young people do not have a sense of community"* and strongly disagree with the statements that *"young people are confident" and "proportionately the young are more involved in crime"*.

Regarding agents' perception of society's attitude to young people, Italian agents have much stronger agreement with the negative statements (e.g. *"society has a negative attitude towards the young"*, *"people underestimate the abilities of the young"* and *"society does not try to include young people"*) than the other groups. Romania stands out as the only group disagreeing with the statement *"society has a negative attitude towards the young"*.

Overall, it seems agents have a positive view of the ability of the young to integrate into society, but think that society does not view the young positively and that *"after the economic crisis life has become more difficult for the young"*. There was a consensus amongst the agents and no significant difference was found when one-way analysis of variance was applied.

Responses to interview questions

Looking at the agents' views from the interviews relating to young people getting into employment, it appears that most of the inhibitors relate to the attributes of the individual. The exception to this is poor preparation by schools and high employer expectations. Most of the promoters are also related to the individual attributes of the young person. There are few institutional elements - new policies and strong economy are exceptions.

Similarly, agents were asked to list promoters and inhibitors in relation to a young person integrating into society. In the main, statements of inhibitors outnumber promoters, although this time there is more of an institutional element, with agencies and public policy stressed as important promoters amongst the agents. Poverty, unemployment, mental well-being and discrimination in society are mentioned as important inhibitors.

In both scenarios, social connections, social networks and access to social capital are stressed as being important, but also important inhibitors are unstable family life and failure to learn appropriate social skills. Stable family life is also listed as a promoter in regard to integration into society.

Discussion and conclusions

The Q method approach allowed agents to participate in the research by revealing their attitudes towards young people. From this work it is evident that most agents have positive attitudes towards young people. The agents from France stand as an exception, tending to view the young more negatively, especially in statements made in the interviews. It appears that agents are not a homogenous group and some differences are detectable between them in terms of the importance they give to statements about young people. From the factor analysis it seems that there is some degree of alignment between agents' agreement with statements and territorial cultures, in that some factors are composed principally of agents from the same country. The UK, Italian and French agents are most likely to align in this way. However, although there is a tendency for countries'

agents to group together, there are a number of factors formed from a mixture of countries. This suggests that overall agents do share similar values, perhaps as a consequence of socialisation into the roles they perform. Regarding the agents from France, although some fit into factors with agents from other countries, a subgroup does stand out as having more negative views on the young than agents from other countries.

Key conclusions are:

- Although factors can be formed along the nationalities of the agents, these factors are often formed by a mixture of nationalities, and it is found that there are no significant differences amongst the countries to groups of questions; although in individual questions some differences do emerge.

- Most of the agents believe young people have positive attributes. The majority view is that young people are able and ambitious - they are 'capable'. However, they lack knowledge of the labour market and have unrealistic expectations.

- There is a minority view that young people are not reliable, enthusiastic about work, flexible, they are not respectful to their peers, and they do not listen to advice. Agents from France fall into this group.

- The majority view is that society does not appreciate young people – schools do a poor job of preparing young people for work, and employers demand too much.

- Social networks and access to social capital is very important for young people getting into employment and integrating into society.

2. Abstract

This chapter seeks to understand the assumptions operated and valued by agents responsible for the development and implementation of policy in different parts of Europe (UK (Scotland), France, Italy, Denmark and Romania) using the Capability Approach as a framework to inform the analysis. It explores the attitudes of agents towards the barriers and challenges to young people getting into employment, as well as their integration into, and participation in, society more generally. The chapter addresses a series of questions about the views and attitudes of agents: Do their views correspond to a highly individualised view of the barriers and challenges faced by young people in the labour market, or do they take a wider view that acknowledges the role of wider economic structures and constraints? Do young people participate in society or are they apathetic? Is politics something that interests young people, or do the institutions in society create barriers to young people's participation? In order to probe and expose underlying attitudes, this chapter applies an approach developed in the 1930s to tease out people's underlying value system; the approach is known as the 'Q method approach'. The Q method approach is neither a quantitative nor a qualitative method; rather, it is a blend of the two, aiming to apply statistical thinking to small

samples in a way that the subject sets the measurement system. In this sense, the method is 'participatory'.

3. Introduction

This chapter seeks to understand the assumptions operated and valued by agents responsible for the development and implementation of policy in different parts of Europe (UK (Scotland), France, Italy, Denmark and Romania). The attitudes of agents towards the barriers and challenges to young people getting into employment, as well as their integration into, and participation in, society more generally are explored in this chapter.

With regard to the barriers and challenges to young people getting into employment, across Europe the youth unemployment rate is a major government concern. The European Commission is working to increase the youth employment rate as part of its 2020 target of achieving a 75% employment rate for the working-age population (20-64 years)[1]. Young people are substantially more likely to be unemployed and looking for work than those in older working age groups, although unemployment rates have been decreasing in the last year. In April 2015 the youth unemployment rate (those aged 15-24 years) was 20.7 % in the EU-28, a decrease since April 2014 when the rate stood at 22.5%. The EU-28 unemployment rate for those aged 15 to 74 years was 9.7 % in April 2015, a decrease from April 2014 when it stood at 10.3 % (Eurostat, 2015). Key to addressing youth unemployment are policies that successfully support young people into employment. In the development and implementation of these policies, certain assumptions are made about the best ways in which to move people into work and the barriers that could present challenges to those who are out of work. At the EU level, for example, there has been an emphasis on employment and social inclusion, and 'more jobs and better jobs' (European Commission, 2010, 2011, 2013). On this matter, previous research carried out as part of the SocIEtY project has shown that youth unemployment rose to unprecedented levels between 2006 and 2012. This rise was accompanied by deterioration in job quality. Thus unemployment and capability unfriendly jobs evolved in conjunction with each other in the majority of countries in Europe (Goffette and Vero, 2015). In addition, at the national policy level in Europe, previous research undertaken as part of the SocIEty project has shown that understandings of disadvantage and the policies used to address youth unemployment focus on individual attributes and deficits rather than taking into account wellbeing and satisfaction with life; and the role of wider economic structures and constraints (Egdell et al., 2014).

Relating to young people's integration into, and participation in, society more generally, a range of assumptions are made in the participative processes aimed at young people. Previous research undertaken as part of the SocIEty project (Egdell et al., 2014) shows that in some countries there is a lack of institutional or formal forms of participation, or the participation of young people is not incentivised (for example in France and Italy) while in other countries there are well-developed policies and channels for young people's participation (e.g. in Austria, Belgium, Switzerland,

[1] Overview Of Europe 2020 Targets, http://ec.europa.eu/europe2020/pdf/targets_en.pdf (Accessed 22 June 2015)

Scotland). Participation, where it occurs, occurs through formal channels, and on adults' terms, rather than necessarily the terms of young people. Generally it seems that only 'organised' youth or those who are engaged in education or political structures have voice. In the wider literature, approaches to youth participation have been criticised for: relying too heavily on formal participation mechanisms; being tokenistic; having limited influence on policy making; and using adult processes that may not be engaging (see for example Lightfoot and Sloper, 2003; Vromen and Collin, 2010; Mallan and Greenaway, 2011; Tisdall, 2011). This literature on participation can be situated within wider concerns about youth political apathy that have been present in the popular discourse for many decades. However, research in this area highlights that young people are not politically apathetic, but may feel disenchanted and alienated from political parties, politicians, and government (see for example, Sloam, 2007, 2012; Geniets, 2010; Harris et al., 2010; Checkoway, 2011; Henn and Foard, 2011, 2013).

This chapter explores the views held by agents across Europe working with young people about the barriers and challenges to young people getting into employment, as well as young people's integration into, and participation in, society more generally. We seek to better understand the views and attitudes of the agents to young people. Do they see young as apathetic, 'their own worst enemy' or as positive and energetic forces? Do they think society and its institutions are enabling young people to participate? Regarding employment we also seek to understand if the agents perceive the structure of the labour market facilitates young into work or inhibits the transition of the young.

The chapter uses the Capability Approach as a framework to inform the analysis. The Capability Approach, developed by Sen (1985, 1992, 1998, 2009), is centred on the freedom and opportunities individuals have to make choices that they value. It focuses upon the potential ability of the individual to achieve a functioning (e.g. a job) that they value in the context of the wider environment in which they are embedded (Walker and Unterhalter, 2007). As such, in looking at the barriers and challenges faced by young people in the labour market for example, emphasis is placed on the ability of young people to make the choices that they value, the motivations of young people, and the opportunities available to them to have express their opinions and views (Bonvin and Orton, 2009; Lindsay and McQuaid, 2010; Egdell and McQuaid, 2014).

Sen (1998, 2009) draws attention to the important role of agents who often act as 'mitigators' between the individual and the goals they desire (e.g. freedom, employment, to become part of society). These agents are often appointees of institutions; and in one way or another act as gatekeepers to society. As mitigators, they can facilitate or hinder the transition of the individual to the state they desire. Agents are gearing mechanisms; they can greatly invigorate and strengthen an individual's capability or they can reduce and weaken the individual even to an extent as to deflect them from achieving their desired outcomes.

For these agents to function in a positive way, they need to value the individual and take an enabling role. Thus their attitude and empathy towards the individual needs to be studied; yet in many works on the Capability Approach, agents receive scant attention. It is the purpose of this chapter to address this omission by reporting on the attitudes of the agents that mitigate young people's attempts to enter employment and to engage in society. To carry out research into agents' attitudes

is difficult; they are likely to report positive attitudes towards the young people that they work with, and say that they are doing the best they can under the circumstances. To probe and expose their underlying attitudes needs a more innovative approach than interviewing or asking questions in a questionnaire. An ethnographic methodology would be one possibility, but this requires the research to observe the agent-individual interaction. Gaining access to these interactions would be problematic, and in any case the presence of a researcher could upset the dynamics of the transactional meeting. This research will apply an approach developed by psychologist and physicist William Stephenson in 1935 to tease out people's underlying value system; the approach is known as 'Q method approach'.

The method is reported in the next section and the results presented in Section 5; firstly those pertaining to agents' attitudes towards young people entering into employment, and then their attitudes towards young people's integration into society. The results are discussed and conclusions and recommendations presented in Section 6.

4. Method

4.1 The Q Method

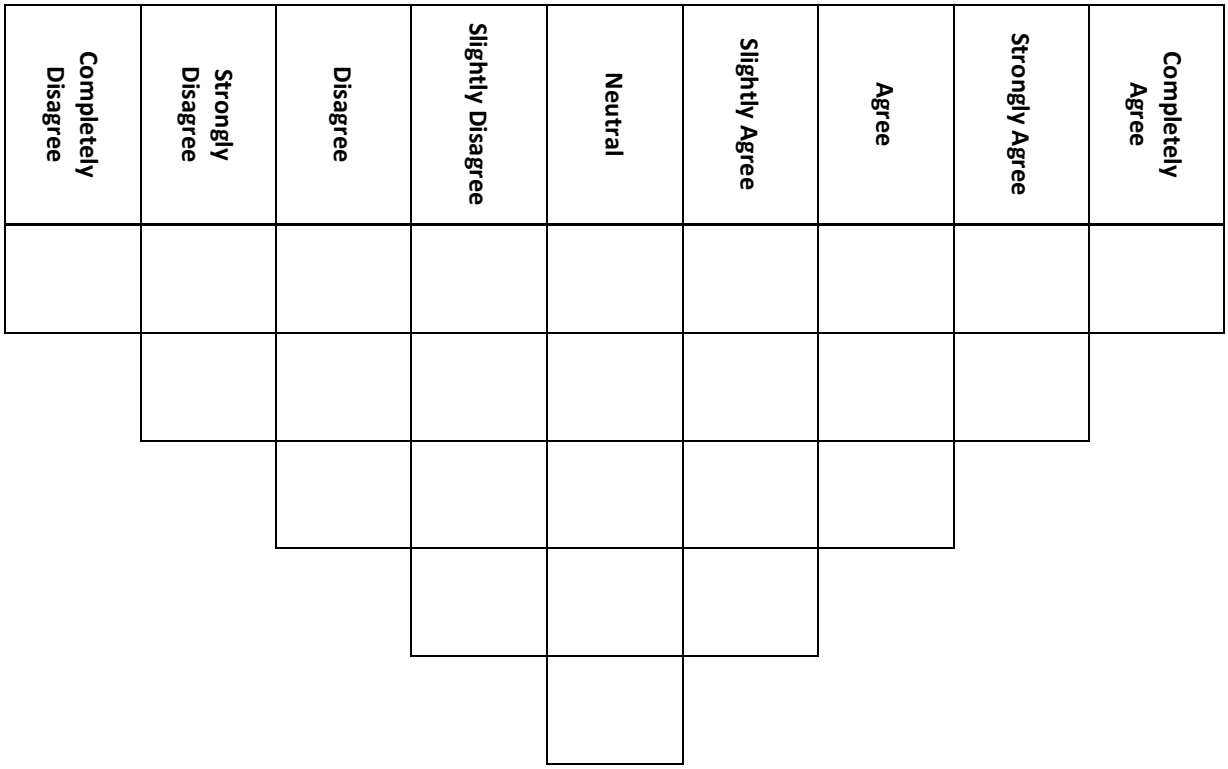
The Q method approach is neither a quantitative nor a qualitative method; rather, it is a blend of the two, aiming to apply statistical thinking to small samples in a way that the subject sets the measurement system. In this sense, the method is 'participatory'. This approach has merits over the traditional quantitative approaches, called R methods, which are perceived as too restrictive and reductionist, by forcing the subject to report their view, values, attitudes or beliefs on a pre-set measurement system. This is perhaps appropriate at the population level, but gives little flexibility to reflect on the individual. Stephenson writes that in the R methodology:

> The *"system can certainly tell us if and how the various attributes vary proportionately on a population of persons. But it can tell us little or nothing about … any individual person. It supplies information of a general kind"* (Stephenson, 1936: 201).

The Q method approach has been re-introduced into social science research by McKeown and Thomas (2013) and Watts and Stenner (2012). Their books serve as an introduction to the method and the analysis used. The method involves presenting the subject with a series of statements in a random order, pertaining to the issue being investigated. The statements are presented on individual cards. These statements range from very negative to very positive in nature, often controversially so, in order that extremes of a scale can be set. The respondent first sorts the statements into three piles; those they agree with, those they disagree with and those they are neutral about. Next the respondent performs a finer sort called a Q sort. Here the respondent is 'forced' to slot the statements into a grid along a scale of completely disagree to completely agree, in the format displayed in Figure 2. This allows 25 statements to be ranked. A nine point scale was used here; other scale ranges can be used, such as seven or eleven, and differing number of statements can be presented. The arrangement as can be observed is designed to give a quasi-normal distribution. The axis scale can be replaced, (in this case) by numbers -4 (for completely

disagree), -3, -2, -1, 0 (for neutral), 1, 2, 3, 4 (for completely agree). These numbers are akin to z-scores.

Figure 1: Q Sort recording grid



Creating the z-scores allows methods designed in the R method domain to be applied, such as factor analysis. This means that responses to questions become cases and subjects become variables – a transposition of convention. By doing this, one can get a deep analytic insight into the feelings, attitudes, beliefs etc. of a few individuals.

In this application, the aim was to compare the attitudes towards the young (defined as those aged 16 to 24 years) by agents within the five participating countries; the UK (Scotland), France, Italy, Denmark and Romania. The responding agents were chosen to represent a range of facilitating positions who were involved in developing or implementing policy, and were representing posts such as policy makers, service providers (including service managers and project workers), and in some countries trade unions. The sample size in each country is shown in Table 1. The agents often represented local and regional areas, but were not always drawn from the same locality. For example for France agents were selected from Agen within the Aquitaine region. Therefore, these agents and the results cannot be taken as nationally representative of views.

Table 1: Sample size

Country	Sample Size
Scotland (UK)	12*^
Denmark	6
France	6
Italy	7
Romania	6

*The sample was larger than the others as this group was used to pilot the procedure and the analysis.
^ One Q method interview was a joint interview with two respondents participating together, so there were 12 respondents and 11 interviews.

Two aspects of agents' influence on young people's lives were investigated:

1. Attitudes to young people getting into employment
2. Attitudes to young people's integration into society

The statements used were chosen based on findings from earlier work packages[2] combined with statements relating to young people from a review of their representation in popular media. Thirty-four statements were selected for each topic and these are displayed in Appendix 1. To pursue this research, ethical guidelines were considered and procedures arranged to allow the agents approached to participate in a voluntary manner based on informed consent. It was agreed that responses would be kept anonymous and they would not be identified with specific responses.

After giving informed consent, the respondents were asked to rate their level of agreement on a nine-point scale (from completely disagree to completely agree) and use the Q sort grid to create quasi z-scores. Factor analysis with varimax rotation was then applied and full analysis conducted in order to answer the questions:

a. Overall are agents empathic to the young?
b. Is there important variation amongst agents?
c. Can the variations be attributed to regional, territorial or local characteristics or the agent's role?

Unlike in conventional applications of factor analysis, in the Q method approach the agents take the place of variables and the statements become cases (rather than vice versa). Thus factor scores will represent the congruence amongst agents rather than communalities amongst sets of variables which can be represented as themes.

[2] See for example: (2014) Youth Policies in European Countries and their Potential for Social Innovation. SocIEtY Deliverable 3.2: Report on the Common Framework. Report to the European Commission, www.society-youth.eu/images/media/wp_3_2_final_report.pdf AND (2014) Analysis of Social Support Networks and Policies and Strategies of Local Actors. SocIEtY Deliverable 4.1: Report – Local stakeholders in youth policies in Europe. Report to the European Commission, www.society-youth.eu/images/media/del_4_1_report_society_31_10_2014.pdf

Having completed the Q methods exercise, respondents were then asked to outline 'inhibitors' and 'promoters' relating to a young person with no or low qualifications getting into employment, and integrating into society. These questions were asked in a more 'standard' interview manner.

4.2 Piloting

The procedure was first piloted in Scotland, where 11 interviews were conducted (one Q method interview was a joint interview with two respondents participating together, so there were 12 respondents and 11 interviews) in the last quarter of 2014 and first quarter of 2015. The pilot worked well, and participants enjoyed the exercise, finding it more 'exciting' than conventional interviewing and describing it as 'a breath of fresh air'. The results of the pilot are shown in Appendix 2.

Although the pilot attempted to identify an agent effect defined by role type (service manager, project worker and commissioners/policy makers), this was ultimately unsuccessful. This is because in reality agents' roles are diffuse, and often they act across functions. Finer graduation would mean potentially identifying the individual and so reporting on role type was dropped.

In the pilot phase in Scotland, the follow up interview questions about 'inhibitors' and 'promoters' relating to a young person with no or low qualifications getting into employment, and integrating into society, were more detailed than those used by the other teams. The agents from Scotland were asked three questions:

- Consider the characteristics of young people with low qualifications that inhibit them getting into work and participating in society and what characteristics promote them getting into work and participating in society.
- Consider the characteristics of employers that inhibit or promote the chances of a young person with low qualifications getting into work.
- Consider the characteristics of agencies and agents whose purpose is to facilitate young people into work. What promotes and inhibits success.

It was decided to reduce this level of detail, and ask respondents to list 'inhibitors' and 'promoters' relating to a young person with no or low qualifications getting into employment, and integrating into society, in order to make comparison between countries more achievable.

Researchers working in localities in Denmark, France, Italy and Romania who were part of the SocIEtY project were then given the questions and asked to translate or give close equivalents in their own language. Clearly this process brings opportunities for error, as meaning can be lost, and this is especially of concern to the statements on young people's integration into society. The researchers in these countries were asked to recruit participants and asked to apply the Q method. Detailed instructions were formed and these are displayed in Appendix 3. The interviews were conducted in the second quarter of 2015, and the data was sent to the Edinburgh Napier University team for analysis.

5. Results

5.1. Entry into employment

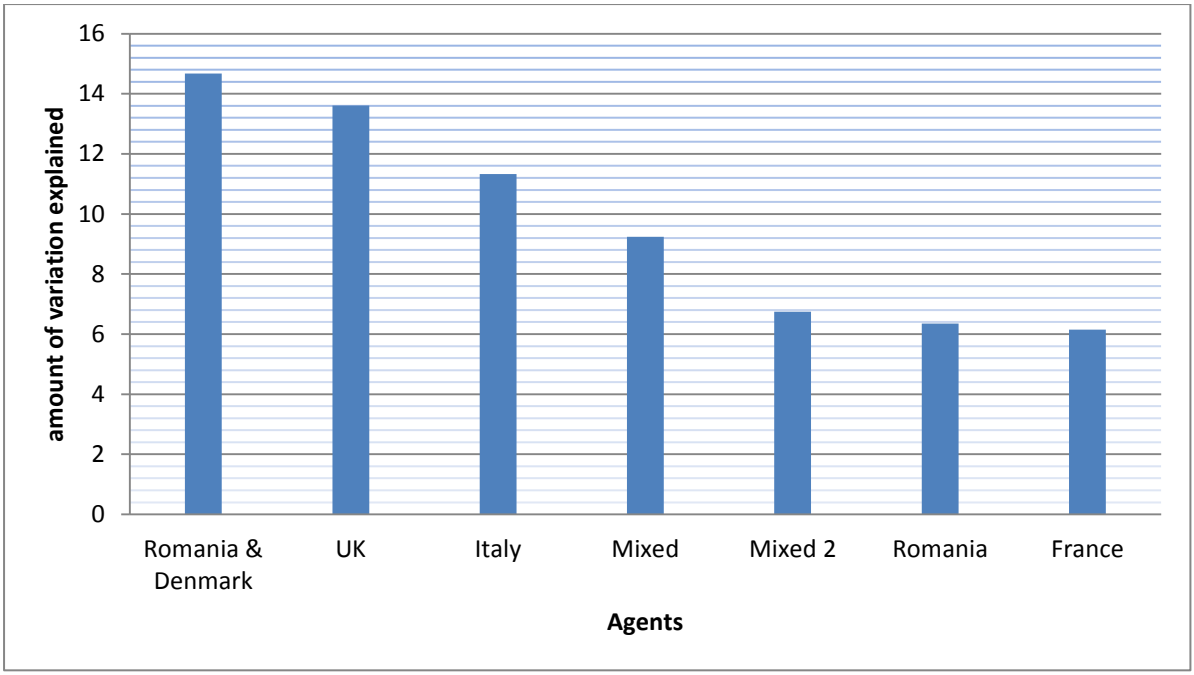
> *"Thinking of a young person with low qualifications give your level of agreement with the set of statements".*

The processed Q sort data was inputted into factor analysis and varimax rotation was applied. This yielded seven factors which accounted for 68.1% of the original variation and gave the rotated component matrix displayed in Table 2. The first factor explaining 14.7% of the variation is composed mainly of agents located in Romania and Denmark (Factor 1) while Factor 2 is primarily UK (Scottish) agents, these factor scores are labelled 'Romania & Denmark' and 'UK'. Factor 3 is dominated by Italian agents and is labelled 'Italy'. Factors 4 and 5 are made up of agents from a mixture of countries and so are labelled as 'Mixed' and 'Mixed 2'. Factor 6 mainly comprises of agents from Romania and so is labelled 'Romania'; and the last factor is labelled 'France' as the majority of agents' responses in this factor are French. It should however, be noted that the agents cannot be taken as national representatives but rather are drawn from regions and localities within countries. All the agents seem to group to some extent along the nations they are drawn from, with the exception of those from France, who were drawn from Agen in the Aquitane region and who, with the exception of a slight grouping in the last factor, are more scattered across the factors. The amount of variation amongst the statements is explained by the different factors which decrease from 14.7% to 6.2% as illustrated in Figure 2.

Table 2: Rotated component matrix for resolution of factors related to getting into employment

Agent	Romania & Denmark	UK	Italy	Mixed	Mixed 2	Romania	France
Romania	.773						
Romania	.771						
Romania	.737						
Romania	.724						
Denmark	.720						
Denmark	.618	.338					
Denmark	.499		.462	.319			
Denmark	.480			.316	-.397		
Denmark	.470		.418		-.424		.312
UK		.836					
UK		.784					
UK		.749					
UK		.673					
UK		.579					
UK		.577			.506		
Italy		.495	.462				
France		.331					
Italy			.790				
Italy	.337		.694			.383	
Italy	.307	.366	.627				
UK		.379	-.584				
UK	.333	.406	.532				
Italy			.513	.386			
France				.818			
UK				.727			
Denmark	.491			.619			
France			.354	.577	.387		
UK					.803		
Italy	.322	.315		.362	-.655		
Romania						.870	
Romania						.845	
France	.354						.693
UK		.345					.571
France				.480			.525
France		.355	.367		.383		.495
% Variance explained	14.675	13.605	11.324	9.243	6.749	6.350	6.151

Figure 2: Variation in variance accounted for by factor



Thus it appears that agents in different European countries have different views of factors that may impede or develop young people's capability for work (real freedom to choose the work one has reason to value). To explore what this means, the statements which the respondents rated were organised into three groups; the first group related to aspects of the individual young person, the second group related to aspects of society and the other group reflected labour market issues. The means of the factor scores for each group were examined but no significant different was found between the factors. The means of the factor scores for each of the three groups are shown in Figures 3, 4 and 5. In these diagrams the two 'Mixed' factors were combined into one.

Figure 3 shows the way in which the characteristics of young people are perceived by the agents. The key findings from this are:

- The majority think that young people lack awareness about labour market opportunities. This is not a view held by some Romanian agents.

- All agents, apart from those in Italy, think that young people have unrealistic expectations about their earning potential.

- Opinions are divided over whether young people have rich and diverse social networks that can help them get into work; most think that the young people's networks are weak, but Italian and Romanian agents seem to consider young people's networks satisfactory.

- The consensus is that young people have poor job search skills; this view is especially held by agents in France.

- Agents in the UK believe that young people are trustworthy. Agents in other groups do not hold this opinion.

- All, with the exception of French agents, do not agree with the statements *"young people are not respectful to their peers"* and *"young people are not reliable"*.

One way analysis of variance was used to ascertain if there were significant differences between the factor scores for each statement grouping:

- The trend for France and Romania perceiving the young as not engaging with work continues in response to the statement *"young people are not enthusiastic about work"*, while the agents composing the factors "UK" and "Romania and Denmark" believe the reverse.

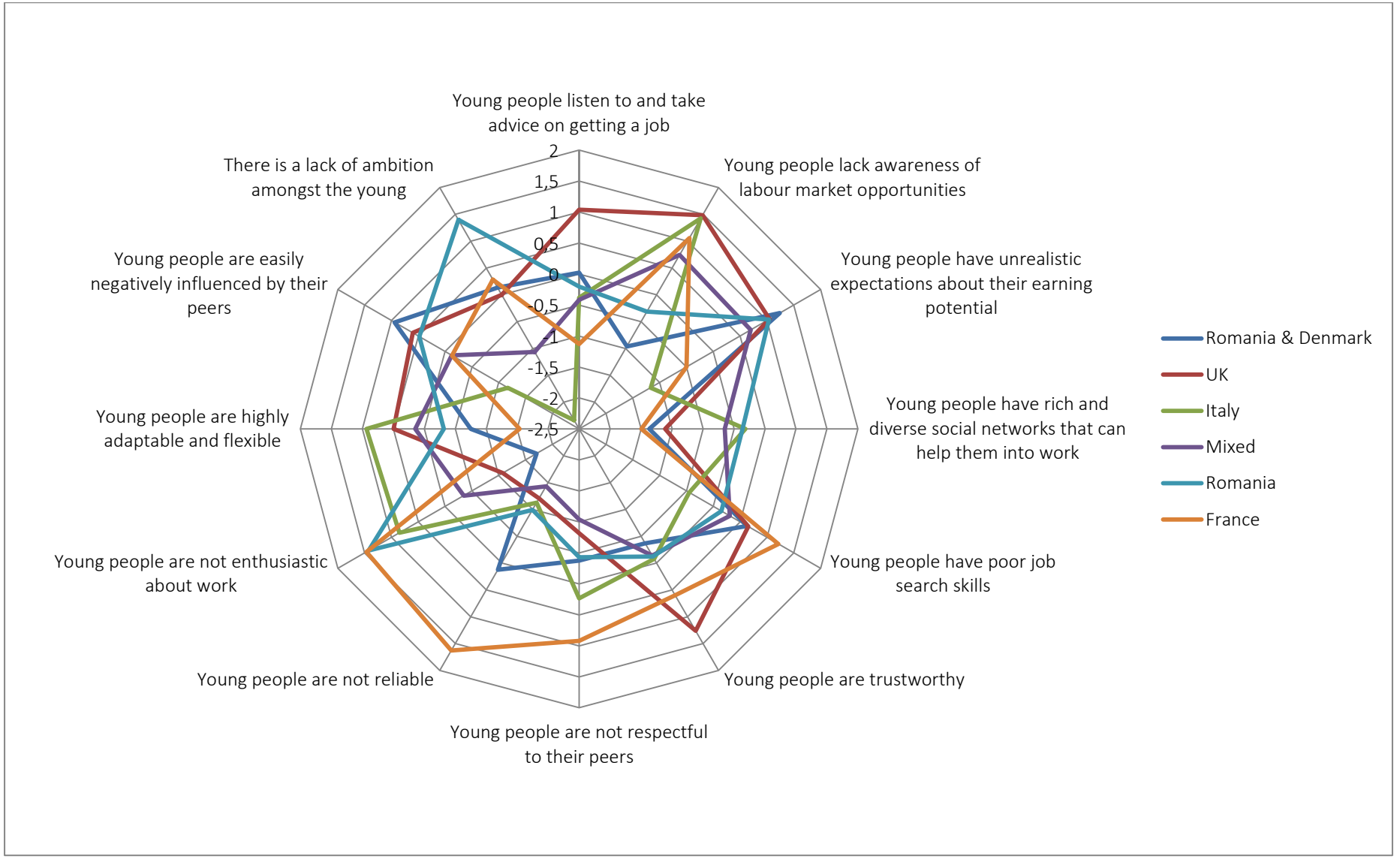
- Agents in Italy and the UK perceive that young people are adaptable and flexible while agents in France disagree with this statement.

- Most agents think that *"young people are easily negatively influenced by their peers"*, but agents in Italy disagree.

- Regarding the statement that there is a *"lack of ambition amongst the young*", agents in the Italian and mixed groups disagree fairly strongly, while other agents tend to weakly agree, except those agents in the Romanian group who fairly strongly agree with the statement.

- Finally in relation to the statement that *"young people listen to and take advice on getting a job"* it is only the UK agents who agree with this statement and the rest tend to disagree, especially Italian agents who strongly disagree.

Figure 3: Comparison of means of agreement with statements relating to the individual young person.



The different groups' views on society are similar, as can be observed from Figure 4. Some exceptions are that the Romanian group believe that the media portray the young in a positive light while other groups are leaning towards the view that the media does not portray the young in a positive light. The Romanian and Danish group strongly believe that early school leavers are stigmatised when looking for a job. There is divergence of views between Italian agents who do not think that the young get enough support to move from school into work, and the mixed group who do. Most are neutral about the other statements, with the exceptions of agents from France who do not think society's institutions alienate the young, and agents in the UK who do not agree that immigrants are less likely to get work than indigenous people are.

From Figure 5 it seems there is general convergence of opinions amongst agents about the interaction of young people and the labour market. Overall, the mixed group tend to have more positive agreement with the statements than the other groups, especially that being confident can compensate for poor academic performance and that a person's colour or disability can influence employability. Agents from Italy stand out as having much stronger agreement than the other groups with the statement *"there are limited opportunities for quality employment and meaningful work"*. Agents from Romania stand out from the other groups over the statement *"family background is a major determinant of employability"* - they strongly disagree with this statement while other groups tend to be in agreement, especially those from the UK. Agents from the UK seem to have different attitudes about the labour market to other groups in that they have stronger agreement that being well presented, having experience and *"being social media savvy is very important"* and have strong disagreement that a person's colour is important.

Figure 4: Comparison of means of agreement with statements relating to society

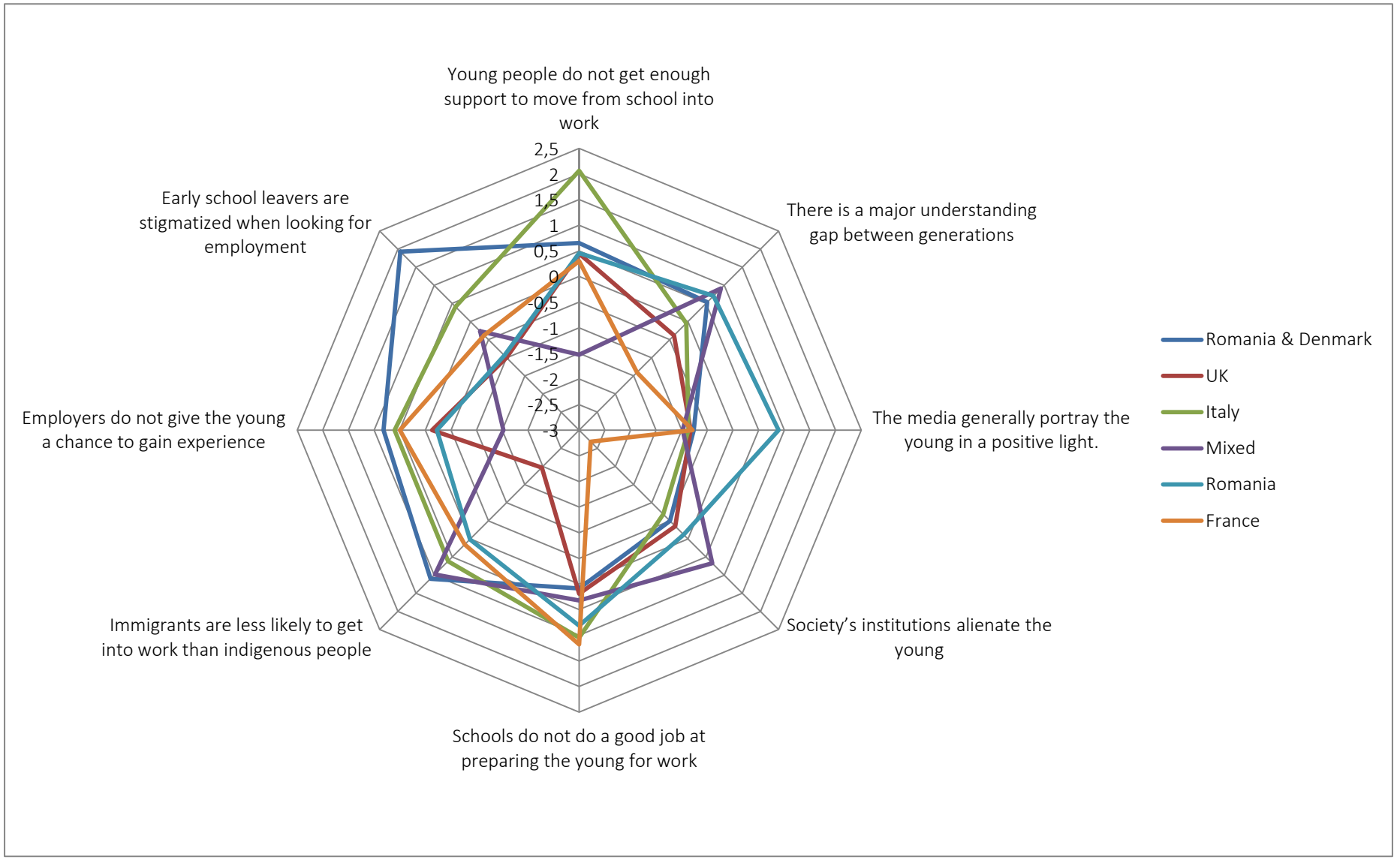
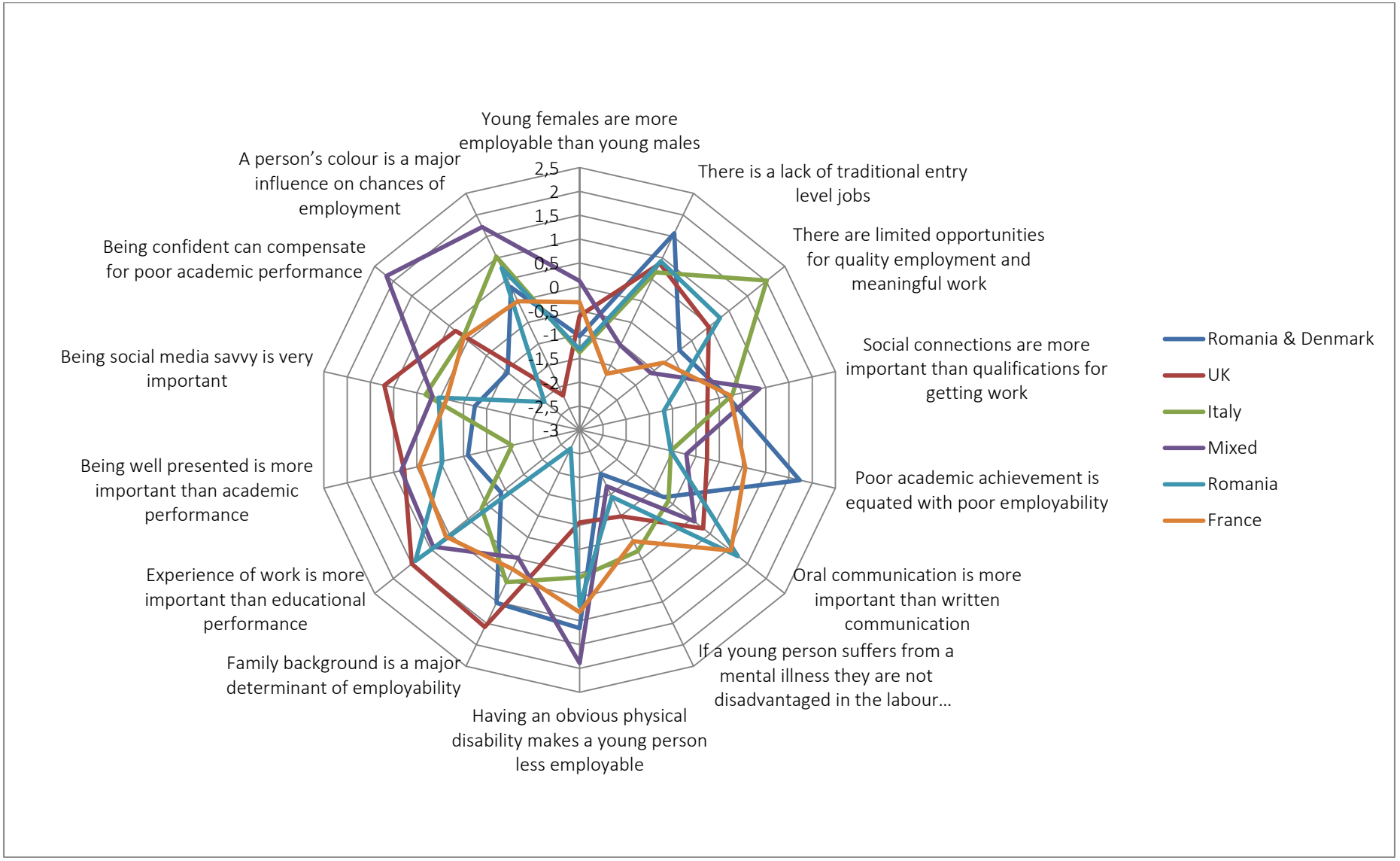


Figure 5: Attitudes of agents of how open the labour market is to young people



The analysis has revealed a number of differences amongst the agents; however, no overall pattern is detected, and the majority of differences are slight. Running one-way analysis of variance on the three sets of questions would suggest that there were no significant differences between the groups. This finding is confirmed from error bar plots shown in Figures 6, 7 and 8, where it is clear all the error bars between the groups overlap.

Figure 6: Error bars for group means of the statements relating to the individual young person

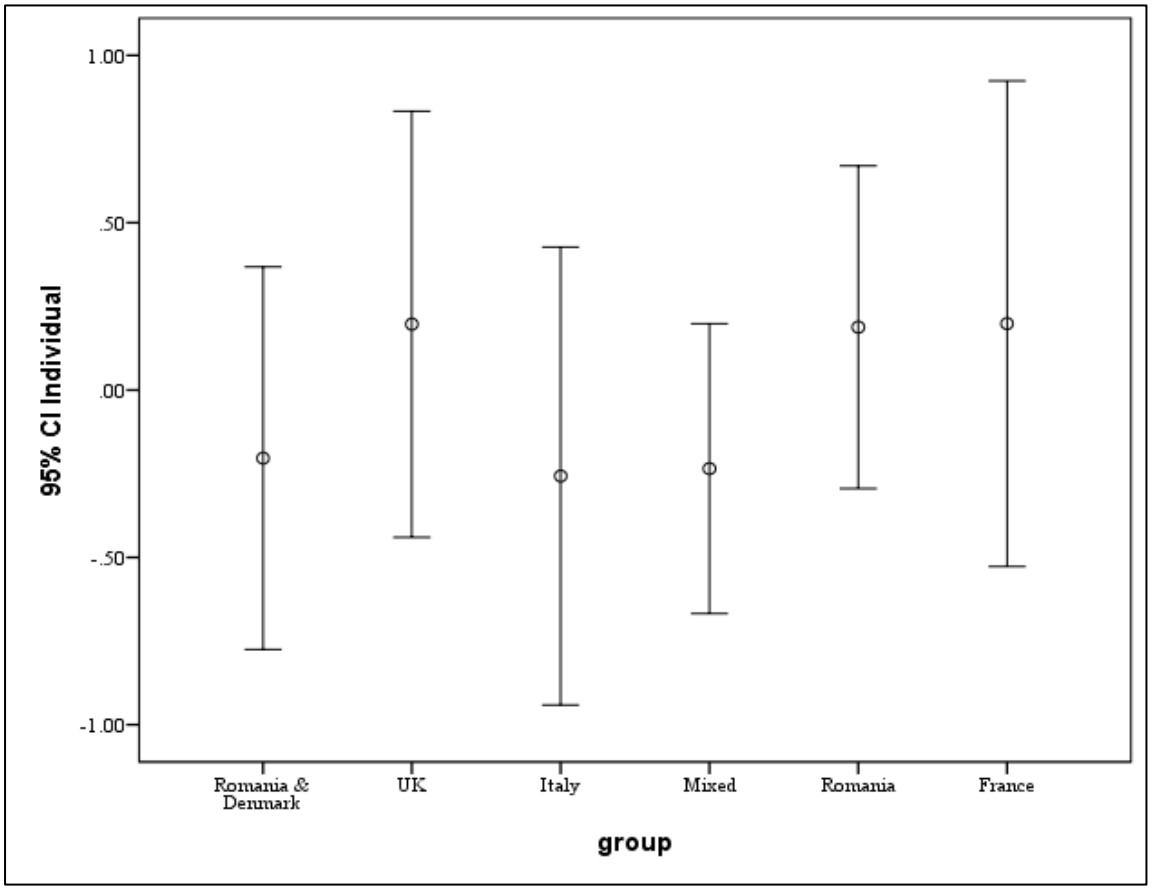


Figure 7: Error bars for group means of the society statements

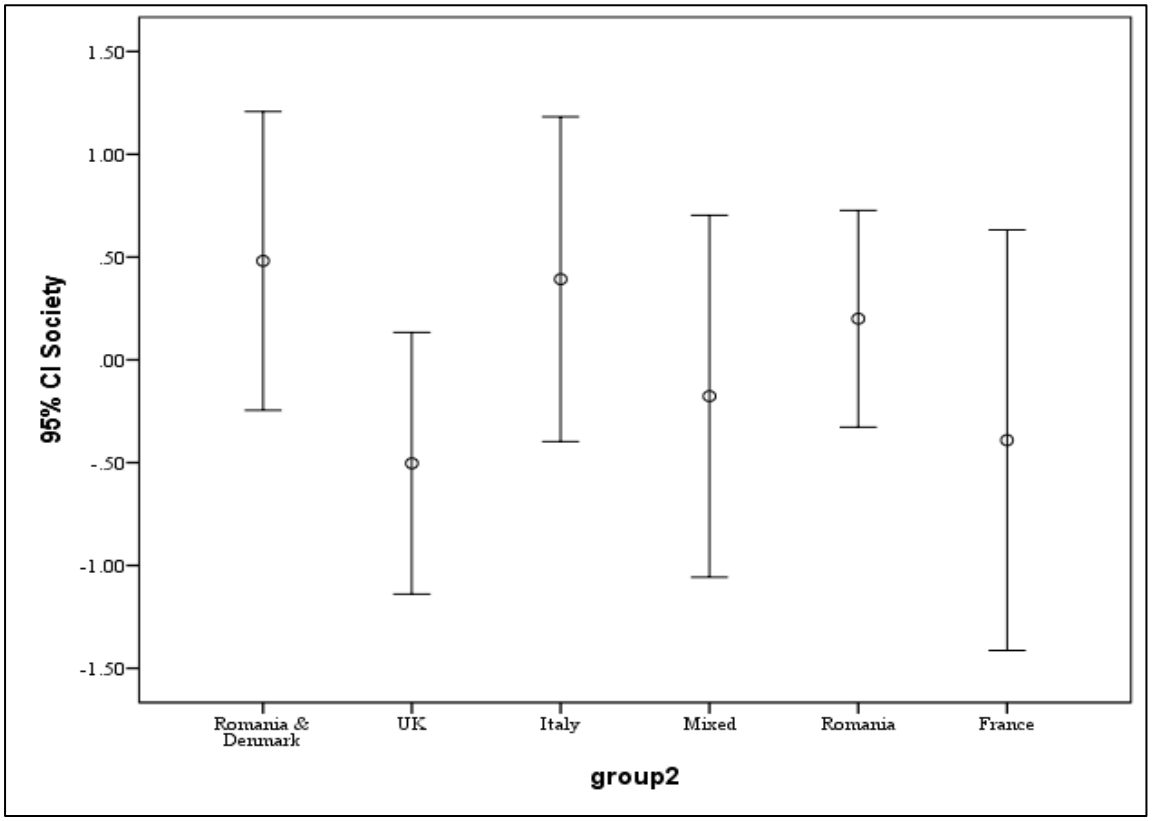
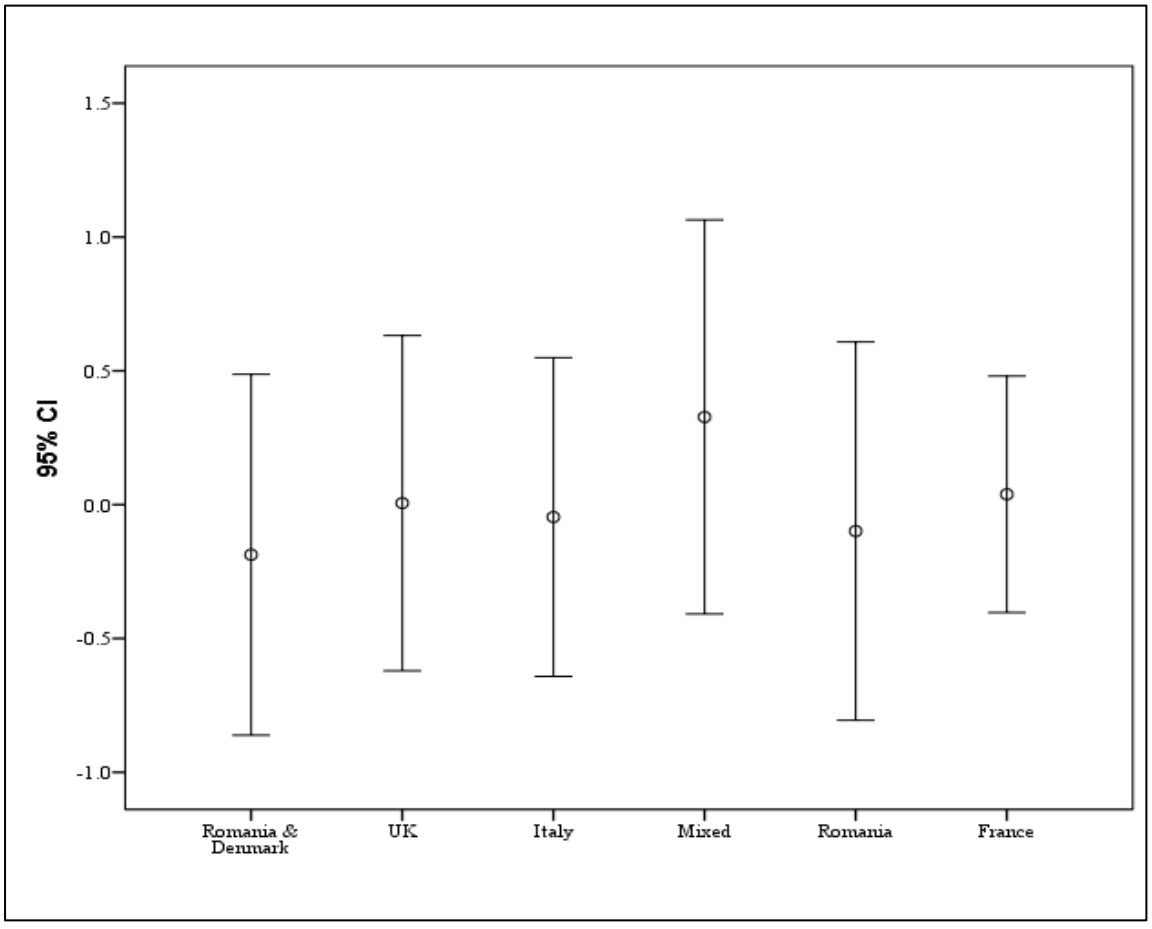


Figure 8: Error bars for group means of the labour market statements



5.2. Integration into society

"Thinking of a young person with low qualifications give your level of agreement with the set of statements"

Applying factor analysis with varimax rotation to the Q sorted scores yielded seven factors, which explained 67.8% of the variation. The factor scores are presented in Table 3**.**

The composition of the factors differs from the previous analysis.

- The first factor is mainly composed of agents located in Scotland (UK), and accounts for 20.0% of the variation in the statements.

- The next factor, accounting for 10.2% of variation, is a mixture of agents.

- Romanian agents mainly make up the third factor, which accounts for 10% of the variation in the statements and is labelled "Romania".

- Factors four and five are mainly composed of agents from Denmark and Italy and account for 8.5% and 6.8% of the variation in the statements**.**

- Factor six is a mixture of UK and Danish agents. Factor seven is also a mixture, but as agents from France dominate this factor, it is labelled "France".

Table 3: Rotated component matrix for resolution of factors related to integration into society

Agent	UK	Mixed	Romania	Denmark	Italy	UK & Denmark	France
France	.833						
UK	.797						
UK	.795						
UK	.767					.349	
UK	.738				.374		
UK	.729				.358		
UK	.723						
France	.657						.496
UK	.653		.402				
Italy	.607				.302		
UK	.551			.353			
Denmark	-.474		.441				
Romania		.818					
Romania		.780					
Romania		.780					
Italy		.569					
France		.562			-.357		
Romania			.846				
Romania			.762				
Italy			.701				
Romania	-.408	.379	.584				
UK			.448				.327
Denmark				.823			
Denmark				.707			
Denmark	.319			.688			
France				.620		-.450	
Denmark				.515	.510		
Italy					.804		
Italy	.377				.632		
UK						.756	
Denmark						.704	
France							.799
Italy	.311						-.547
UK	.307	.331			-.329		.425
France							.408
Total variance explained	20.0%	10.2%	10.0%	8.5%	6.8%	6.1%	6.1%

How the mean factor scores vary for each question for the different groups is displayed for: (1) the agent's perception of a young person's capability to integrate into society in Figure 9; and (2) the agent's view of how society acts towards young people in Figure 10.

In general, agents were positive about young people's capability to integrate into society (Figure 9), agreeing with positive statements about young people and disagreeing with negative statements about the young. Some notable exceptions are the UK and Denmark group who strongly agree that young people do not make good bosses, and the mixed group who agree with the statements that

young people have no civic interest, lack the energy to engage in civic duties, are not interested in work and do not conform to society's rules. Agents from France strongly agree with the statement *"young people do not have a sense of community"* and strongly disagree with the statements that *"young people are confident" and "proportionately the young are more involved in crime"*.

Regarding agents' perception of society's attitude to young people (Figure 10), Italian agents have much stronger agreement with the negative statements (e.g. *"society has a negative attitude towards the young"*, *"people underestimate the abilities of the young"* and *"society does not try to include young people"*) than the other groups. Romania stands out as the only group disagreeing with the statement *"society has a negative attitude towards the young"*.

Overall, it seems agents have a positive view of the ability of the young to integrate into society, but think that society does not view the young positively and that *"after the economic crises life has become more difficult for the young"*. There was a consensus amongst the agents and no significant difference was found when one-way analysis of variance was applied.

Figure 9: Agents' perception of young people's individual abilities to integrate into society

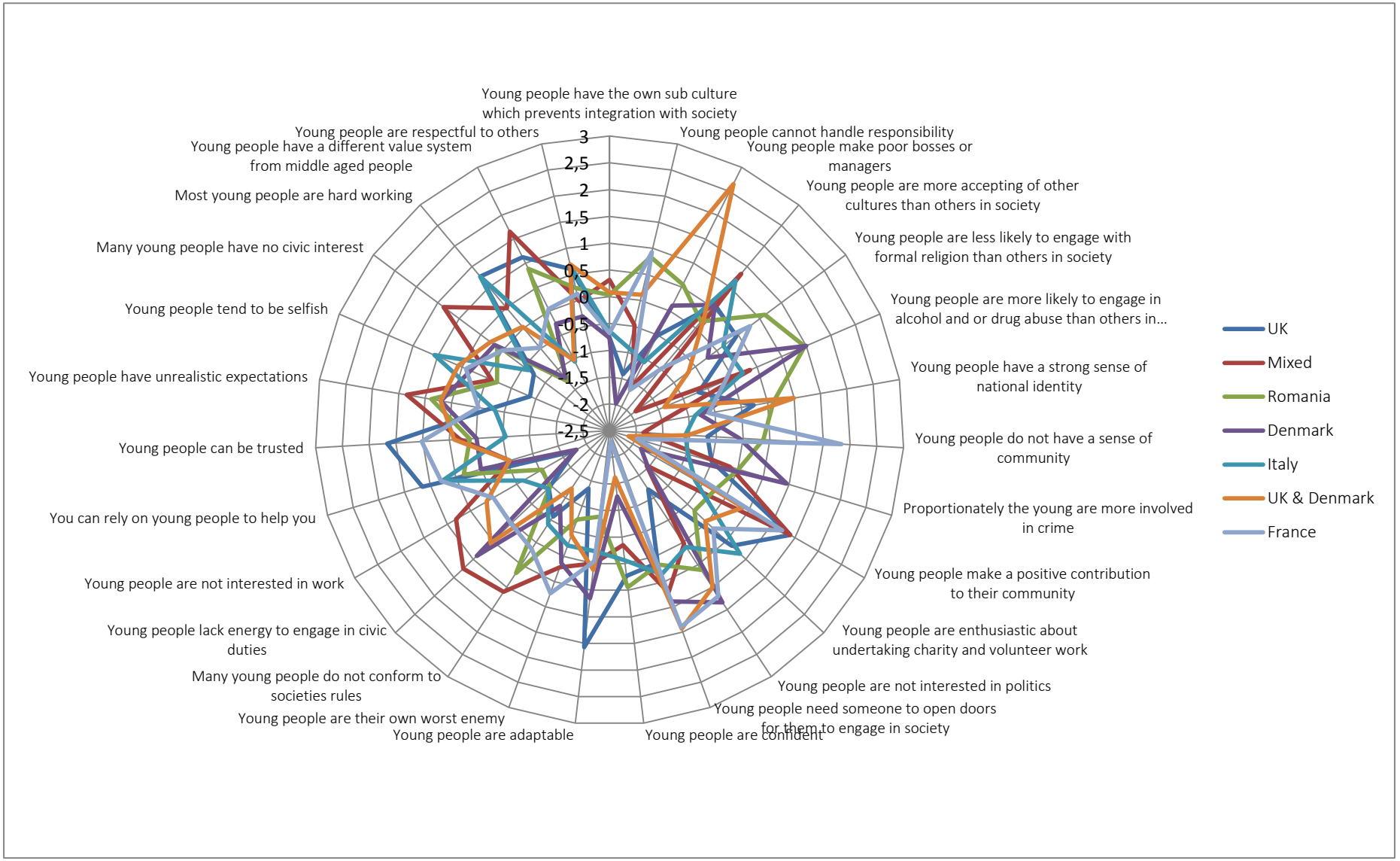
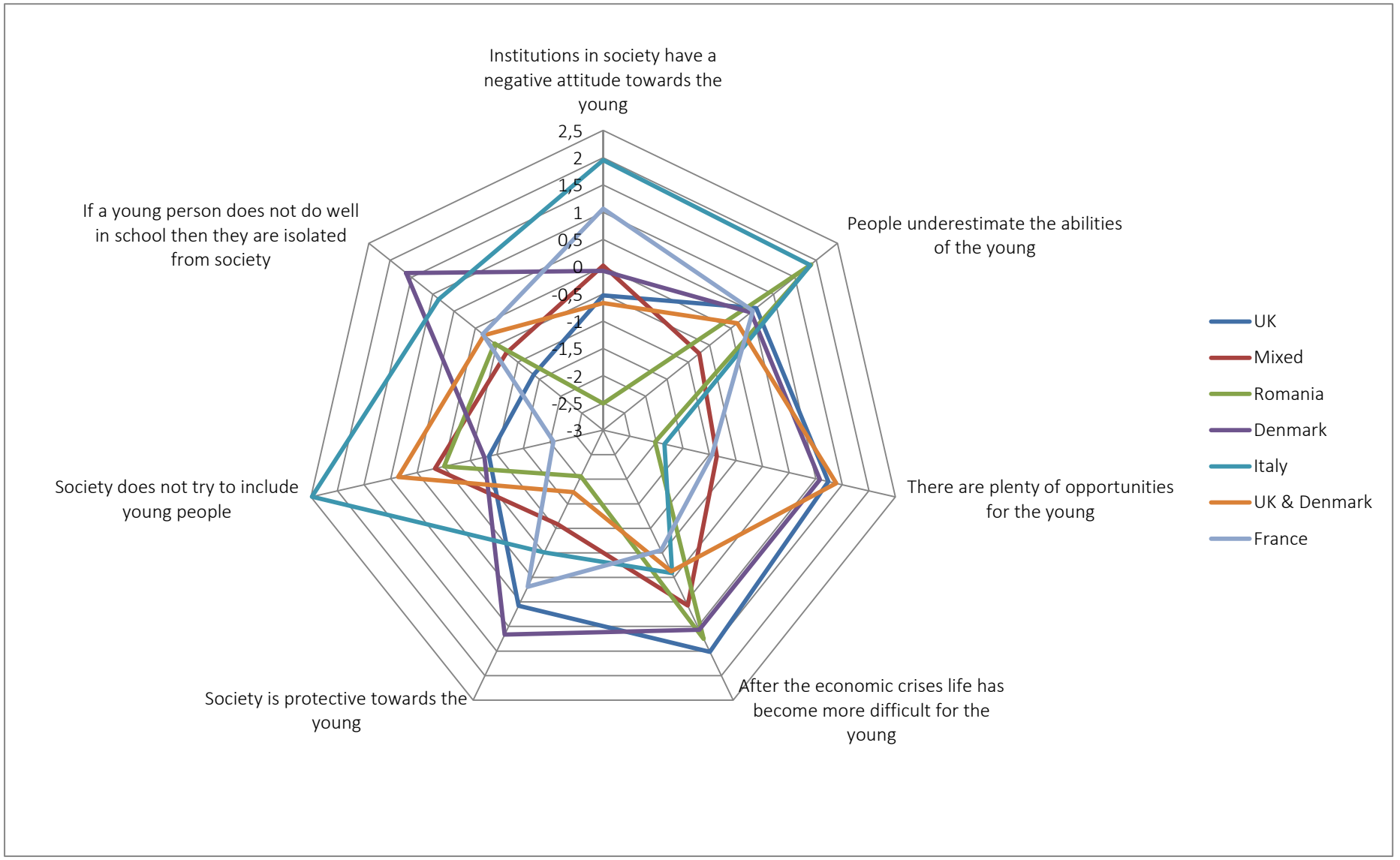


Figure 10: Agents' perception of how society acts towards the young



5.3. Responses to interview questions

The agents were asked to state 'inhibitors' and 'promoters' relating to a young person with no or low qualifications getting into employment. These are displayed in the force field diagram shown in Figure 11. Responses were obtained from Danish, French, and UK agents. The diagrams which follow are explorative summaries to give an indication of how the views of agents relate to the statements given. There is no attempt to analyse this further as the data used in the analysis consisted of statements freed of context which makes full qualitative analysis impossible. It must of course be noted that there were a lot more responses from the UK (Scotland) in terms of sample size and the way in which the follow up questions were asked were different in the UK. The purpose of the diagrams is only to visualise key promoters or inhibitors, rather than to quantify the salience of the promoters or inhibitors.

From Figure 11, it appears that most of the inhibitors relate to the attributes of the individual - except poor preparation by schools and high employer expectations. Most of the promoters are also related to the individual capabilities of the young person. There are few institutional elements - new policies and strong economy are exceptions.

Similarly agents were asked to list promoters and inhibitors in relation to a young person integrating into society, and the main statements given are listed in Figure 12.

This force field diagram displayed in Figure 12, pertaining to young people's integration into society, has many similarities to that shown in Figure 11. Again inhibitors outnumber promoters, although this time there is more of an institutional element, with agencies and public policy stressed as important promoters amongst the agents. Poverty, unemployment, mental well-being and discrimination in society are mentioned as important inhibitors.

In both scenarios social connections, social networks and access to social capital are stressed as being important, but also important inhibitors are unstable family life and failure to learn appropriate social skills. Stable family life is also listed as a promoter in regard to integration into society.

Figure 11: Force field diagram of factors influencing getting employment

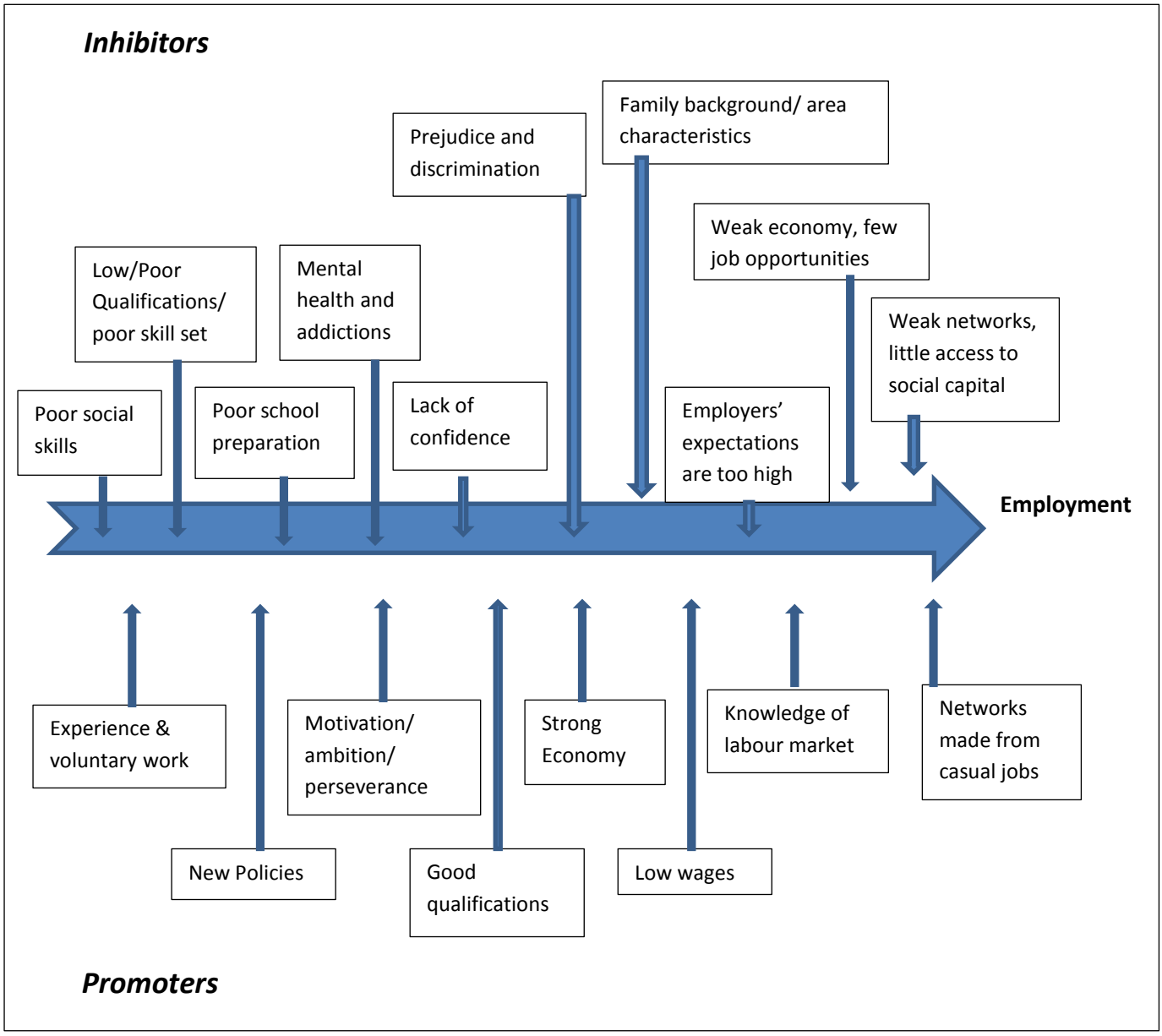
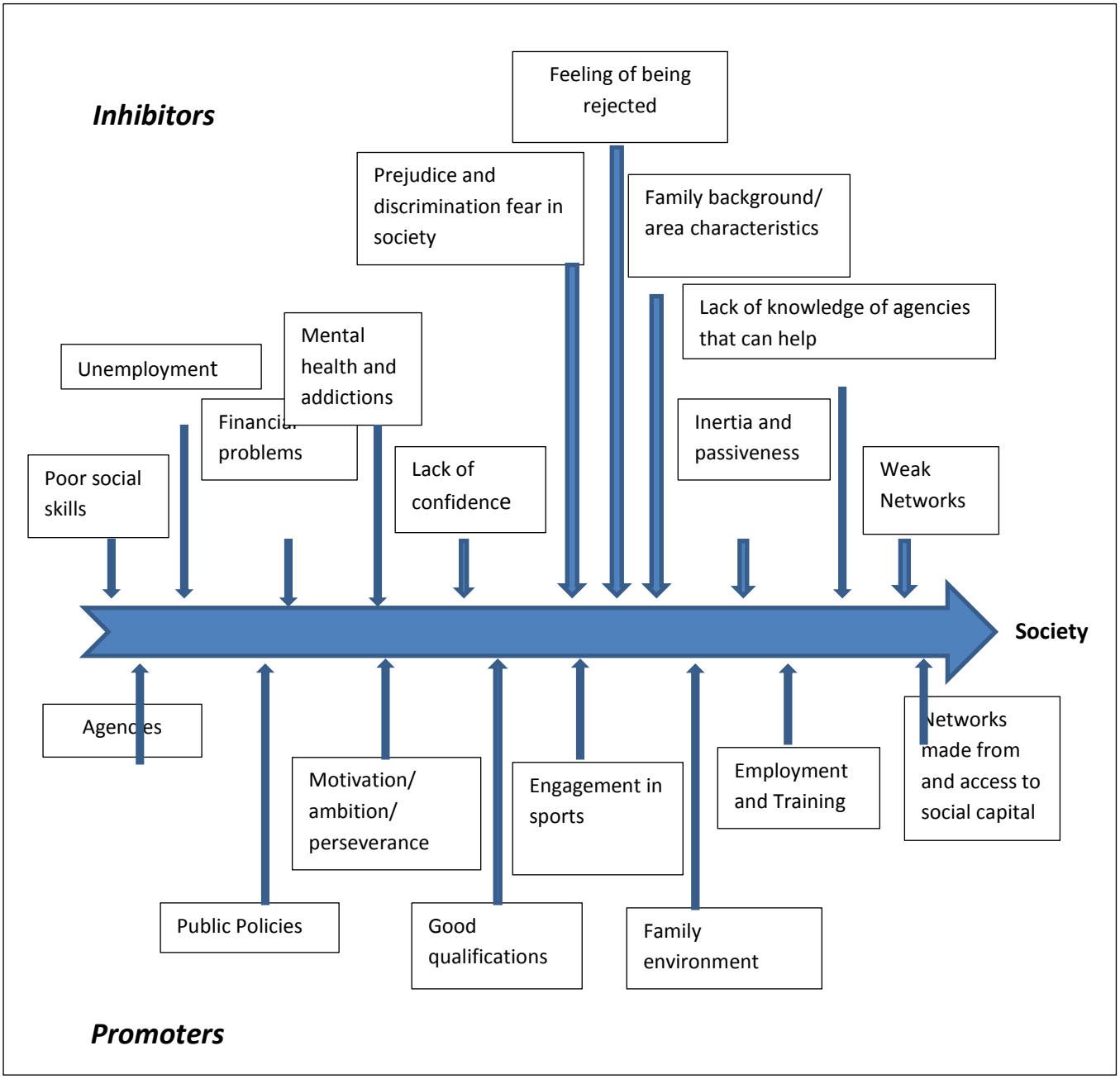


Figure 12: Force field diagram of factors influencing integration into society



6. Discussion and conclusions

The Q method approach allowed agents to participate in the research by revealing their attitudes towards young people. Many agents found engaging in the research interesting and enjoyable and most participating vigorously. One UK agent described the approach as:

"Most stimulating and is a breath of fresh air"

From this work it is evident that most agents have positive attitudes towards young people. The agents from France (Agen) stand as an exception, tending to view the young more negatively, especially in statements made in the interviews. It appears that agents are not a homogenous group, and some differences are detectable between them in terms of the importance they give to statements about young people. From the factor analysis it seems that there is some degree of alignment between agents' agreement with statements and territorial cultures, in that some factors are composed principally of agents from the same country. The UK, Italian and French agents are most likely to align this way. However, although there is a tendency for countries' agents to group together, there are a number of factors formed from a mixture of countries. Comparing the factor scores of the different countries did not show any statistically significant differences at the 5% (also at the 10%) level. This suggests that overall agents do share similar values, perhaps as a consequence of socialisation into the roles they perform. Although some of the agents from France (Agen) fit into factors with agents from other countries, a subgroup does stand out as having more negative views on the young than agents from other countries.

6.1. Conclusions

- Although factors can be formed along the nationalities of the agents, these factors are often formed by a mixture of nationalities, and it is found that there are no significant differences amongst the countries to groups of questions, although in individual questions some differences do emerge.

- Most of the agents believe young people have positive attributes. The majority view is that young people are able and ambitious - they are 'capable'. However, they lack knowledge of the labour market and have unrealistic expectations.

- However, there is a minority view that young people are not flexible, they are not respectful to their peers, and they do not listen to advice. The agents from Agen in France stand out as exceptions to this generality, believing that "young people are not reliable, "young people are not enthusiastic about work", "young people are not respectful to their peers", and that the young lack ambition and are not trustworthy.
- The majority view is that society does not appreciate young people – schools do a poor job of preparing people for work and employers demand too much.

- Social networks and access to social capital is very important for young people getting into employment and integrating into society.

Appendix 1: Statements to score

Statement set 1: A young person capable of finding employment

"Thinking of a young person with low qualifications, give your level of agreement with the set of statements".

Card number	Statement
1	Oral communication is more important than written communication
2	Being social media savvy is very important
3	There is a lack of traditional entry level jobs
4	Poor academic achievement is equated with poor employability
5	Young people have rich and diverse social networks that can help them into work
6	Young people are not respectful to their peers
7	Young people are trustworthy
8	Young people are highly adaptable and flexible
9	Young people do not get enough support to move from school into work
10	The media generally portray the young in a positive light.
11	Young people are easily negatively influenced by their peers
12	Early school leavers are stigmatized when looking for employment
13	There is a major understanding gap between generations
14	There is a lack of ambition amongst the young
15	Young people are not reliable
16	Young people listen to and take advice on getting a job
17	Young people have poor job search skills
18	Young people have unrealistic expectations about their earning potential
19	If a young person suffers from a mental illness they are not disadvantaged in the labour market
20	Employers do not give the young a chance to gain experience
21	Schools do not do a good job at preparing the young for work
22	Immigrants are less likely to get into work than indigenous people
23	Society's institutions alienate the young
24	Young people are not enthusiastic about work
25	A person's colour is a major influence on chances of employment
26	Social connections are more important than qualifications for getting work
27	Family background is a major determinant of employability
28	Young people lack awareness of labour market opportunities
29	There are limited opportunities for quality employment and meaningful work
30	Being well presented is more important than academic performance
31	Having an obvious physical disability makes a young person less employable
32	Experience of work is more important than educational performance
33	Young females are more employable than young males
34	Being confident can compensate for poor academic performance

Statement set 2: Capable of integrating in society

"Thinking of a young person with low qualifications, give your level of agreement with the set of statements".

Card number	Statement
1	Young people have their own sub culture which prevents integration with society
2	Young people cannot handle responsibility
3	Young people make poor bosses or managers
4	Young people are more accepting of other cultures than others in society
5	Young people are less likely to engage with formal religion than others in society
6	Young people are more likely to engage in alcohol and or drug abuse than others in society
7	Institutions in society have a negative attitude towards the young
8	Young people have a strong sense of national identity
9	Young people do not have a sense of community
10	Proportionately the young are more involved in crime
11	People underestimate the abilities of the young
12	Young people make a positive contribution to their community
13	Young people are enthusiastic about undertaking charity and volunteer work
14	Young people are not interested in politics
15	Young people need someone to open doors for them to engage in society
16	Young people are confident
17	Young people are adaptable
18	There are plenty of opportunities for the young
19	Young people are their own worst enemy
20	After the economic crises life has become more difficult for the young
21	Society is protective towards the young
22	Society does not try to include young people
23	If a young person does not do well in school then they are isolated from society
24	Many young people do not conform to societies rules
25	Young people lack energy to engage in civic duties
26	Young people are not interested in work
27	You can rely on young people to help you
28	Young people can be trusted
29	Young people have unrealistic expectations
30	Young people tend to be selfish
31	Many young people have no civic interest
32	Most young people are hard working
33	Young people have a different value system from middle aged people
34	Young people are respectful to others

Appendix 2 – Pilot study in the UK (Scotland)

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Employment Research Institute

In the last quarter of 2014 and first quarter of 2015, agents were interviewed in Scotland in order to test the Q methods procedures. Twelve agents participated in this work. These agents can be broadly classified as: commissioners/policy makers, service managers or project workers.

1. Q Method Findings

After applying factor analysis, respondents fell into one of three groups. Group 1 was made up mainly of people described as commissioners/policy makers, Group 2 was mainly project workers and Group 3 was a mixture of service managers and project workers.

Summary of findings - Statements Relating to Young People Getting into Employment

The extent of agreement/disagreement with statements relating to employment in the three groups (referred to as 'Fact 1', 'Fact 2' and 'Fact 3') are displayed in the spider diagrams below. Points appearing nearer to the centre indicate disagreement, while points near the peripheral are more in agreement.

Group 1	• View society's institutions and employer attitudes as major barriers • Perceive few problems from the youth side
Group 2	• View that young are poorly prepared for the job market, lack experience, have unrealistic expectations and lack search skills • Do not see young people as flexible and do not think young people listen to advice
Group 3	• Have a negative view of young people although see them as enthusiastic and reliable

Figure 1a: Level of agreement/disagreement with statements relating to young people getting into employment. Individual Capabilities

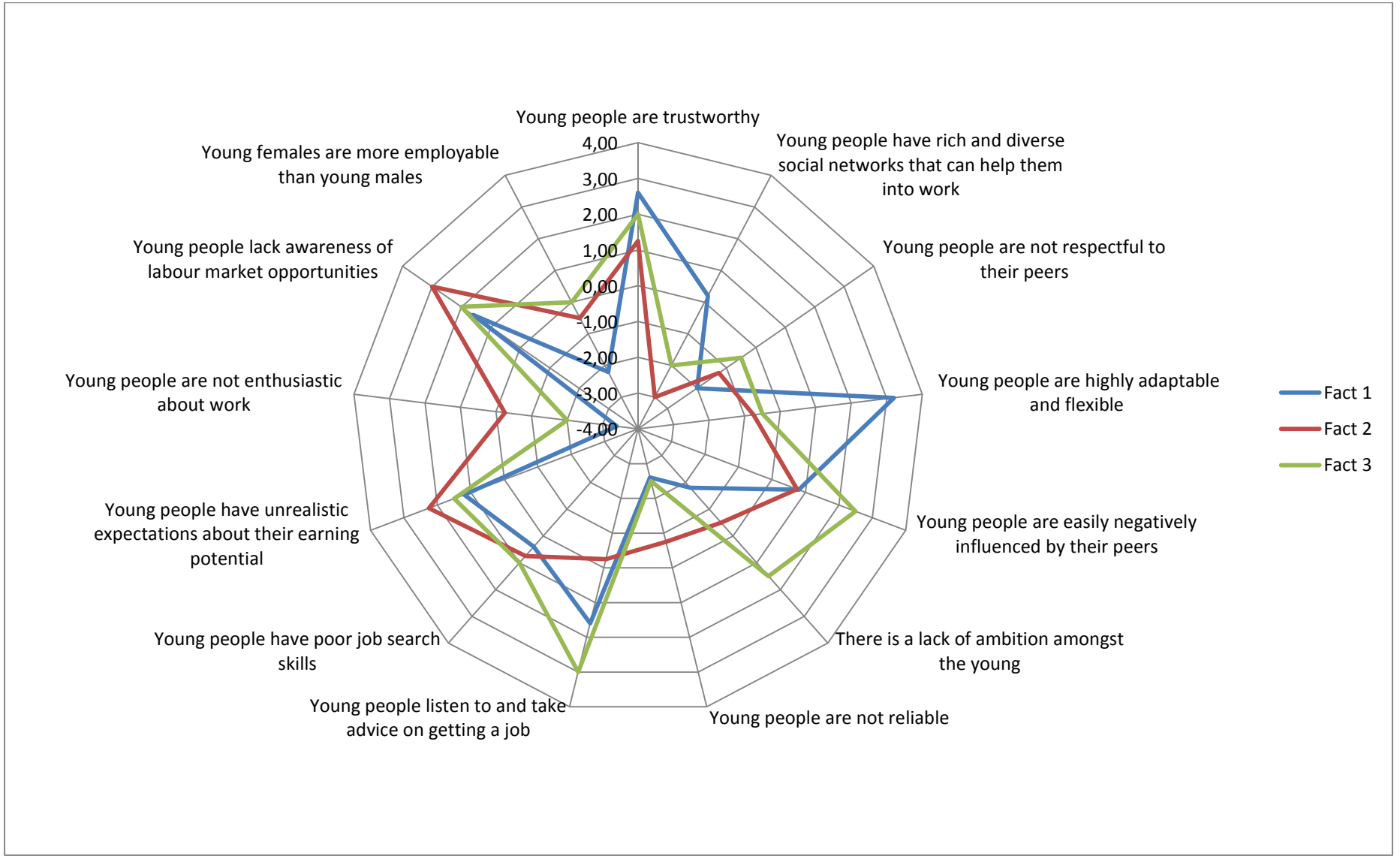


Figure 1b: Level of agreement/disagreement with statements relating to young people getting into employment. Competing in the Labour market

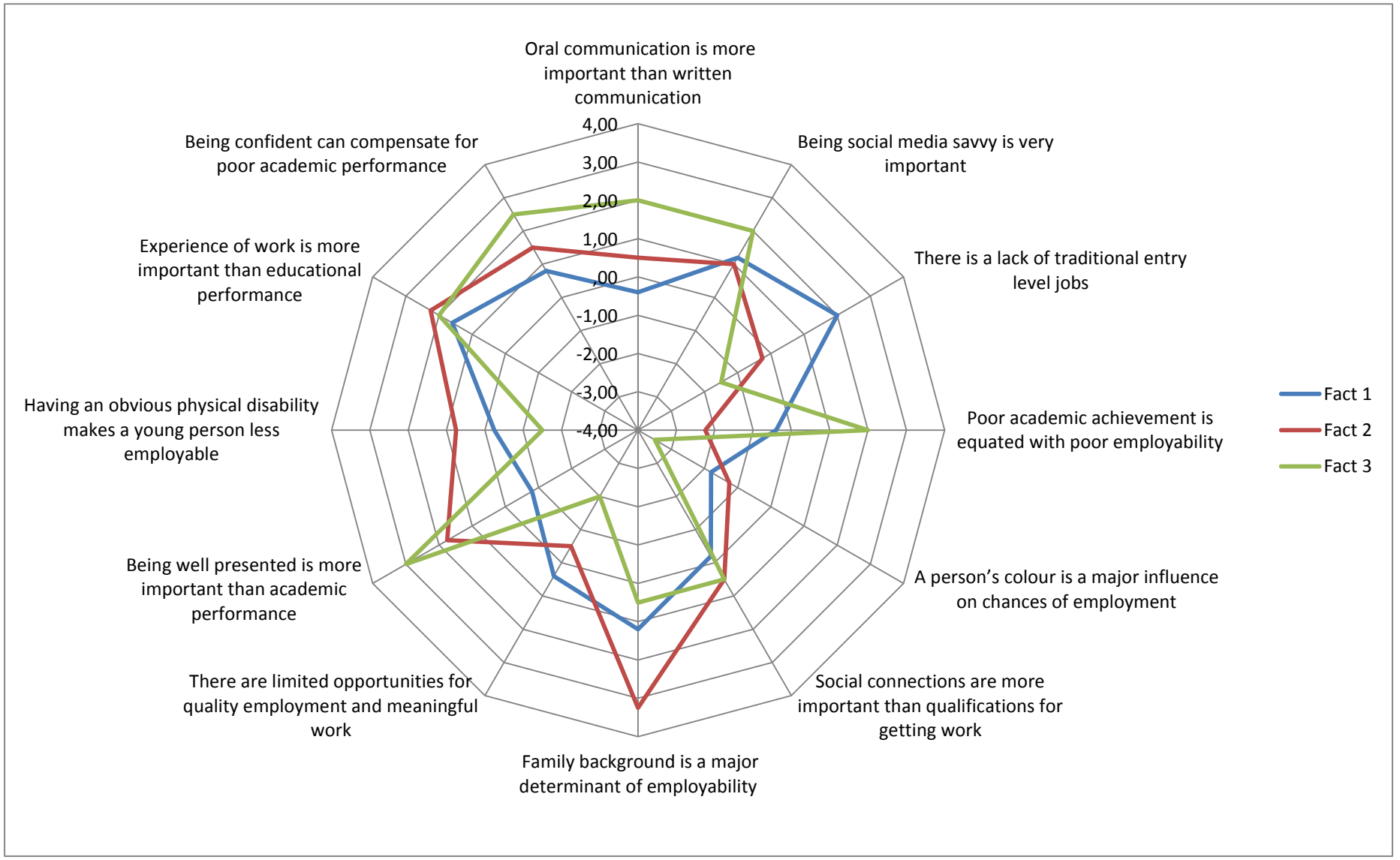
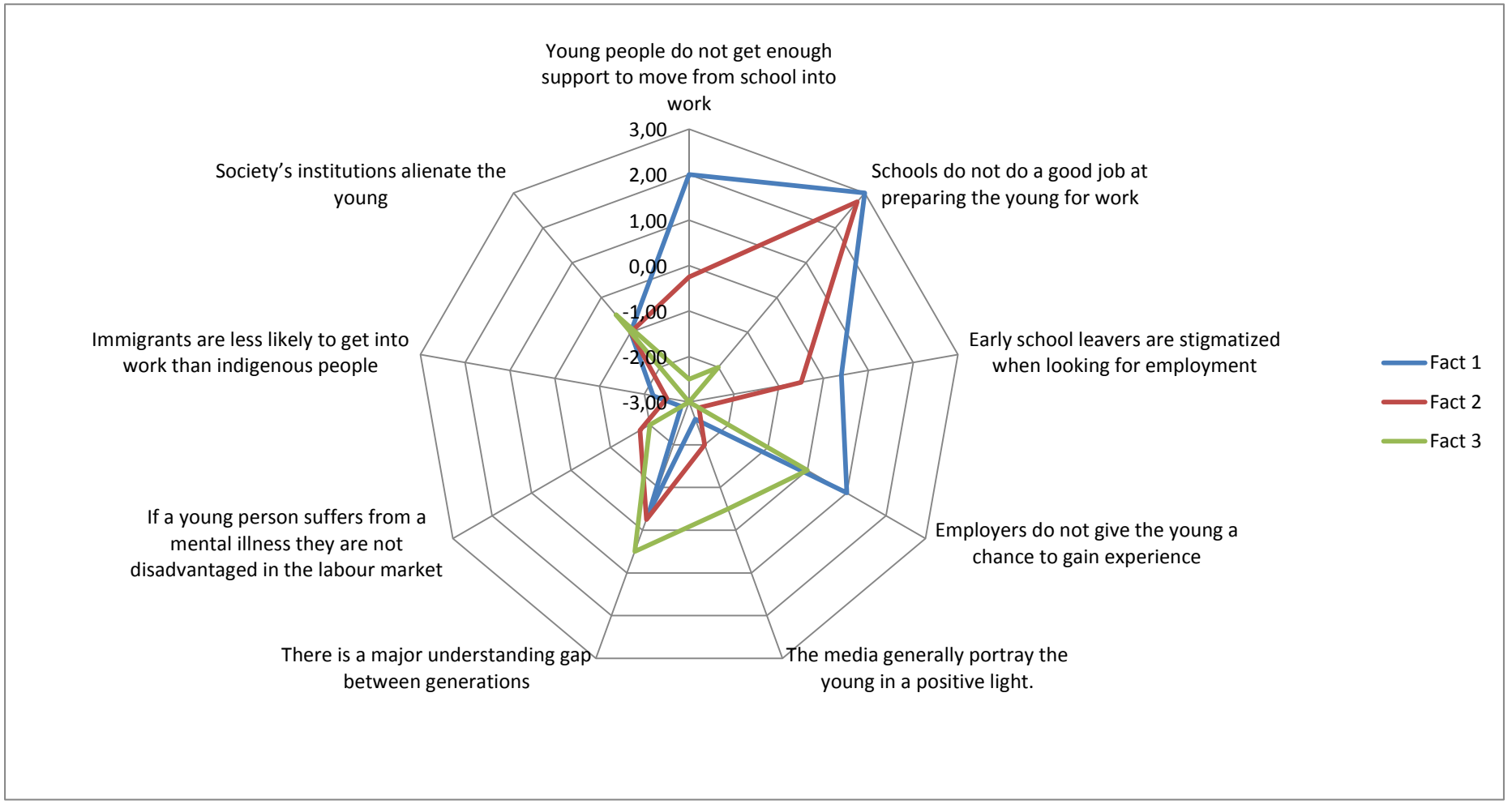


Figure 1c: Level of agreement/disagreement with statements relating to young people getting into employment. Society and the Young



- Most agree that the young lack awareness of labour market opportunities, and that they are trustworthy but are negatively influenced by their peers.

- There is disagreement that young people have social networks that help them get work, and that young people are NOT enthusiastic about work.

- There is agreement that experience is more important than educational performance, family background is a major determinant of employability, and being social media savvy is important.

- There is disagreement that there are limited opportunities for quality employment and meaningful work, and that a person's colour or disability has a major influence on the ability to get a job.

- There is some agreement that schools do not do a good job at preparing young people for work. There is some agreement that employers do not give the young a chance and that early school leavers are stigmatised.

- There is disagreement that immigrants are less likely to get into work and that the media portray the young in a positive light.

Summary of Findings - Statements Relating to Young People Integrating into Society

On the issue of young people integrating into society, the following two spider diagrams (Figures 2a and 2b) were obtained.

There seems less agreement between the groups for the statements related to young people integrating into society than there was for statements about them moving into work. Views were in general positive about young people's capabilities and attributes, and although some expressed doubt over their effort and contribution to society, there was a consensus that young people are not their own worst enemy. There was agreement that people underestimate the abilities of young people, and that the economic crisis has made life more difficult for them. All disagree with the statement *"if a young person does not do well in school then they are isolated from society".*

Figure 2a: level of agreement/disagreement with statements relating to young people integrating into society

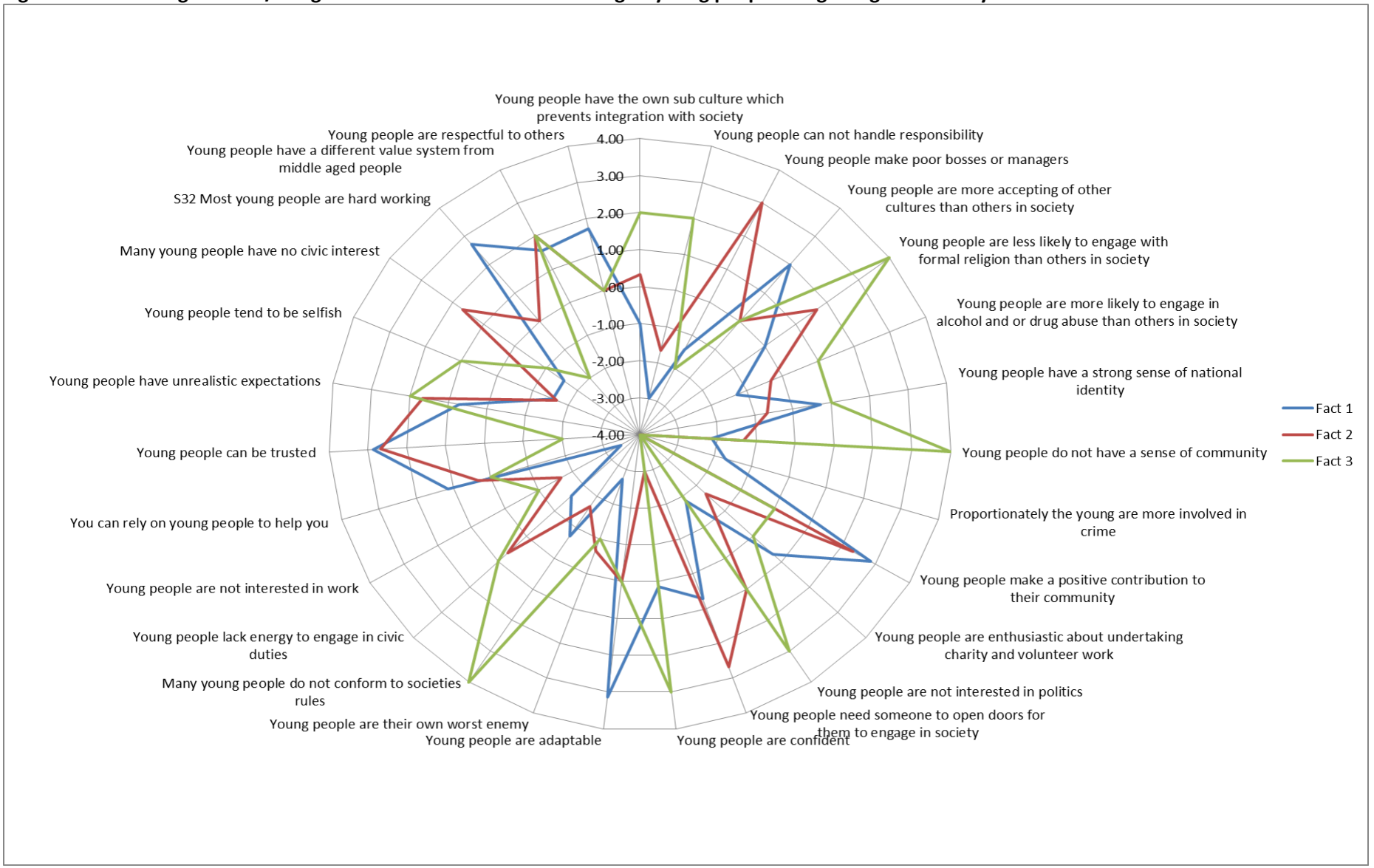
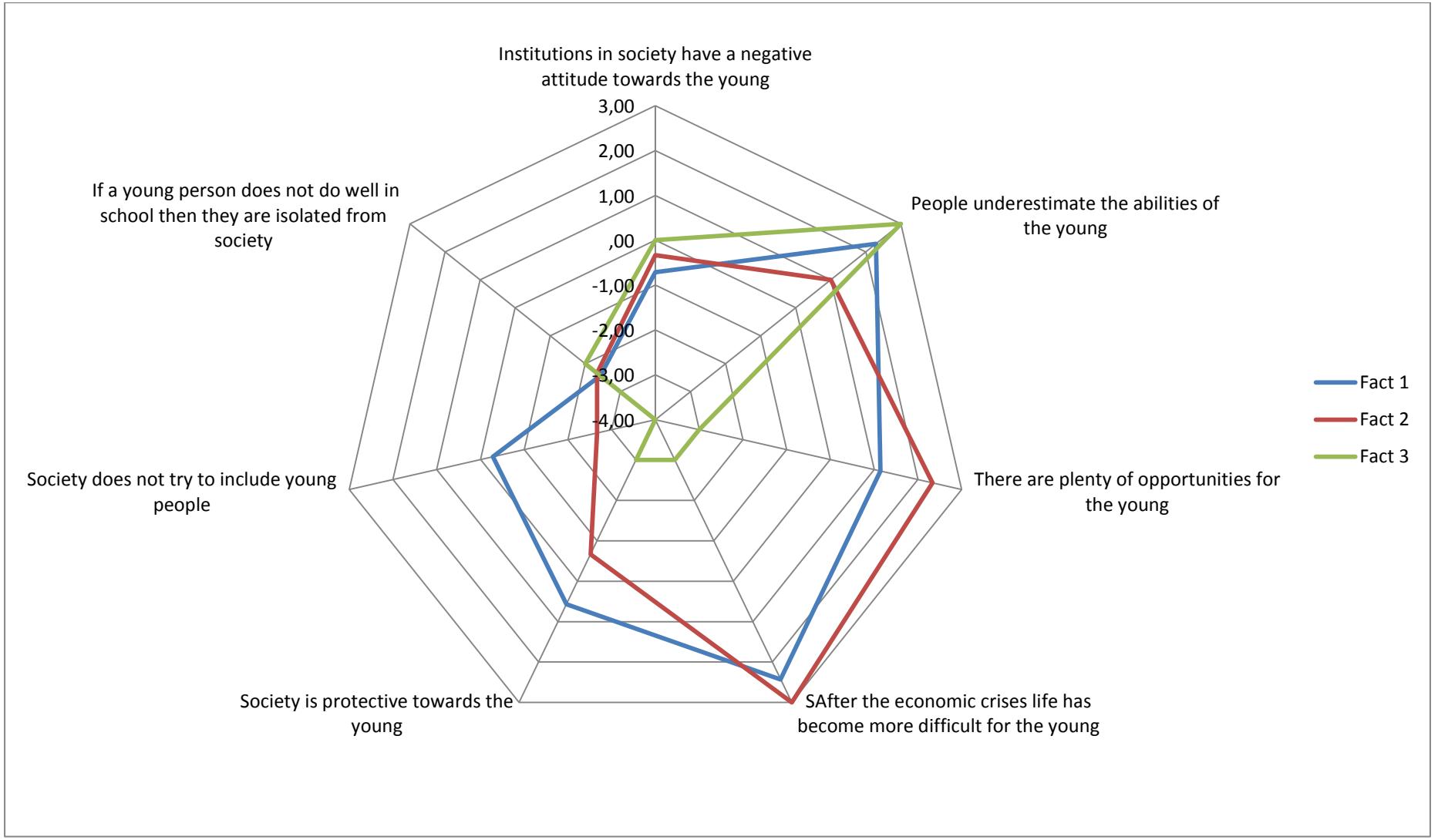


Figure 2b: Level of agreement/disagreement with statements relating to young people integrating into society. Perspective of society.



2. Findings from the Standard Interview Questions

Respondents were also asked a set of standard interview questions. The main themes that emerged from the responses were:

Employer attitudes and expectations

- Some felt that there was a need to create demand for youth employment, as employers can see young people as a 'risk'. For example, misunderstandings about employment law – especially for smaller employers – can be an issue.
- Employer expectations about the qualification requirements of applicants can present barriers to young people. Some cited that employers (especially large employers) can have very fixed ways of recruiting.
- Employers expect that young people are work-ready, even those who have only just left school. There is not always an understanding that young people gain experience on the job.
- Employers do not want to pay high wages to young people undertaking basic/entry level jobs. Therefore, taking these jobs does not always make financial sense for young people.
- Large employers are particularly involved in programmes that offer trial periods or placements to young people etc. But they have the capacity to manage the potential 'risks' presented by young people. SMEs have less of a capacity to take risk.

Helping young people to understand the labour market

- Young people want to participate in the labour market but do not necessarily understand it.
- For young people who lack qualifications and/or work experience, employability programmes help them to convey their aptitudes and abilities to employers. These programmes also play an important role in making work experience opportunities available to young people.
- Young people may lack of awareness of what employers want and expect, and are not necessarily able to convey their skills and attributes to employers.
- School is not preparing young people well enough for the realities of the workplace.
- There needs to be opportunities within school for those who do not want to take an academic route, so that they leave school with the skills required for the workplace.

3. Conclusions

- Most of the agents believe in young people.
- The majority view is that young people are able and ambitious; they are ‘capable’, but they lack knowledge of the labour market and have unrealistic expectations.
- However, there is a minority view that the young are not flexible, and that they are themselves the problem.
- The majority view is that society does not appreciate the young, that schools do a poor job of preparing people for work, and that employers demand too much from young people.

4. Our recommendations (in summary)

- Examine careers advice at school to ensure that young people are well prepared for the labour market when they leave school.
- Ensure that young people have the opportunity to obtain work experience while they are at school.
- Aim to get the media to portray young people more positively.
- Work with employers to re-appraise skill requirements.

Appendix 3 - Instructions for Q Methods

Materials required:

- two sets of nine 'scale' cards with the following categories:
    - Completely disagree
    - Strongly disagree
    - Disagree
    - Slightly disagree
    - Neutral
    - Slightly agree
    - Agree
    - Strongly agree
    - Completely agree

- two sets of 'statement' cards (with the relevant statement number written on the back – see next pages for details of the statements and their number)

- two recording grids (see below)
- a large table or flat surface
- a digital voice recorder
- Camera/mobile phone

1. Greet the respondent – explain to them it is a new and experimental approach. Tell them that 34 statements will be presented – some rather provocative in nature – and it is important all are considered. The respondent will be asked to indicate their level of agreement with each statement, from completely disagree to completely agree (a nine point scale).

2. Explain that there a two sets of statements to be ranked – one directly related to 'attitudes to young people getting into employment', and one related to 'attitudes of a young person being actively involved and integrated into society'. Note these two categories are deliberately vague and there are some statements common to both statement sets.

3. Write down respondent's name, affiliation and what job they do. Record date and place of "interview". Administer consent form.

4. Pick one set of statements, it does not matter which.

- If it is the ‘young people getting into employment’ set, use the phrase: “Thinking of a young person with low qualifications, give your level of agreement with the set of statements”.

- If it is the ‘young person integrating into society’ use the phrase: “Thinking of a young person with low qualifications, give your level of agreement with the set of statements”.

5. Shuffle the chosen set of statement cards and ask the respondent to sort them into three piles – agree, neutral and disagree.

6. Then start with the biggest pile and ask them to lay out in a triangular pattern - see the recording grids below for details of how many statements can be allocated to each statement of agreement or disagreement. Allocate all 34 statements to the nine point scale, placing in the cell preferred or closest to that cell if already allocated.

7. Photograph the pattern of the cards.

8. Turn over the cards and record the numbers of the statements on to the recording grid – photograph the pattern of numbers.

9. Repeat the process with the other set of statement cards.

10. Have a discussion with the respondent (which is recorded), probing three areas:

    a. Consider the characteristics of young people with low qualifications that inhibit them getting into work and participating in society, and what characteristics promote them getting into work and participating in society.
    b. Consider the characteristics of employers that inhibit or promote the chances of a young person with low qualifications getting into work.
    c. Consider the characteristics of agencies and agents whose purpose is to facilitate young people into work or integrate into society. What promotes and inhibits success.

11. Close the session and thank the respondent.

Recording Grid

Completely Disagree	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree	Completely Agree

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WORK PACKAGE 5: PARTICIPATORY RESEARCH

SocIEtY: SOCIAL INNOVATION - EMPOWERING THE YOUNG FOR THE COMMON GOOD

CHAPTER 2

Young people´s Subjective Capability Quality of Life (SCQL) in Europe: With particular focus on Nussbaum´s capabilities for ´affiliation´ and ´adequate shelter´

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Young people´s Subjective Capability Quality of Life (SCQL) in Europe: With particular focus on Nussbaum´s capabilities for ´affiliation´ and ´adequate shelter´

Christian Christrup Kjeldsen 2015

1. ABSTRACT

This paper represents mainly descriptive statistics and multilevel analysis on a composite constructed Subjective Capability Quality of Life Scale (SCQL Scale). This is done on secondary data found within the European Quality of Life Survey (EQLS). Furthermore it discusses some of the methodological and theoretical difficulties concerning secondary analysis and the Capability Approach. The analytical focus of the report is mainly theoretical generated on Nussbaum's capabilities for affiliation and the bodily health dimension of ´adequate shelter´. This is reached by a Bourdieu-inspired relational epistemological approach where young male and females in the age 18-29 years within Europe is related as positions within a field of multiple positions divided by age and gender. Also the conversion factor when living in different living areas and housing is taken into account. It presents the results with special emphasis on five countries within the EU SocIEtY project. This entails UK, Romania, Italy, France and Denmark and thereby contextual represents different European social models. Whereas the SocIEtY project is an international, interdisciplinary and collaborative research project funded by the Europeans Union's Seventh Framework Programme addressing the lives of young people in the European countries of today the intention is consequently to investigate possibilities within existing data in order to broaden the informational basis regarding youth in peculiar living situations. What is presented is mainly the first experimental attempt for further development of a capability oriented evaluative model within the EQLS data for EU policy making and not a full developed model as such. In order to reach this goal a number of statistical methods have been applied. Firstly the analysis deals with problems of missing data and seeks to solve these challenges using multiple imputation of missing data. It is clear that item-non response is not completely at random within these data and differs among the participating countries. Secondly the analysis builds a theoretically deductive scale for

the measure of the freedom to choose a life the individual have reason to value. The reliability of this composite measure is estimated with country-wise Cronbach α estimates as well as McDonalds Ω is taken into consideration. It is argued that such a measure cannot stand alone and its potential is only reached if brought into a mutual relational model that brings the other dimensions and concepts of the capability into account. One uniform composite measure for a capability measure that "fits all" is therefore not suitable for ranking or evaluating changes over time; instead it is argued that several multilevel/mixed-effect models could be developed in order to shed light on each of the the different dimensions of substantial freedoms presented by Martha Nussbaum and from a holistic perspective build up the needed informational basis.

2. INTRODUCTION

Following the work package description the aim of this quantitative amendment of the case-studies is to *experiment* with different types of quantitative analysis which may point to new innovative ways of combining *existing data.* This may serve as a broadening of the existing *informational basis for the judgement of justice* (IBJJ) for social policy actors. In order to broaden the existing scope and knowledge base a number of the countries participating in the qualitative participatory research have been theoretical sampled for this task in order to: *"probe into the effect of capability variables such as attitudes to training, degree of social interaction and support, confidence and trust in others and satisfaction with different aspects of their lives"* (ANEX I). Especially aspects of *satisfaction* with the lives people are living and *affiliation* towards others is taken into attention within this analysis. Among the eleven regional case-studies, which make up the core of the participatory research, five countries have been specially selected as diverse representatives for the overall European Social Models (ESM). The countries - theoretically sampled among the regionally case-studies in city urban areas - are UK, France, Denmark, Romania and Italy, in order to investigate if certain push-forward factors or barriers (conversion factors) of inequalities can be pointed to for youth that live within different welfare regimes and areas of Europe. Within the project the European Social Models covered are the Nordic social-democratic (Denmark, Netherlands, Belgium), the liberal (CH, UK), the conservative (Germany, France, Austria), the Mediterranean (Italy, Spain) and the transitional (Romania) welfare state models. It is beyond of the scope of this report to question or go deeper into competing theories of welfare state or social models (Esping-Andersen, 1990; Arts & Gelissen, 2002). Instead the objective will be

on the cases already chosen. The aim is therefore adding further to the existing participatory analysis and thereby providing capability informed ways of evaluating relationships between these countries and existing inequalities. It is argued that the evaluative framework provided by the Capability Approach is of particular value when examining the perspectives of young people and the freedoms experienced by them. Therefore seeking to provide comparative insights to the extent which the contextual actuality in each of these countries (thereby implicit in these distinct different social models) offers opportunities to live flourishing lives. It is clear that youth do not form a uniform group neither within nor between European countries. The challenges that young people meet in different European contexts differ to a wide extent, which can not only be traced within labour market and educational statistics, but also in the level of participation and social exclusion found within the European countries (TNS Opinion & Social, 2010; Lelkes, 2015). For the five countries in focus youth unemployment proves to be:

Seasonally adjusted youth (under 25s) unemployment					
	Rates (%)			Qualitative categories	
	nov-13	sep-14	nov-14	Change 2013-2014	Related to average EU 28 [sep-14(21.8)/nov-14(21.9%)]
Denmark	**12.9**	12.6	**11.4**	Decrease	Lower/Lower
Italy	**41.4**	42.7	**43.9**	Increase	Higher/Higher
Romania	**24.4**	**23.3**	*	Decrease	Higher/Higher
France	**23.6**	24.9	**25.4**	Increase	Higer/Higher
UK	**19.7**	**16.3**	*	Decrease	Lower/Lower

Table 1: * data not available. Source (Eurostat, 1/2015)

The five case-studies thereby represent different categorical compositions and changes of youth unemployment since the ebbing out of the financial downturn. Initially Denmark has had a low youth unemployment in 2013 and experienced a further drop in the level, which is also the situation for the UK. UK though with an initial rate that was closer to the EU28 average. Italy and France both have higher youth unemployment than the average of EU28 and have further experienced an increase from 2013 to 2014. France being more close to the average than Italy where young people experience extreme levels of youth unemployment. Romania initially has had higher youth unemployment than the average, but in contrary to France and Italy they have experienced decrease from November 2013 to September 2014. When comparing youth unemployment and gender rates in relation to the overall unemployment within the different

countries it is obvious that when analysing related dimensions of living conditions the analytically approach will have to *control* for these differences.

Doing so-called "secondary analysis" on already existing quantitative data is a well-established practice. It is interesting that concerns towards the limits of already gathered data is among the principal discussions within the qualitative research paradigm. Even though "*the problems associated with already collected data are very similar to those confronted by anyone who discovers a large cache of archival materials and wishes to analyze them. The major difference, perhaps, is that with personally collected materials, the researcher has some familiarity with the materials."* (Strauss & Corbin, 1998, p. 280). I will argue that many of the concerns within these discussions also apply for doing quantitative secondary analysis. Secondary analysis in general is always confronted with the limits these data provide as regards the many design choices done before, under and to some degree also after the collecting of the data. A number of design choices are made before the gathering of the data which set the boundaries for the secondary analysis. In both qualitative and quantitative analysis especially how the sample procedure of respondents are designed and not the least the questions asked become fixed boundaries for the analysis. Furthermore when working with multilingual surveys also how they have been translated becomes one of the influences. Should secondary analysis then better be abandoned? When doing analysis of secondary survey data I would argue to have a pragmatic approach and be balanced in the same way as Sen argues. Balanced between the practical need that the theoretical approach demands with what information one can actual obtain for the empirical analysis. Sen follow up on this and argues that the *"Scylla of empirical overambitiousness threatens us as much as the Charybdis of misdirected theory."* (Sen, 1999a, p. 32). The balance between which information is within reach (existing data) and the theoretical constructed conceptions can be traced back in the economic literature on standard of living and well-being assessments (Sen, 2001 [1987]). The above named consideration on the choices made in advance regarding the data and the theoretical need have stimulated the forthcoming analysis to seek to investigate to what limit the feasible data supports an analysis within the theoretical framework of the Capability Approach, but also to provide suggestions for further development of instruments, because the existing data being part of an existing knowledge base do not flout in a social vacuum and can therefore be changed, revised etc. Another dimension when doing secondary analysis of existing data relates to

the choices of providing particular data – which data the scientific community have access to is one thing, but interestingly enough is question data that we for different reasons have no access. Either because they are not systematically collected or they are not free for use. Which data that exists is part of a power struggle and therefore becomes a question for the sociology of knowledge. One may join the understanding of Berger and Luckmann that these international surveys become parts of an *socially constructed reality* and therefore it is important to have in mind that they, even though they appear as objective towards the individual (researcher in this case) still is an: *"humanly produced, constructed objectivity."* (Berger & Luckmann, 1984 [1966], p. 78) To some extent this *construction constructs* our perception of how "things are". Should we then just accept status quo? If the goal is to contribute to revisit the existing informational base for the judgement of justice (IBJJ) and thereby promote the ground for more social just societies within Europe, it could become a dialectic situation instead where the engagement with the already constructed limits of what is possible with the existing data become influenced with new demands, ideas and theoretical informed perspectives and thereby also influence further constructions of these data in the understanding of new or altered questionnaire items etc. In this case a reverse influence is established that could become part of the later socially constructed realities. This suggestion may not be as pioneering as it may seem at first sight. As Berger and Luckmann conclude: *"insight into the dialectic between social reality and individual existence in history is by no means new. It was, of course, most powerfully introduced into modem social thought by Marx. What is needed, however, is to bring to bear a dialectical perspective upon the theoretical orientation of the social sciences."* (Berger & Luckmann, 1984 [1966], p. 209). Therefore this analysis of secondary data will seek to provide insights from both theory, a descriptive and a multilevel perspective and highlight the similarities and differences found between the five countries, United Kingdom (the liberal social model), France (conservative social model), Denmark (Nordic social model), Italy (Mediterranean social model) and Romania (transitional social model) and will have the aim of presenting a theoretical driven construction of a capability measure – pushed to the limit within existing data and thereby be able to suggest developments that would support this theoretically and empirically driven operationalization.

Let me now turn to the methodological issues which in this case to a high degree are entangled in the theoretical ground, because of the aim of making a theoretical driven epistemological break,

which is well in line with Bourdieu's argument of not dividing methods, data and theory, because this is actually a false divide.

The analysis is placed within a model that theoretically takes the conceptual framework of the Capability Approach as it is formulated by Amartya Sen and Martha Nussbaum into account and provides another understanding of welfare and wellbeing within the social science (Deneulin & Shahani, 2009, s. 30). With a certain caution not to end in the Rawlsian and utilitarian pitfall of measuring equality only in primary goods or opulence in general because resources, even broadly defined and operationalized, turn out to be very poor proxies for the lives people can in fact enjoy (Sen, 1992, p. 82). Instead the analysis seeks to be guided by Sen´s question "Equality of what?" (Sen, 1979). It furthermore becomes a question of how things are, but also how things subjectively are preferred and related to the normative yardstick of central capabilities.

I will address the concepts *capabilities, functionings, commodities and converstion factors* within a relational model for understanding the dimensions of the Capability Approach empirically. Even though the theoretical grounding has been discussed within the SocIEty project, I would shortly like to repeat some of its main ideas in order to argue for the read thread concerning the chosen methodological approach. Firstly the Capability Approach builds on the assumption that capabilities are linked with the substantial freedoms of each individual person. Departing analytically in the congruence of substantial freedoms and capabilities is in order to place the focus different than the Rawlsian primary goods idea. Instead it gives "*a central role to a person´s actual ability to do the different things that she values doing"* (Sen, 2009, p. 253). These substantial freedoms are fostered in a combination of the individuals' abilities and the surrounding political, social and economic context (Nussbaum, 2011, p. 20) and therefore I would argue that an empirical approach will also have to be related to countries or areas of living etc. as units of analysis. Substantial freedoms as capabilities thereby become the things we could do or be related to the choices we have reason to value. The actual doings and beings become the achievements of the individual which is conceptually caught by the term *functionings.* These two concepts offers two different forms of information: " [functionings] *is about the things a person does and the latter* [capabilities] *is about the things a person is substantively free to do"* (Sen, 1999c, p. 75). Actualization of individual freedoms contains choice making though not in the neo-liberal

understanding of individual choice, but rather as ethically individualistic (Walker, 2005, p. 106), because we also becomes responsible to some extent for the choices made. These substantial freedoms do not only offers opportunity to decide one thing rather than another – along with the freedom follow the responsibilities of the chosen actions (Sen, 2009, p. 19). Capabilities and functionings are also closely related to the commodities the individual have within reach. Following Robeyns this also entails services and is not necessarily exchangeable for money. Her argument is that this would restrict the approach to measurements of marked-based economy which is not the intention within this school of thought (Robeyns, 2013 [2003], p. 12). In-between of the commodities and the actualisation of capabilities we find a number of *conversion factors* (Robeyns, 2005, p. 99) which influence the utilization of the *characteristics* these goods have. They are called contingent circumstances by Sen – they could be different in another cultural atmosphere - and they point to the variation to be found in relation to incomes, advantages, wellbeing and freedom that one enjoy having particular commodities and freedoms (Sen, 1999c, p. 70). These contingent circumstances may be categorized in three types: *a) personal, b) social, and c) environmental* conversion factors (Robeyns, 2005; Sen, 1999c). Within this analysis mainly the social conversion factors of gender and age have been taken into account. To some degree the environmental whereas living areas and countries are also the varying parts of the analysis (more to that below). Sen argues:

> Even if the parameters of the conversion rates are respectively given, an equal distribution of income may yield very unequal levels of wellbeing, with differences related to group-specific parameters (such as gender, age, environments) (Sen, 1992, p. 100).

From a sociological perspective one would not expect to find any societies where wealth, status and influence were not unequally distributed between males and females because gender is historically so deeply anchored in the class systems (Giddens, 1989, p. 225). Still the added value in this analysis is to bring into light how large this effect is – ceteris paribus - and to which degree it differentiates among the case-study countries?

Kjeldsen and Bonvin have argued that the dimensions and the concepts of the capability approach could be joined together in a holistic model that encompasses both concepts and dimensions of the approach. Following picture seek to capture this:

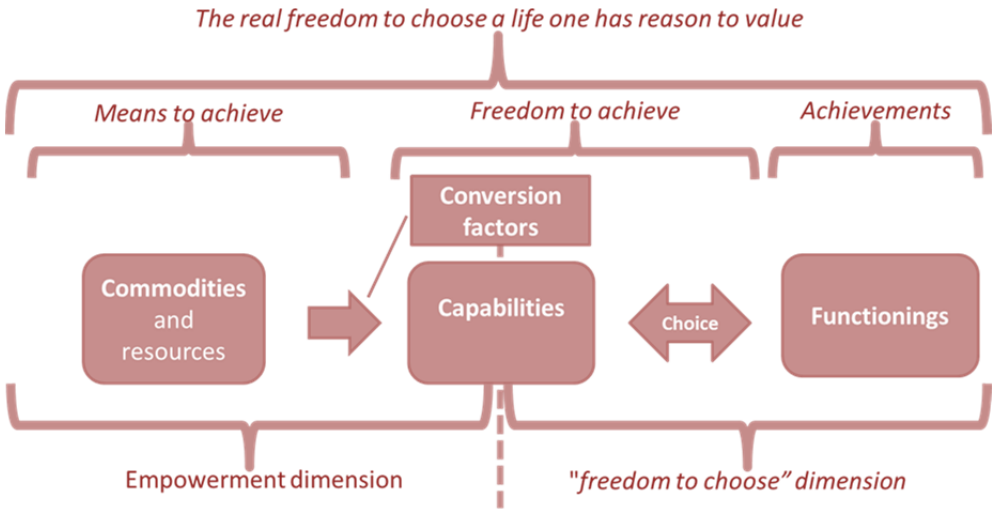


Figure 1: A reduced model (kjeldsen, 2014; Kjeldesen & Bonvin 2012). A similar relational model without the dimensions can be found within the writings of Robeyns (2005)

This conceptual approach is not a social theory. Still the concepts are interpreted as being very relational which is the reason for bringing them into a *relational epistemological* design. Let me shortly give this theory of knowledge a few remarks.

The idea of researching an *objective reality* not as its objects, but rather as its relations stems from the work of Caston Bachelard and the further development found within Pierre Bourdieu´s writing (Bachelard, 1984; Bourdieu, Chamboredon, & Passeron, 1991; Bourdieu, 1993). Bachelard who is seen as the influential figure behind both Bourdieu´s and Foucault´s relational and epistemological thinking (for instance the epistemological break or rupture) draws on the Aristotelian knowledge (Kjeldsen, 2014) and argue that: *"*[r]*elations do not exemplify objects; objects exemplify relations"* (Bachelard, 1984, p. 143). Bourdieu follows this lead and states that:

> the real is relational, that what exists is relationships, something that you can´t see, in contrast to individuals and groups (Bourdieu, Chamboredon, & Passeron, 1991, p. 253).

This have influences on the chosen methods that need to think in relations rather than quantities of specific groups etc. and therefore the five cases will be brought into their mutual relations. This is in order not to end up only to theorize on disadvantaged groups etc. what Bourdieu criticized as Marx´s ´classes on paper´ (Bourdieu, 1987). This is well in line with the dialectical proposition of influencing how things are, whereas this: *" is a formal outline of the relations among relations that define constructed objects, which can be transposed to phenomenally very different orders of reality and suggest, by analogy, new analogies that can give rise to new object constructions"* (Bourdieu, Chamboredon, & Passeron, 1991, p. 54). It is the differences among the constructs that are of interest and will point to the characteristics of those who are advantaged related to the disadvantaged. As Kjeldsen (2014,2015) have argued both methods, the Capability Approach as well as the data will have to be brought together in what could be termed a *relational whole.* Within this Aristotelian and Bachelardian inspired understanding the understanding of the complex reality only emerge from the qualities of the *whole* and will not be evident in its parts (Bachelard, 1984, p. 142) which is the strait forward reason for the troubles experienced if pointing to just one final measure of the quality of live or the capabilities of the individual. Instead I well recognise the difficulties and walk the way that is non-reductionist – with all the compromises this also entails. The composite measure of the individuals Subjective Capability Quality of Life (SCQL) will therefore have to be thought theoretically in the first place rather than empirically and thereby take its departure within *"pure thought"* and then first afterwards be brought into action *"where objects have no reality except in relations"* (Bachelard, 1984, p. 132). A relational thinking is following Matthew Longshore Smith & Carolina Seward also to be found within the writings of Sen, though, as an *relational ontology* of the society as being relational (Smith & Seward, 2009, p. 213). As argued in Kjeldsen (2014) it may rather be an epistemology than an ontology. Still the overall argument of Smith and Seward is convincing. They state that: "*Most critically, to understand the nature of a relational society — and the agent-social structure interaction that forms capabilities — it is necessary to grasp the nature of this interaction"* (Smith & Seward, 2009, p. 215).

3. METHODS

I would argue that this epistemological and relational approach fits very well the chosen methodological design which is a multilevel analysis in the form of *mixed-effects models*

(regression) with varying slopes and intercepts (Hox & Roberts, 2011; Sniders & Bosker, 2012; Gelman & Hill, 2007), where the results of the "mixed-effects" best is interpreted in their mutual relations. As Gelman & Hill argues: *"Multilevel models typically have so many parameters that it is not feasible to closely examine all their numerical estimates. Instead we plot the estimated group-level models* […] *and varying parameters* […] *to look for patterns and facilitate comparisons across* [countries]*"* (Gelman & Hill, 2007, p. 257). In Danish there is a saying: "beloved child has many names". This may likewise be the case with the range of multilevel modelling methods common within the social sciences (Sniders & Bosker, 2012; Hox & Roberts, 2011). Methodological development in this direction within sociology and particular the sociology of education and educational research has been pushed forward by the need to take the often nested data structures into account. Such structures as are found in the European Quality of Life Survey. For instance one finds pupils within classes which are clustered within schools, within countries.

> Multilevel data structures are characterized by observations that are nested within higher level units or clusters (e.g., children nested within schools, employees nested within workgroups, repeated measures nested within individuals). (Enders, 2010, s. 276).

Multilevel approaches have often been applied in order to provide more accurate measures for evaluating school organizations and educational programs within such nested structures for better policy making (Bock, 1989). With rapidly growing development of new and more advanced techniques one naturally will have to stop up and ask if these *complex complexities* provide an added value in relation to less complicated methods. To quote Donald B. Rubin´s dialogue with William Cochran:

> William Cochran once told me that he was relatively unimpressed with statistical work that produced methods for solving nonexistent problems or produced complicated methods that were only imperceptibly superior to simple methods already available. Cochran went on to say that he wanted to see statistical methods developed to help solve existing problems that were without currently acceptable solutions. (Rubin, 1989, p. 1)

This is quite interesting if this is read together with the statement of Hox & Roberts who in relation to the development of multilevel analysis and adequate theories write: *"Such explicit multilevel theories appear more rare today. Certainly, theory construction is lagging behind the rapid statistical developments."* (Hox & Roberts, 2011). Whether methods are inappropriate for the real problems or theory is lacking behind the methodological development is in my view fostered by a misleading division between theory and methods as argued also by Bourdieu and a way out of the empirical troubles of the Capability Approach is to tear down this divide. Bourdieu founded his theory of taste (Bourdieu, 2007 [1979]) in close coherence with at that time newly developed Correspondence Analysis.

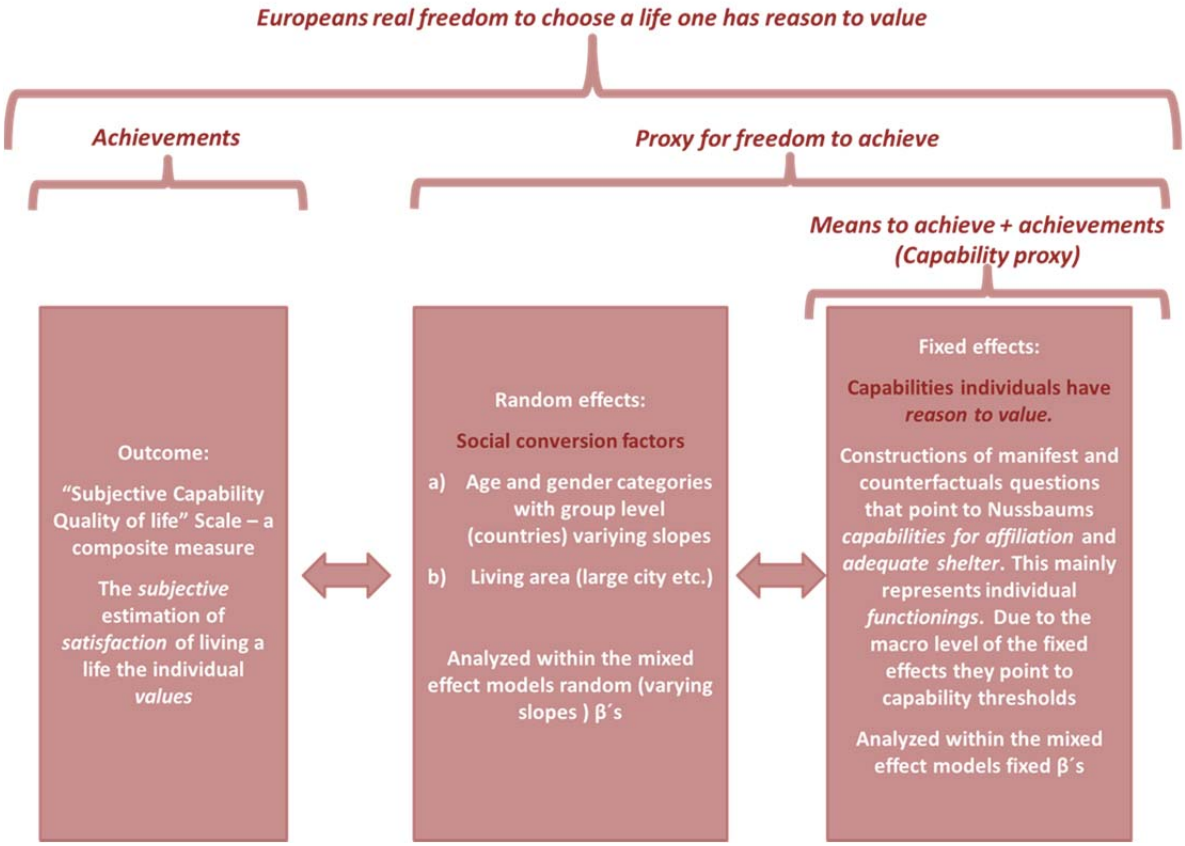
When Sen in his nominal book "Commodities and Capabilities" presents formal representation of the Capabilities Approach in terms of vector mathematics it is remarkable how nested and relational this is. At the face level the beauty of its simplicity is to some extent a Janus head, because the mutual nested dependencies make it far more complicated. I would argue that this is perhaps the reason behind the problems of fully utilization the approach empirically. For example when focusing particular to the vector of commodities a person (*i*) has in position from a set of possible vectors ($x_i \in X_i$) and the *happiness* (u_i) that this person enjoys. This is related to the function that converts this bundle of commodities into characteristics of that particular bundle ($c(\cdot)$), which is furthermore related both to the characteristics and the person in question with an personal utilizations function of these characteristics that belongs to a set of possible utilizations ($f_i(\cdot) \in F_i$), which is furthermore related to the personal happiness function related to this configuration ($h_i(\cdot)$). So, commodities that a person have command over (and which to some extent is also a question of choice and therefore even more complex and belongs to the set of commodity vectors X_i) is nested within its characteristics, which is nested within a personal utilization function, which is nested within a situation where the person have achieved a certain functionings and the happiness they enjoy under these to some extent contingent circumstances influenced by a number of choices. Formally Sen argue that this happiness is given by (Sen, 1999a, pp. 6-11):

$$u_i = h_i(f_i(c(x_i))$$

This is only the start, because it is furthermore related to the individuals (*i-j*) valuation function. As one can imagine, each nested level add up exponential to the possible outcomes for each individual – appealing for a philosophical liberal theory. Still, it becomes quite demanding to address all the counterfactuals and contingent choices that have been introduced so far. Instead the strategy chosen within this analysis is to methodologically point to some relational proxies for the individuals substantial freedoms to choose a life he or she has reason to value. Being well aware that some pragmatism will have to be applied within this empirical attempt, but still hoping not to loose the target out of focus. Having the more qualitative description of the Capability Approach in mind (presented earlier in illustration 1) I will argue in favour of a *mixed-effects* model instead. Similar to Gelman & Hill (2007) "mixed-effects" will refer to an regression model both with coefficients varying between the groups[1], the so-called random effects, and coeficients that do not vary, the fixed effects. The arguments for building up this model as an utilization of the Capability Approach are mainly analytical rather than formal mathematical.

In such a model we have the *outcome* which is being explained or predicted with a number of variables. Some of them as *fixed effects* and others as *random effects.* It is not necessarily a causally relationship and it is furthermore not the intention within this analysis to point to causality in any sense. In order to be consistent with the Capability Approach, but still within the limits of what is pragmatically achievable within the existing dataset. The following illustration point to the analytical design applied within the mixed effects study:

[1] In this case the groups is countries, as well as a categorical differentiation of the characteristics of the area in which respondents live ("The open countryside" [1], "A village/small town"[2], "A medium to large town" [3], "



In this manner models for explorative study of parts of the capability for affiliation and adequate shelter are visible. Nussbaum conceptualizes with good reason very broadly within her central list of capabilities. She argues this list to be universal whereas it builds on consensus and is open for debate. It illustrates the threshold that a social just society will offer at minimum for their citizens. As a threshold it will have to be measured to some extent. How high and which *effects* the existing threshold have on peoples quality of life is part of the fixed effects within the multilevel study presented here. As argued the analysis will have to depart within thought and theory. Beneath are two of Nussbaums central capabilities (Nussbaum, 2011, pp. 33-34; Nussbaum, 2006, pp. 76-78; Nussbaum, 2000, pp. 78-80; Nussbaum, 1999, pp. 41-42; Nussbaum & Glover, 1995, pp. 83-85). In bold is authors highlighting of what will be sought covered by the analysis broadly speaking:

> *Affiliation. (A)* Being able to **live with and toward others**, to recognize and show concern for other human beings, to **engage in various forms of social interaction**; to be able to imagine the situation of another. (Protecting this capability means protecting institutions that constitute and nourish such forms

> of affiliation, and also protecting the freedom of assembly and political speech.) *(B)* Having the social bases of self-respect and nonhumiliation; being able to be treated as a dignified being whose worth is equal to that of others. This entails **provisions of nondiscrimination** on the basis of race, **sex**, sexual orientation, ethnicity, caste, religion, **national origin**.

And:

> *Bodily health*. Being able to have good health, including reproductive health; to be adequately nourished; **to have adequate shelter**.

Education and employment status influence the individuals opportunities within what have been characterized as learning societies etc. Human capital in the form of achieved educational level is among the single indicators having a tremendous impact on life chances. For this reason both employment status and achieved educational level are brought into the fixed part of the models in order to control for these effects.

The conversion factors are in these models gender, age and living area. Gender and age are fitted in the model with *random intercepts* for each country and with *varying slopes* of the beta coefficients for the age and gender categories. This makes it possible, when the other factors are fixed and controlled for, to research to what extent age and gender affects the individual's quality of life measured as the SCQL score. The argument for these factors is to be found in Sen´s statement that:

> Variations in social climate: The conversion of personal incomes and resources into the quality of life is influenced also by social conditions […] Aside from public facilities, the nature of community relationships can be very important, as the recent literature on ´social capital´ has tended to emphasize (Sen, 1999c, pp. 70-71).

Having presented the methodological design broadly let me move forward to the point where all the theoretical and methodological ambitions meet the empirical boundaries.

4.1 Secondary analysis on existing datasets

The Quality of Life Survey is the main dataset used for the analysis of quality of life in Europe. A number of articles, reports and general insights in various aspects have already been generated upon this initiative to monitor changes in quality of life within and between European countries. This dataset build on a questionnaire that offers a broad scope of different items relevant for a capability oriented approach – still to the knowledge of the author no such comprehensive use have been applied to the dataset until now except for an attempt by Kjeldsen (2015). This attempt to model a multilevel analysis deduced from theoretical ambitions rather than empirical possibilities provide an added value for further development of possible operationalization of the Capability Approach, as well, but not the least, for the further development of the information basis gathered through the means of the returning survey. The dataset consists of three cycles of the survey conducted in the years 2003, 2007 and 2011. For this analysis the third wave conducted in 2011 have been applied.

Even though the dataset delivered by the UK data archive is very well documented and have been prepared for further analysis a number of additional tasks have been performed in order to prepare the data for the specific analysis. This statistical reworking and the analysis of data have been performed within the statistical environment R (R Core Team, 2014) combined with a number of additional statistical packages for multilevel regression (linear mixed-effect models) (Bates, Maechler, Bolker, & Walker, 2014), multiple imputation for missing data (Buuren & Groothuis-Oudshoorn, 2011; Lumley, 2014; Honaker, King, & Blackwell, 2011), reliability measures for composite scales (Revelle, psych: Procedures for Psychological, Psychometric, and Personality Research: R package version 1.5.4, 2015) and packages encompassing the tensions of analysis within complex survey designs (Lumley, 2004; Lumley, 2015; Lumley, 2010). Let me turn to the last issue which relates to the secondary data´s sample design.

4.1.1 Survey sample design and sample of countries for the analysis

As the total dataset covers 34 European countries a complex sample design of respondents for the survey have been applied for the European Quality of Life survey. For large parts of the analysis the estimates have taken the advantage of the provided sample weights into interpretation (the descriptive statistics). Still for fitting the mixed-effect models (analytical statistics) this have not

been the case. Following Snijders & Bosker this is a question between a model-based or a design-based inference towards sample weights in multilevel analysis. Their proposal of a model-based approach having the design variables implemented in the model have been followed and instead of sample weights (which would have added to an already complex use of analysis on multiple imputed data) both employment, gender, age, area of living are controlled for in the models.

The data contains people from 18 years of age an up who have usual residences within the countries of the survey. Respondents covered by the survey further had to speak the language of each country to an extent that they reliable could respond to the questionnaire. The sample design is multistage sample applying a "next birthday" rule in order to select only one person within each household (UK Data Archive, 2014, p. 3). The sample probabilities for the respondants and design differs between the countries. For some countries randomization from a covered population was passible whereas this was not the case for others. As a result some coverage error have to be expected (UK Data Archive, 2014).

Before going more into depth with the applied methods for analysis of the constructed measure, I will start with the objective of getting the theoretical understanding found within the Capability Approach into empirical work. Following this structure:

a) Building a composite measure with the existing items in the questionnaire for EQLS
b) Reliability testing of this measure
c) Analysis of the data with this measure as *outcome*[2] variable within *mixed effects models*.

Let me start with some considerations and explanation of the combination of analytical method, theory and data.

4.2 Operationalization of the Capability Approach within the limits of data, methods and the relational theory of knowledge brought together

4.2.1 The self assessed index on the freedom to live a life one has reason to value

Sen often criticizes what he calls the means and ends confusion. Within the human capital thinking the individuals educational level, health and social capital becomes means for another end,

[2] Instead of using the variable terms *dependent* and *independent*, I will refer to the y as the *outcome* variable and the others as predictor variables as argued by Gelham & Hill (2007, p. 37).

namely the growth in economic terms. Following Sen this do not take into account that education, health and affiliation towards others have intrinsic values. They are not only a mean to an end, whereas they are ends which the society has reason to strive for. Having economic growth as the end, also contradict with the Aristotelian knowledge that the life of money making is not the life we are seeking, though money may serve as important means for living a good life, it is for this sake (Aristotle, 1995, s. 1732 (Nicomechean Etihics, Book I)) . Sen argues that there are a number of fundamentally different ways of understanding what the quality of living could be. Some are even very plausible when assessing them with common sense (Sen, 2001 [1987], p. 1). For the above reasons the composite measure of a *Subjective Capability Quality of Life scale* (SCQL) the dimensions of this composite measure consists of five items from the European Quality of Life survey (EQLS) which reflects the three dimensions, a) reason to value, b) individual self-evaluation and c) freedom to choice in life. The SCQL scale thereby have three dimensions. The first point to the capability understanding of having a life one has reason to value. This is the subjective understanding of reason to value, whereas the societal valuable capabilities will have to be pointed too on a theoretical normative level rather than empirical. Such a life is a functionings vector of actualities the single individual considers worthwhile, enjoyable and with the individual's interests and satisfaction taken into consideration. The last dimension consists of the freedom dimension within the capability approach. The scoring of the scale is the sum of the scores for each dimension. The scale is "positive" scored and the total covers the range from 5 (lowest subjective capability quality of life) to a total of 26 (highest). A higher score is associated with a subjective assessment that is more advantages.

A: Subjective reason to value dimension (score 1-5)

a1 (score 1-5): The subjective assessment of whether the individual beings and doings are valuable is covered by the questions (Q29b): "*I generally feel that what I do in life is worthwhile"*. The item have the following *Likert scale* for responses and factor levels in the original dataset: "Strongly agree"(1), "agree"(2), "Neither agree nor disagree" (3), "Disagree" (4) and "Strongly disagree"(5) (Agresti, 2010; European Foundation for the Improvement of Living and Working Conditions, 2014). A life with doings and beings that is worthwhile is interpreted as a more advantaged

situation and therefore this dimension has been scored in reversed order of the original factor levels: for example the “strongly agree” is scored 5.

This dimension (A) thereby contributes with scoring from 1-5, where 5 is normative a better off situation.

B: Individual self-evaluation dimension of a valuable life (score 3-15)

b1 (score 1-5): One may well do very worthwhile things in life that the individual find good reasons for valuing without necessary enjoying the actual doings and beings much. The composite measure is therefore furthermore informed by the individual’s assessment of the opposite situation where they seldom have time for *functionings* they enjoy by the question (Q29d): *“In my daily life, I seldom have time to do the things I really enjoy”*. This follow the same ordinal scale and factor levels “Strongly agree”(1), “agree”(2), “Neither agree nor disagree” (3), “Disagree” (4) and “Strongly disagree”(5), this is though scored directly with the factor levels, because strongly disagreement with the statement is normatively a better off situation.

b2 (score 1-6): Furthermore this is enriched by the state of subjective experience within the shorter period of time (Q45e) *“My daily life has been filled with things that interest me / Which is closest to how you have been feeling over the last two weeks”* . This item have the following ordinal scale and factor levels in the EQLS data: *“All of the time”* (1), *“Most of the time”* (2), *“More than half of the time”* (3), *“Less than half of the time”* (4), *“Some of the time”* (5) and *“At no time”* (6)

b3 (score 1-5): The last sub-dimension of this part of scoring the scale is a subjective evaluation of satisfaction with the question (Q30) *“All things considered, how satisfied would you say you are with your life these days?”.* The responses of this item is from 1 to 10, where *“1 - very dissatisfied”* and *“10 - very satisfied”.* The factor levels for this item has been reduced through collapsing into five ordered categories instead.

C: Freedom to choose how to live dimension (1-5)

C1: Within the set of capabilities the individual may choose some *functioning vectors* rather than others. They are: “*reflecting the person´s freedom to lead one type of life or another. Just as the*

so-called ´budget set´in the commodity space represents a person´s freedom to buy commodity bundles, the ´capability set´ in the functioning space reflects the person´s freedom to choose from possible livings" (Sen, 1992, p. 40) . The subjective experience with the degree he or she can actually choose one possible living over another is the last important dimension within the measure. This is the subjective evaluation of the extent the freedom to choose dimension is covered with the question (Q29c) *"I feel I am free to decide how to live my life"*. This follow the same Likert scale and factor levels "Strongly agree"(1), "agree"(2), "Neither agree nor disagree" (3), "Disagree" (4) and "Strongly disagree"(5). This item have been scored in the reversed ordering of the factor levels in the original dataset because strongly agreeing of being free to decide the possible livings is interpreted as a more advantaged situation. This dimension thereby contributes with scoring from 1-5, where 5 is normative a better off situation.

4.2.1 Reliability and consistence of the scale

Often the Cronbach´s α is reported for scale constructs or composite measures in educational psychology, psychometrical approaches to test results etc. Still the measure need to take into account the multilevel structure of the data which stems from different sample approaches or the situation where data is nested due to different reasons. The Cronbach α is not a guarantee for unidimensionality in the understanding that it is a reliability estimate for securing that there is only one latent factor that lies behind the composite measure. In this case it is of no problem whereas it is not the intention. In fact multidimensionality is purposively brought into the composite measure. Instead Cronbach´s α points towards internal consistency of the construct. What will have to be taken into account though is that the intentional multidimensionality influence the expected value of α, because "*Reliability is underestimated when scores are not unidimensional* […] *The estimate may still be reasonable high, but it will be smaller than it should be. For example, Osborn demonstrated that with a true reliability value of 0.76, Cronbach´s α was only 0.7 when scores were multidimensional."* Already in 1965 Cronbach, Schöneman and McKie addresses the issue of stratified test situations related to the alpha measure (Cronbach, Schönemann, & McKie, 1965).

As I will elaborate on in next section multiple imputation of missing data have been applied. For this reason the Cronbach´s α estimates for the five imputed datasets have been put togehter in

one common figure . The combined (for the five imputed datasets) of the total standardized Cronbach´s alpha based upon the correlations is 0.63 (average of the estimate following Rubin). The often accepted cut-off scores for α is that $0.6 \leq \alpha \leq 0.7$ yields an acceptable level. Having the multidimensionality and the limits that the secondary data sets in mind this is interpreted as adequate for the further analysis. Still some caution will have to be addressed. Whereas the design of the dataset is clustered within countries, coefficient α have also been performed on the imputed data sets spitted into countries. When plotting the five density distributions of α the following plot point to some variability between countries.

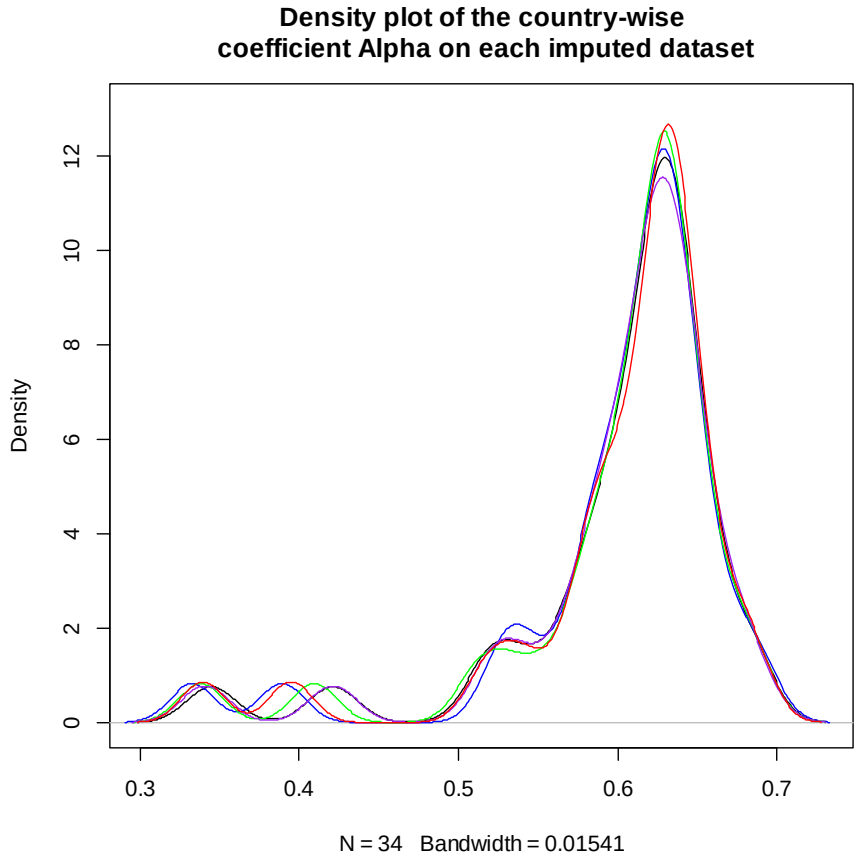


Figure 2

The first two “small bumbs” on the way to an acceptable alpha coefficient for the composite measure are represented by the countries Turkey and Kosovo. It is the interpretation that these differences are due to translation of the questionnaire and point to cultural differences.

When applying McDonald´s Ω an estimate of factor saturation is given which build on hierarchical factor analysis with rotation of the factors (Revelle, 2015). As expected three factors are found. Only the variable *Y11_Q29d –"I generally feel that what I do in life is worthwhile"* are outside the measure. Leaving this out would be theoretically impleaded. The α values furthermore is better when kept.

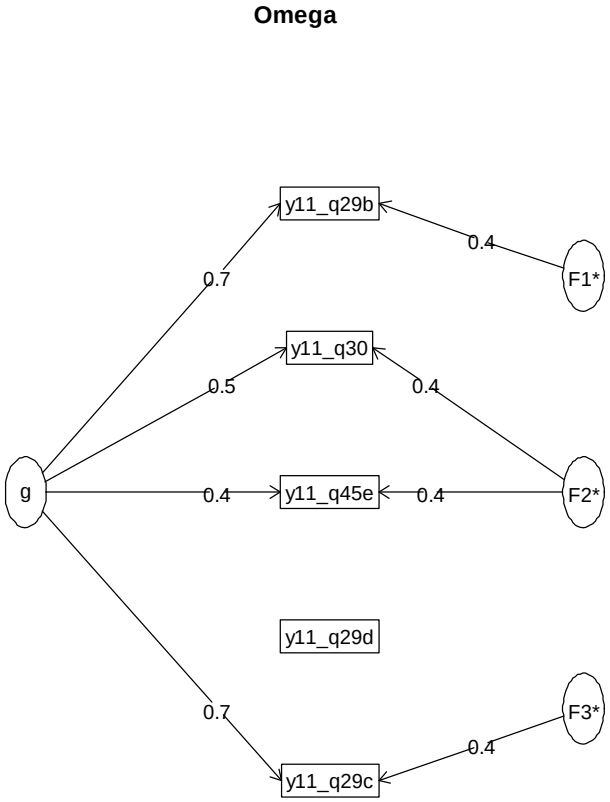


Figure 3

After having dealt with the issue of internal consistency and reliability of the composite measure (SCQL Scale), let me illustrate how it distributes within data.

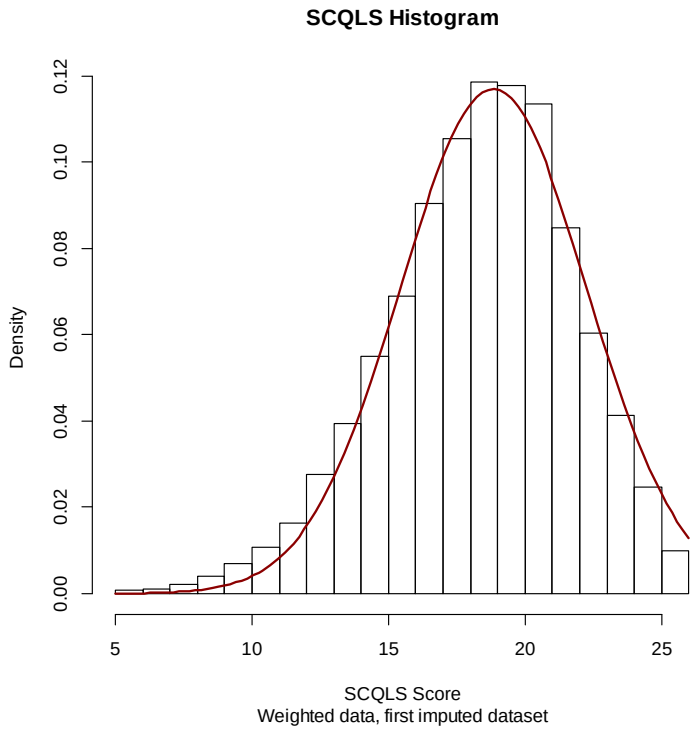


Figure 4

As the figure indicates on the total data the composite measure of the SCQL seems to follow a normal distribution very well. The above figure represents the first imputed dataset and the SCQL scores have been weighted accordingly to the survey structure. I will now go a bit more in depth with the reasons for multiple imputations in this case.

4.3 Obstacles and challenges when working with multilevel data with missing response patterns

Often a challenge for analysis arises from working with data derived under complex surveys and sample structures. When these data at the same time have both item and unit nonresponse the complexity growths, especially if the most promising imputation algorithm involves multiple imputation of the missing data and therefore the analysis will have to be performed a number of times before at the end combining the results

The dataset provided by the British data archive consist of composite measures for *"Deprivation index: Number of items household cannot afford",* as already argued by Kjeldsen regarding the same dataset (Kjeldsen, 2014), the items for the deprivation index both contained repeated item non response on several of the composite variables, as well as item non-response on single

questions. Kjeldsen (2014) arguing for a multiple imputation as a further possibility when overcoming the missing data. I will within this report perform a multilevel imputation of the missing items instead of row-wise deletion. Just in order to give an impression of the size of the problem with missing data the figure below is a good illustrative example. The questionnaire consists of a number of questions related to the individuals neighbourhood within at least one of the items 3.2 % of the total sample have item-non response, whereas the none-response on the single items sums up within the composite measure. The figures for the other two composite measures have even higher rates of non-response in one or more of its items. For the items that sums up the material deprivation index the percentage of none-response in at least one of the items are 7.7 %. The assumption that the missing data is *missing at random* (MAR), cannot be supported when exploring the country wise descriptive statistics *(McKnight, McKnight, Sidani, & Figuredo, 2008; Little & Rubin, 1987)*. Even for the accommodation index with the lowest rate of

none-response the figures give a clear picture of bias between the countries:

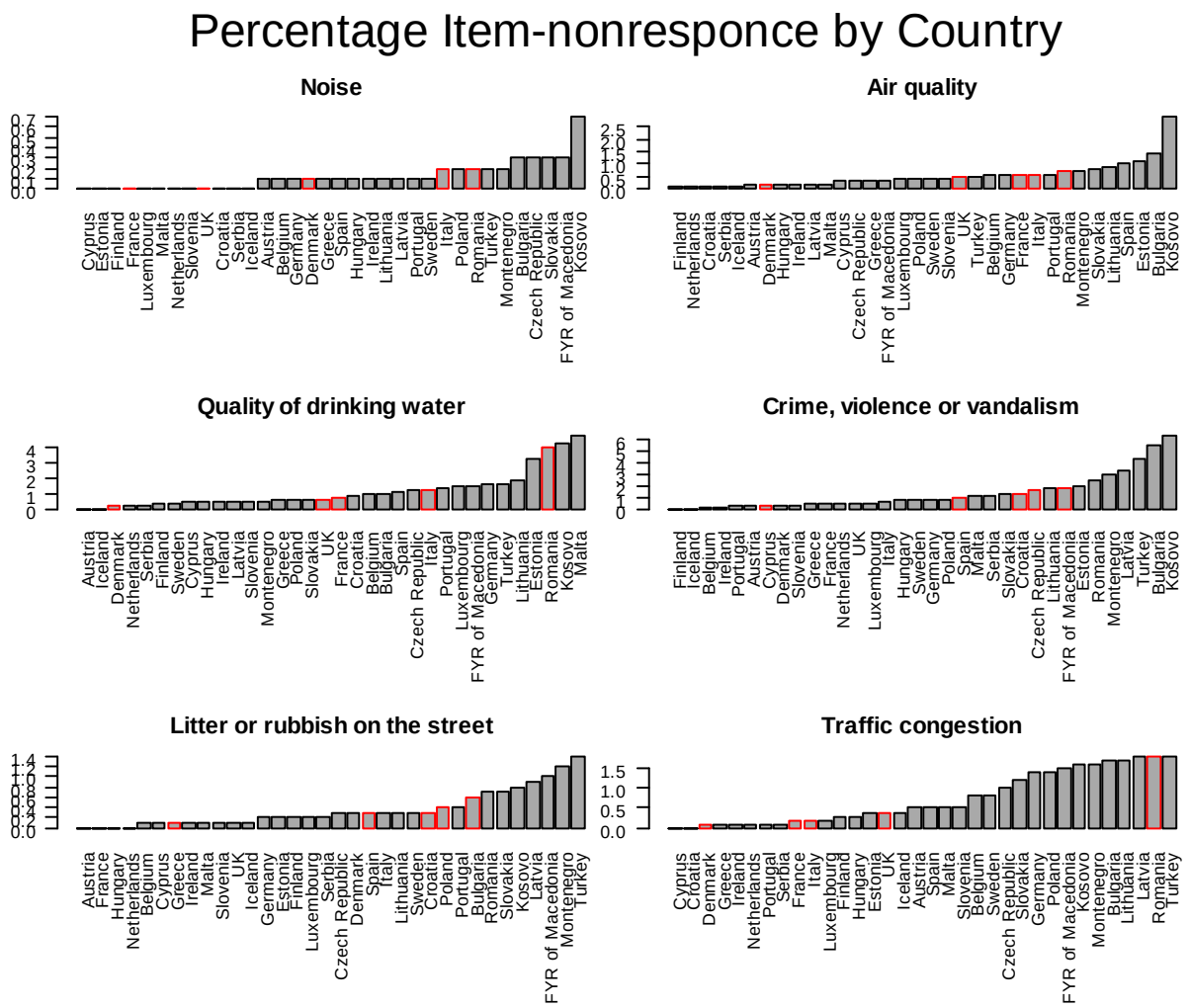


Figure 5

And the country wise item-non response on at least one of the items within that index:

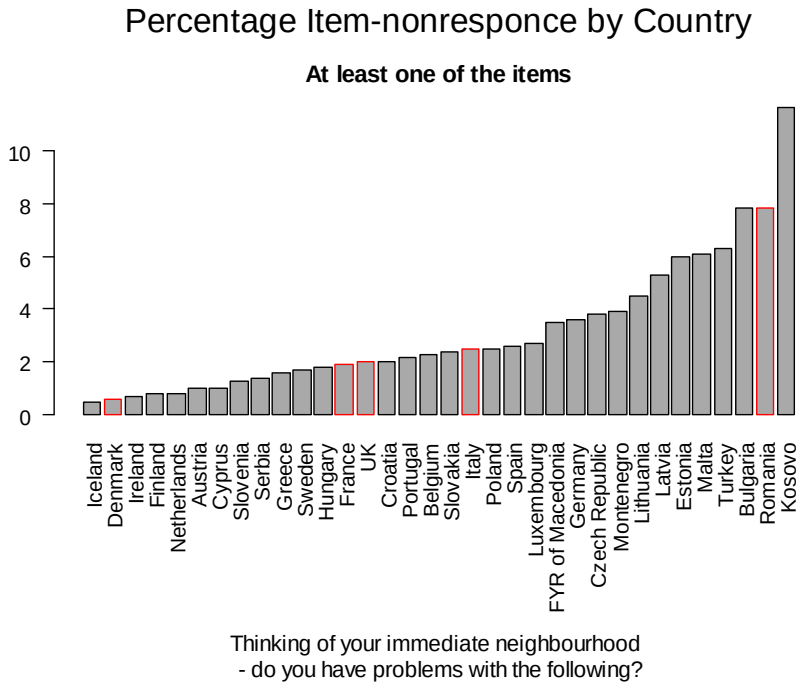


Figure 6

Interestingly, one of the fathers of liberal thinking, Adam Smith, argues that a just society will secure its members to appear in public without shame. Even though surveys are not appearance in public, the respondent presents himself towards the interviewer and places himself in this public light. The *desirability bias* may in this situation be handled with non-response, arguing that non-response on a single item may be seen as a form of practice – the non-response response practice. This would then reflect the overall living conditions. The first analytical informed assumption is then that people living in disadvantaged living conditions to a higher degree will have non-response on the deprivation index, which would cause underestimation of the problem within the particular countries due to bias in non-response. Living in material deprivation will to a large degree reflect the income of the individual, though the Capability Approach makes it clear that this measure do not strictly reflect what the beings and doings of the single individual due to conversion factors etc. It though becomes clear when investigating the data descriptively that bias in non-response is hard to describe in relation to the individuals other answers such as income, in

risk of poverty etc. whereas the same respondents also have high non-response on these questions. When these data are nested within countries as first level the traditional algorithms for imputation of missing data is not particular suited for the clustering and association because these models will keep these associations between individuals within country constant for all countries *(Enders, 2010)*. One of the main challenges is that *"Imputation of multilevel data poses special problems. Most techniques have been developed under the joint modeling perspective" (Buuren & Groothuis-Oudshoorn, mice: Multivariate Imputation by Chained Equations in R, 2011)*. Even though it has been argued to bring in multilevel imputation due to the character of the data this is still a methodology in development. Instead multiple imputation having country as a variable in the predictor matrix along with the variables that from research objective make out the differences along countries (age, gender, employment status, educational level). The rest of the predictor variables chosen have been done with the covariance matrix following the practical advices from Stef van Buuren *(Buuren, 2011)*.

Therefore Multiple imputation is interpreted as the promising strategy for encountering the above presented obstacles for the mixed-effects analysis, because row-wice deletion of respondents with non-response on one of the explanatory variables will to a large extent reduce the sample sizes, which is well in line with Little & Rubin who argue that the: *"method has potential for applications in a variety of contexts. It appears particularly promising in complex surveys with standard complete-data analysis that are difficult to modify analytically in the presence of nonresponse."* (Little & Rubin, 1987). With a combination of statistical packages and own scripting five imputed datasets have been constructed with five iteration which to a large extent draw on the algorithms presented by Schafer (Schafer, 1997) and pooled together with the approach presented by Rubin (Rubin, 1987)

4. RESULTS

4.1 Descriptive statistics on employment, gender, age and the SCQL score

First of all the material deprivation situation between the five case-study countries differs to a large extent. As can be derived from the table below citizens within Romania are significantly more deprived in relation to material deprivation than the other five cases. When interpreting how the other countries within the participatory case-studies cluster the division of different welfare state models are to some extent apparent. Interestingly a large share of the case-study countries are to be found among the better off countries.

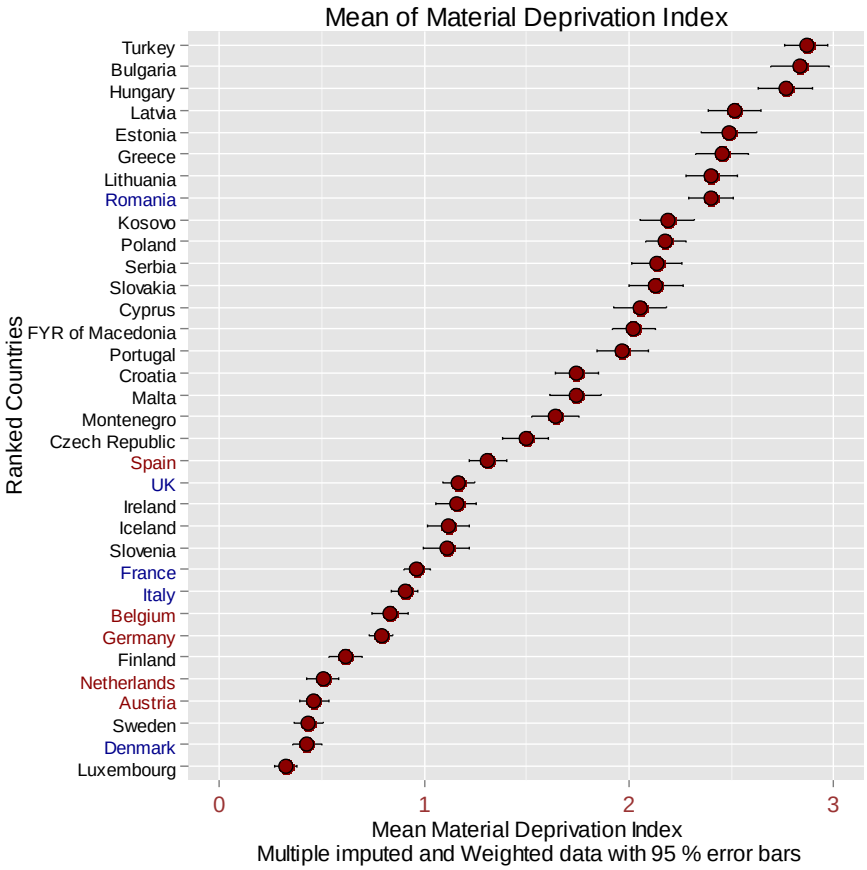


Figure 7

When investigating the relational differences among the countries in relative to the constructed capability scale and comparing it relational to the material deprivation a similar picture is found.Though, Italy moves suddenly quickly down the ladder. First placed with no statistical

difference beside Belgium in relation to material deprivation. For then in relation to the subjective experience of being able to live a live the individual values to be significantly below.

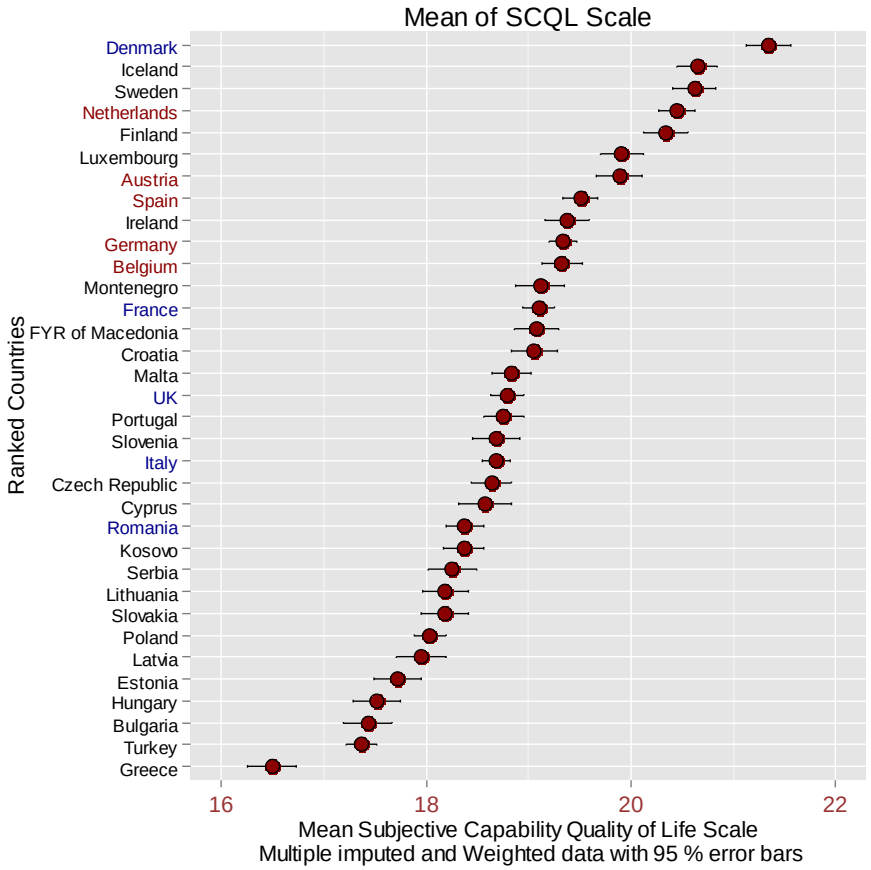


Figure 8

The above measures are averages and leave out the important information on how this is distributed within the different countries – for the individual living with scarce levels of material deprivation and no freedom to choose a life they have reason to value the “mean” of the country is a small consolation. Let me therefor turn to the boxplots of the countries with special attention towards the five cases.

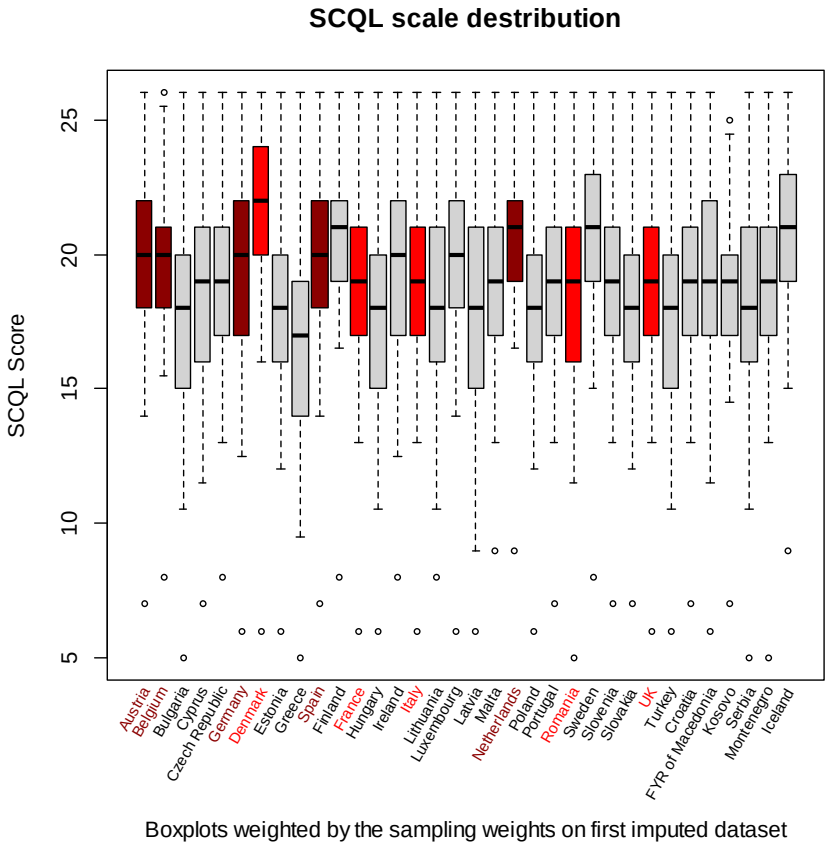


Figure 9

Figure 9 clearly illustrate the differences among the cases within the participatory research and the five quantitative cases. Once again France and Italy is found to be very similar. Denmark places well above the other cases. UK, Italy, France and Romania are in the upper ties of the distribution quite alike among their citizens, what makes Romania and Italy place differently (mean score) in relation to the other cases are the due to the distribution below the median of citizens. A skewed distribution between “top” and “bottom” – advantaged and disadvantaged is found especially in Romania.

Having with descriptive statistics provided the picture of the outcome measure within the mixed-effect model, let me turn to the conversion factors age and gender.

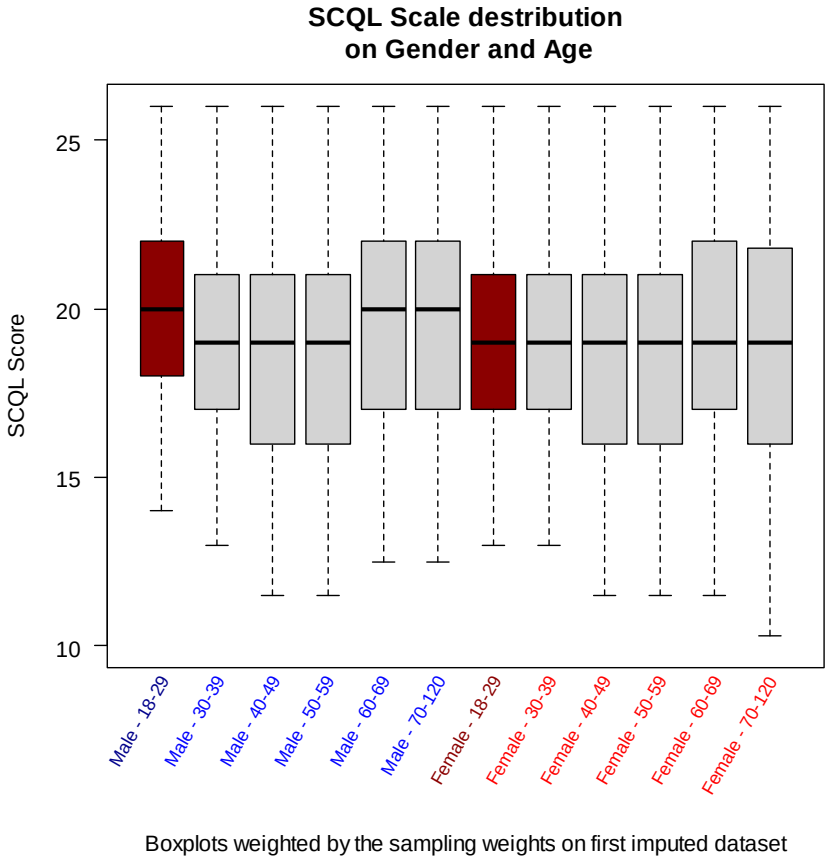


Figure 10

Figure 10 provide some first expectations toward how the mixed-effect models turns out when controlling for the capability relevant factors. It is worth noticing that males in the age 18-29 are better off than any other age and gender group. The share of individuals who are placed above the median is to some extent stabile within the two genders. Within the periods where people are expected to be within the labour force the lower tail of the distribution grows. It is furthermore worth noticing that the age and gender group with the largest variance is females above 70. Let me follow up on this with the estimation of the mean with confidence intervals pooled from the five imputed datasets.

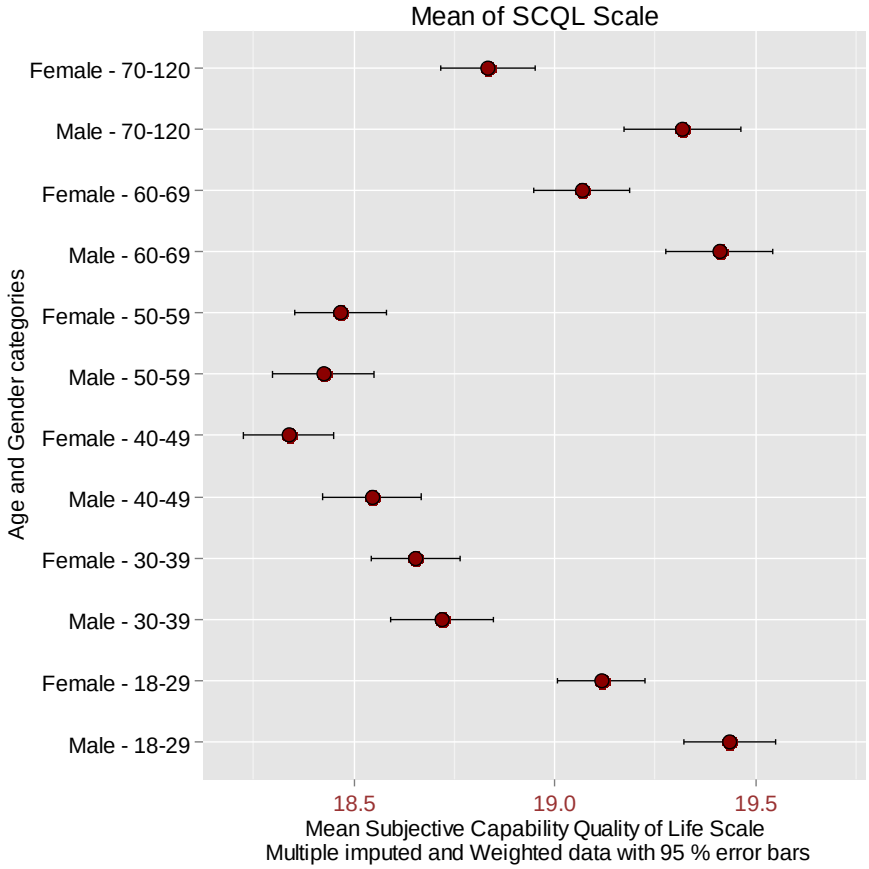


Figure 11

As can be seen young males in (18-29y) average is significantly in a better situation in relation to subjective assessment of their lives than females in the same age category. When entering the midlife - the typically timeframe with out of studies and before retirement the gender have no significant difference in the mean score. Then from the age 60 and upwards the males one´s again score significantly better than the females. With the highest mean difference at the age 70+. This point to structural conversion factors related to gender and age. Let us now turn to the positional differences when the five cases are compared with the young age group in focus.

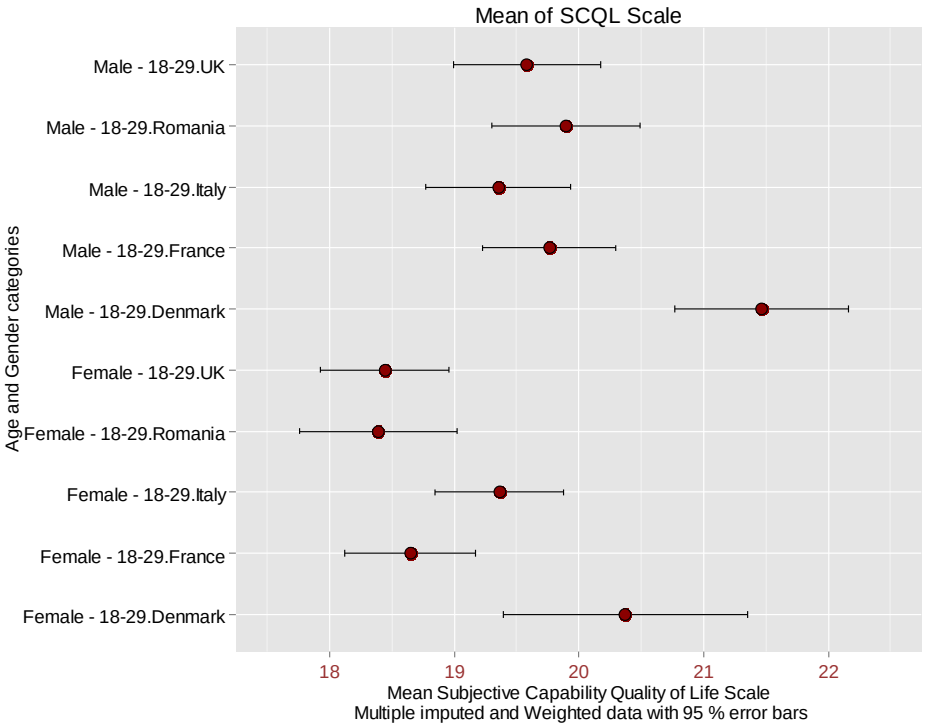


Figure 12

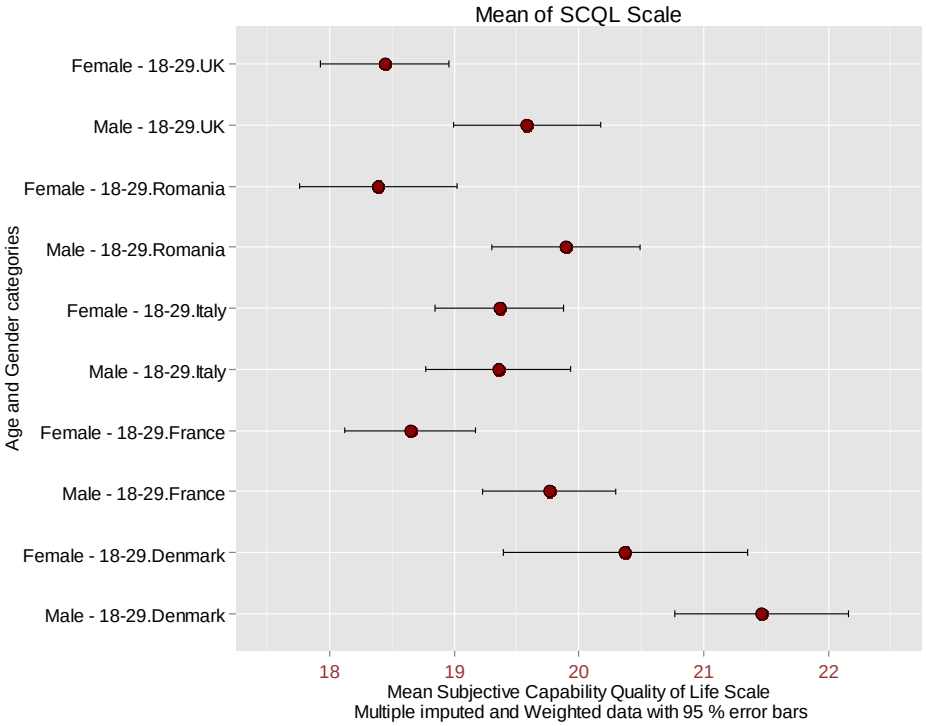


Figure 13

Figure 12 and 13 (same estimates but with the categories listed different in order to ease the reading of the figures) show some remarkable patterns of difference between the countries. Italy having confidence intervals that to a large extent are congruent between the two sexes (Figure 14)

and with nearly the same mean score in the age 18-29 is interesting whereas it point to a situation where the subjective capability quality of life do not differ between the two genders. For the other countries (except Denmark due to wide confidence intervals) the pattern is quite the opposite. In these countries males are significantly better off than the females within the same country. Compared within same gender, but between countries, it is clear that Danish males subjectively find them self in a better position than young males (and females) from the other cases. This is also the case for the Danish females except of Italy. This indicates that the reason for the equality between genders in this respect found in Italy is caused by the females placed in a better situation.

Let us now turn to the distribution of the scale in relation to achieved educational level.

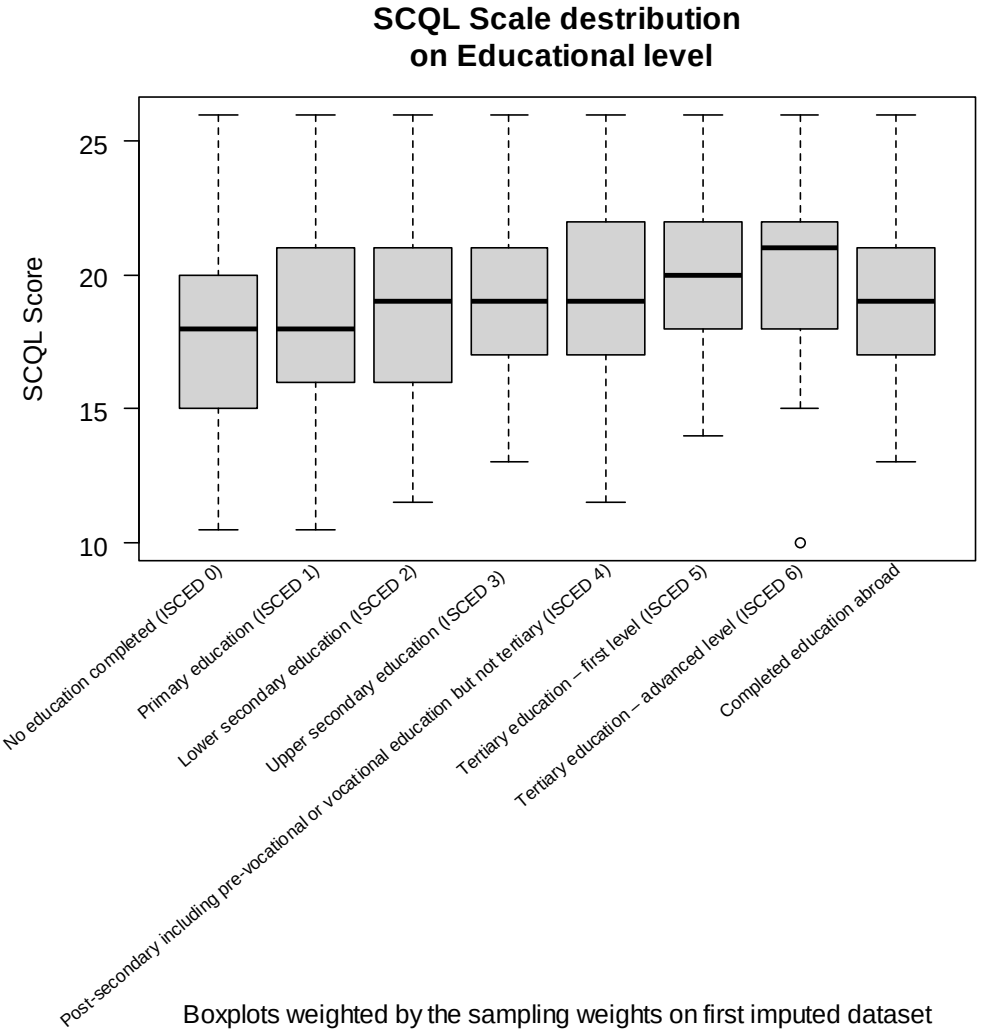


Figure 14

The boxplot indicates that the individuals investment in human capital have a pay off in terms of being able to live the life one values subjectively (having in mind what the SCQL score actually represents). This is indeed no remarkable finding but support the already well establishes insights within the sociology of education. Furthermore it strengthens the argument for controlling for educational level within the mixed-effect models.

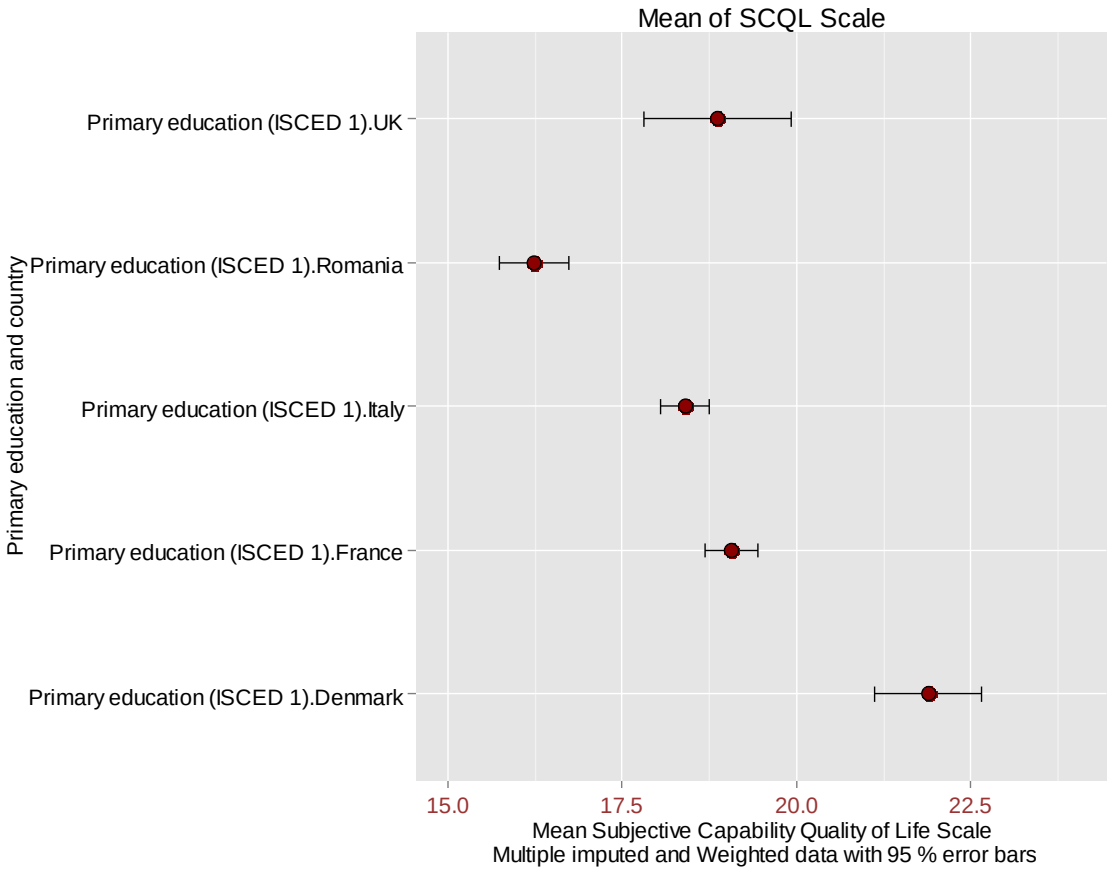
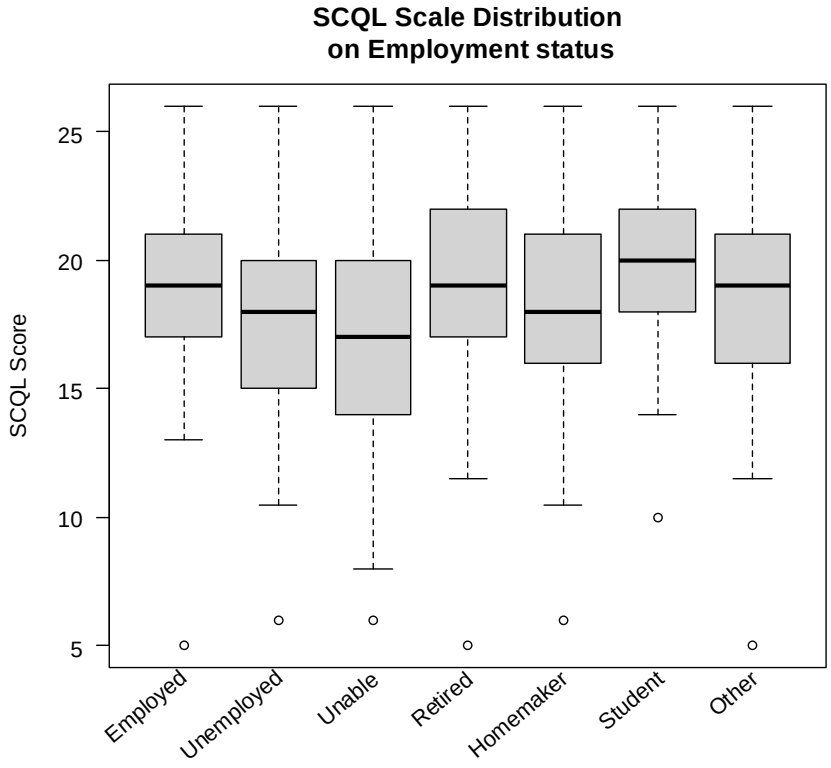


Figure 15

When instead comparing the mean score of the five cases the differences are expected due to the different overall score between the countries and therefore the differences mainly point to the different threshold levels within each country. Still the high score in Denmark is worth noticing when analytically reflecting on the aggregated groups these estimates represents. They are 18 and above and their highest level of *completed* education is primary education. In Denmark young people at the lower boundary of this age group are typically still within upper-secondary

education. Let us dwell on that for now and return to the situation of students in relation to the SCQL score.



Boxplots weighted by the sampling weights on first imputed dataset

Figure 16

From figure 16 it may be interpreted that those who are most disadvantaged are those who are in an employment situation where they are not able to work. Students and employed people are those who are advantaged in comparison to the other groups. It is also worth noticing that the categorical distributions are skewed in different directions. Unemployed having a “heavier” lower tail compared to the retired where the mass density is placed above the median.

The, for now, presented figures are found to be supporting the variability across the theoretically proposed groups and aggregation of groups. Let us therefore now move forward to the results of the mixed- effect models and see how the relational picture is when controlling for education and employment status and let the gender and age categories vary within and between countries.

5.2 Model based fixed effects for the capability for adequate shelter

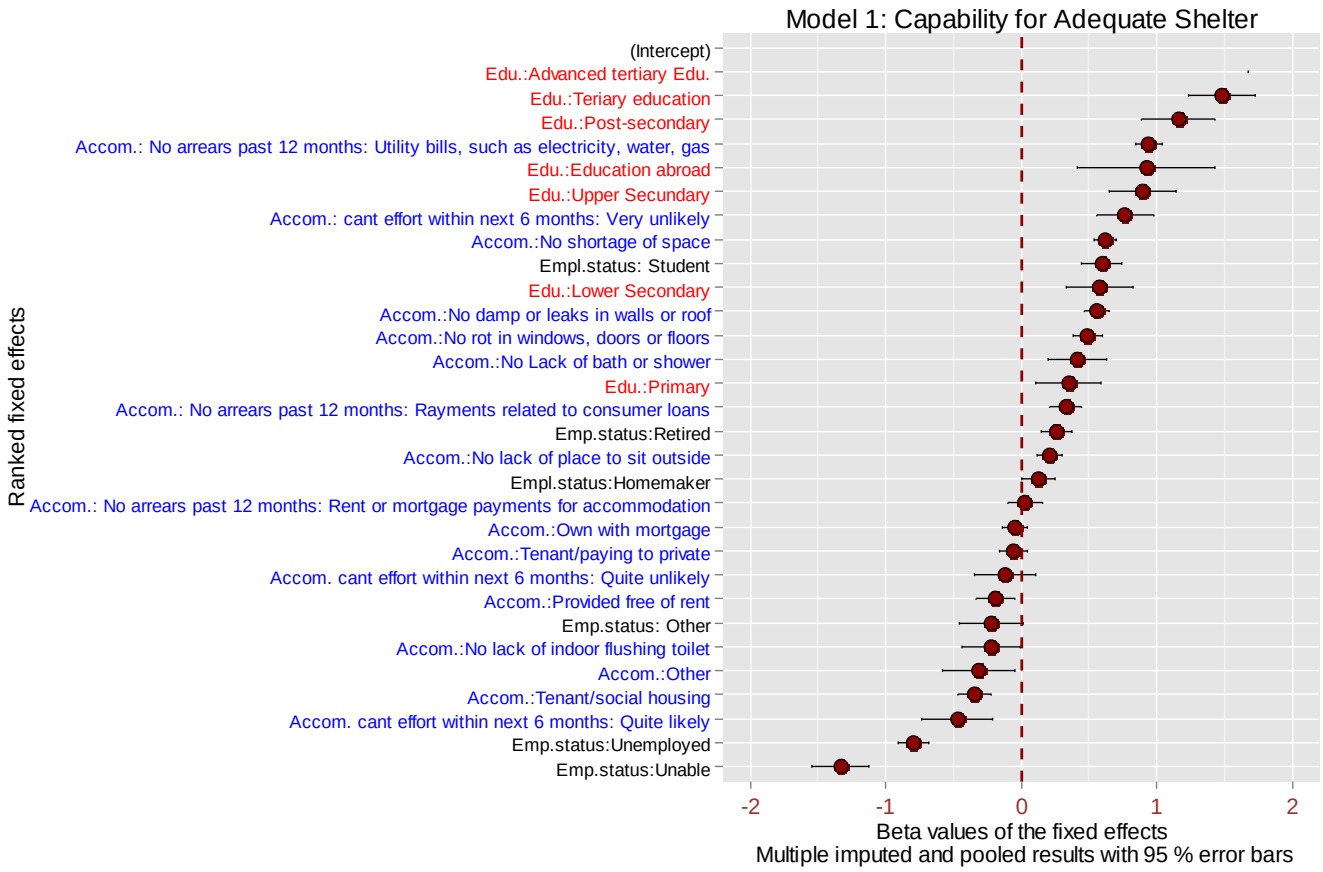


Figure 17: Fixed effects model 1: Capabilities for education, employment and adequate shelter[3]

When the fixed effects on the subjective capability quality of life score is being ranked and the differences between the control variables are being illustrated with colors the figure may give ground for the following interpretation. It would be quite flawless to state that the effects of education and employment status makes a difference. Still this is not our main interest within this model, because they are mainly brought in in order for controlling the effects on the main effects of interest that relate to the capability of having an adequate shelter. People living in a rented flat within a social housing are significantly more disadvantaged in relation to those living in their own. The effects of having an accommodation with own bath, enough space, no construction problems such as rot in windows, doors etc. are worth taken into account. Relational the highest effect is found in relation to payment related to one´s dwelling place. The difference between people finding that they are alike not to be able to effort their housing and people who have been able to

[3] Reference categories is to be found in the appendix in relation to the Variance Inflation Factors (VIF) of the model.

pay the consumption expenditures on their housing is large. The above model also point to relative different valuations. Having no place outside have nearly no effect on the score, whereas the place inside the housing makes a difference. The above model had its main focus on the commodity of an accommodation in respect of their comparable differences. But as Bourdieu argues there is a relation between the social space and the physical (Bourdieu, 1996b; Bourdieu, 1999). One could expect disadvantaged people also to live in disadvantaged neighborhoods as a number of the participatory case studies also point to (fx. Denmark, Italy, Germany). The question is then to what extent this effects are related to the subjective experience of command over one own life. The next model takes the area of placement into consideration.

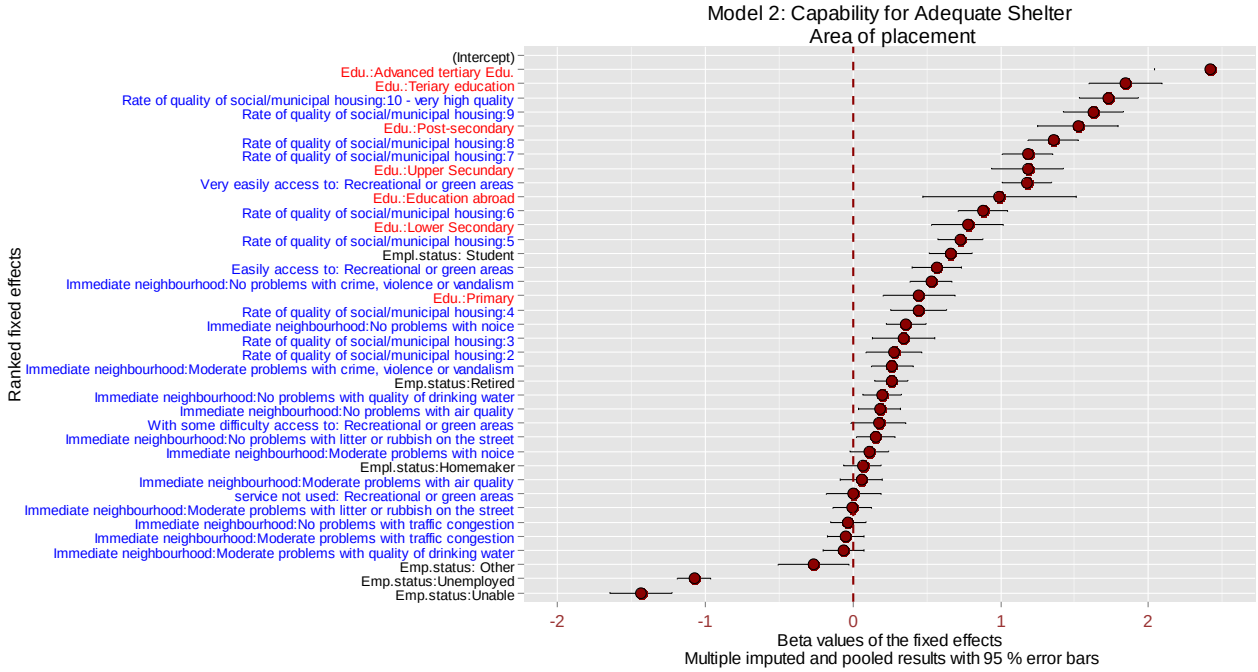


Figure 18

What track one´s eye when investigation these fixed effects (and having the reference categories in mind which may be found in the annex) are the direct linkage between the rate of the quality of social municipal housing and the positive influence on the SCQL score. Also the positive effect of the absence of crime, violence and vandalism have a positive effect, but what is interesting is that the effect of absence of these matters, which is often a political concern in Denmark when discussing special disadvantaged city districts, is in the same level as having access to recreational and green areas and those who have very easy access to recreational areas have a large effect

over those who with great difficulty have access. The many positive effects may lead to hasty conclusions, but the reader will have to take the reference (or baseline as it is also custom to name it) into account. For instance for the variables concerning the immediate neighbourhood the reference item is “Major problems”, which is a further reason for a relational approach of interpretation.

5.3 Model based fixed effects for the capability of affiliation

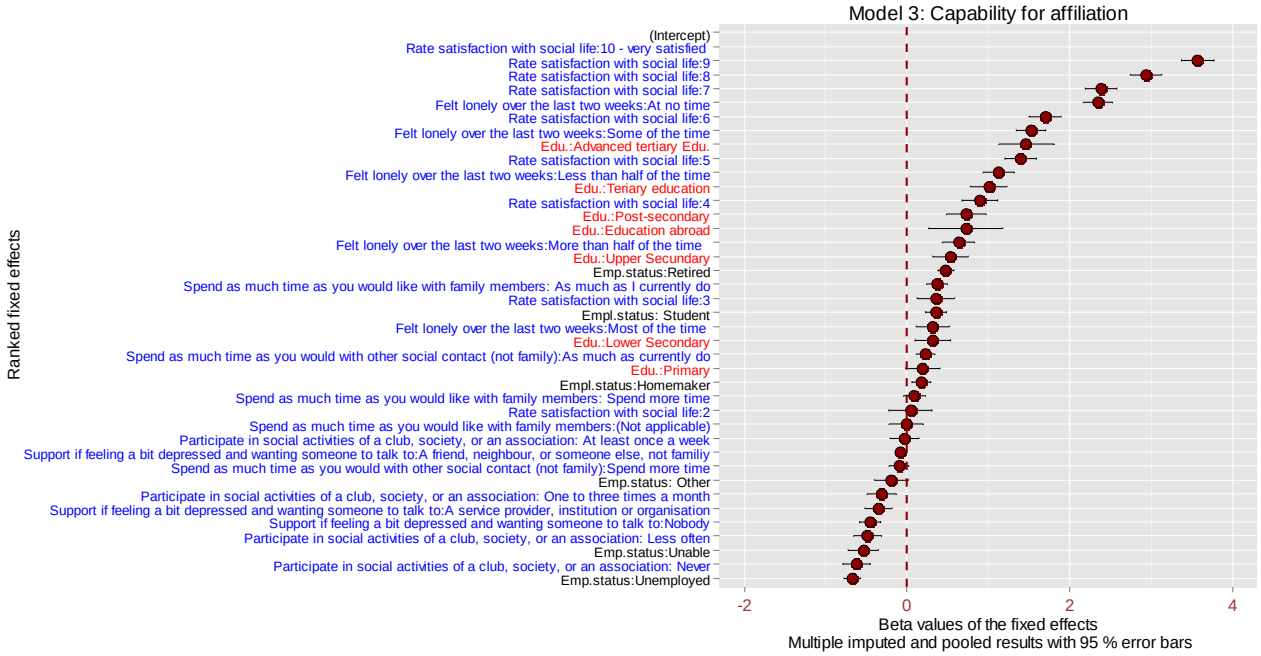


Figure 19

The previous model for the capability for an adequate shelter as part of the capability for bodily health had interesting internal relationships. Still the main effects aside of the fixed effects on education and employment status had not as much variability as expected. When instead interpreting the effects when investigating and bringing together different issues related to the capability for affiliation a much more diverse and clear picture arise. Life satisfaction and satisfaction with life was expected to have relationships. What is remarkable is the direct linkage and the large affects that the social life has for the individual in this concern. The reference or baseline category to feeling lonely the last weeks is “All of the time”. It is worth noticing the degree which the individuals SCQL score increases in steps toward not have had this feeling at all. The capability for affiliation are also regarding a situation where the individual live with and toward others in an engagement in various forms of social interaction. The positive effects of

being part of social activities in a club, association or in society in general are also to be found. The more the individual spend within these activities, the higher are their probability to have a higher score. One rather remarkable thing is that the effects of not having others to speak to when depressed is more or less the same for people who have nobody and those who only have a service provider, institution or organisation. In other words the social work done for people living with less capability for affiliation cannot compensate in relation to those who have others to talk to. The effects in the plot all have negative effects in relation to the reference category which is "A member of your family / relative". In other words if the affiliation towards the family is not within reach when feeling depressed and wanting someone to talk to this have a negative impacts.

5.4 Model based fixed effects for the material deprivation and SCQL score

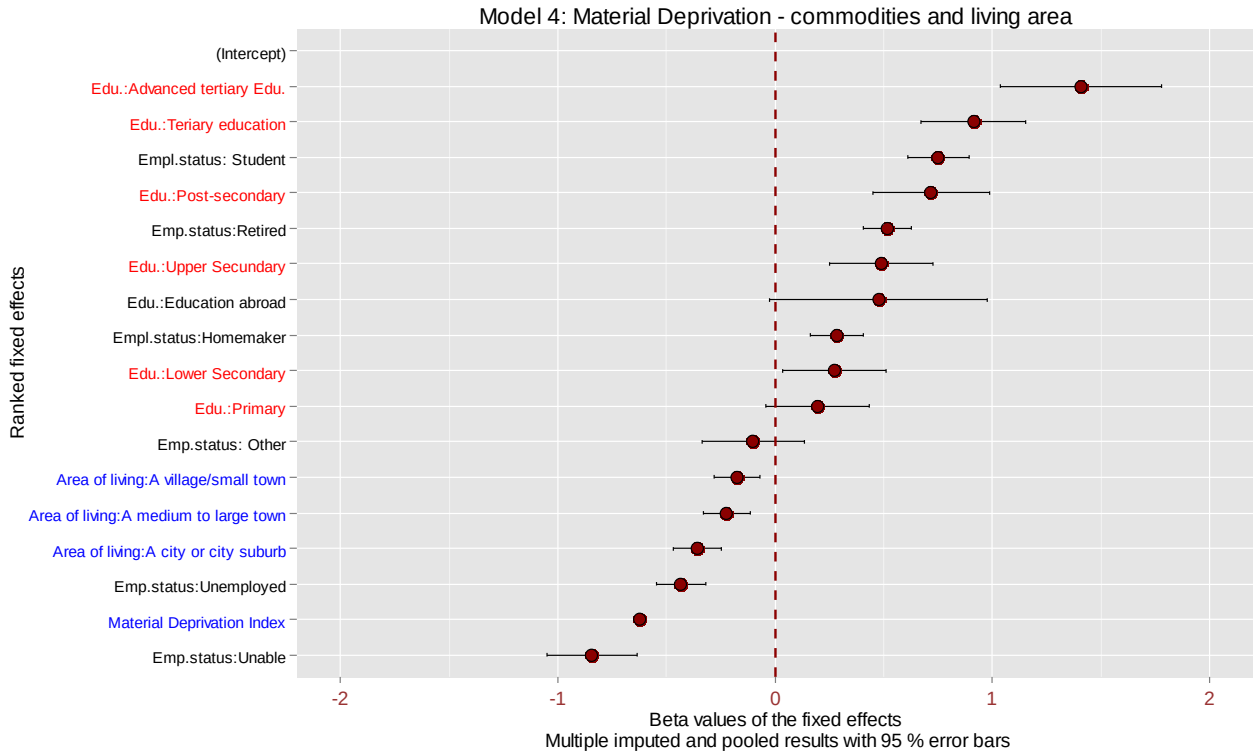


Figure 20

The last model is less complex and is mainly intentional for investigating the effects on the material deprivation of people when living in different areas ranging from the country side to a city or city suburb. First of all, not very surprising, the material deprivation of people influence negative on their freedom to live a live the themselves find valuable captured by the SCQL score. From their subjective assessment of own situation this have an alike effect as being without job.

The above model have mainly been part of the explorative model building. Still I find it worth a comment that having the country side as reference category, the larger the city or area of living, the more dense populated, the larger the negative effect is on the subjective evaluated freedom for choosing one life over another. This is important knowledge when comparing the qualitative insights from different deprived city districts within the participatory research. It makes a different in which larger context these districts are placed. In the Danish qualitative case study the deprived city district was placed within a medium to large town. The young people's experience of living within these areas was rather positive, even for the hardship of relative high poverty rates compared to other deprived city districts placed in the large cities in Denmark. This was hard to give good reasons for when deeply going into the qualitative context, but may to a larger extent be explained in combination with this finding.

Having presented the fixed effects of the models we are now ready for evaluating how these relationships are affected by country differences within the five cases as well as the conversion factors of age and gender.

5.5 Conversion factors related to living area for models 1-3 - random effects

Within this section the random effects – what Gilmann and Hill prefer calling coefficients that are modelled rather than "random effects". They designate intuitively the differences in conversions of the capabilities within different groups. The fixed side of the model become the *ceteris paribus* and the varying slopes and intercepts in the random can be interpreted as conversion factors. I have chosen to present the within country differences and compare these patterns. The figures for each age and gender level crossed with countries may be found in the appendix.

As the last model (figure 20) had the area placed within the fixed part, the first three models (figure 17,18 and 19) had it as part of the random effects with varying slopes not varying intercepts in for this variable (which would have challenged interpretation further). The intention is to reach an understanding of how differences are within each model in relation to the living area.

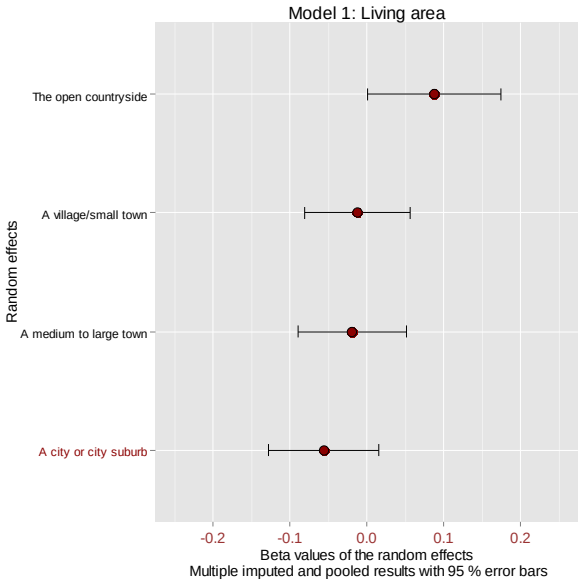


Figure 21

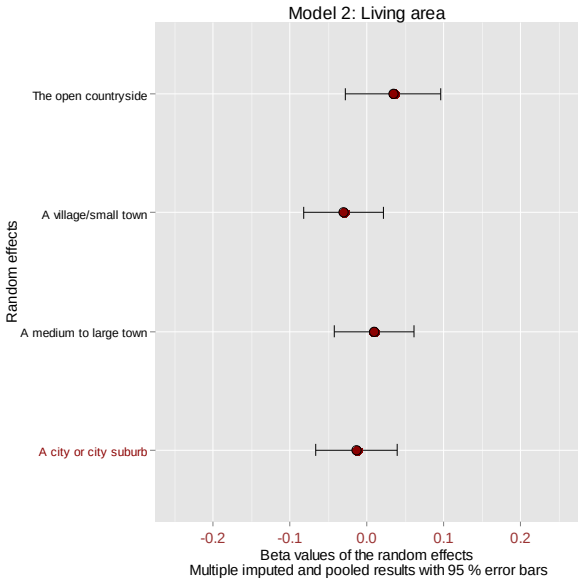


Figure 22

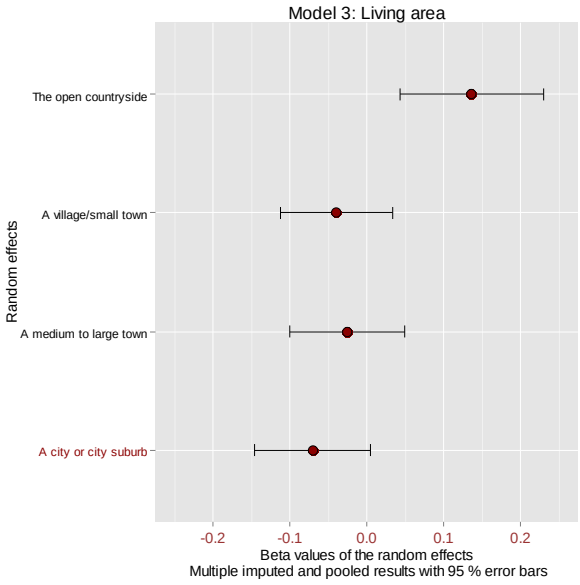


Figure 23

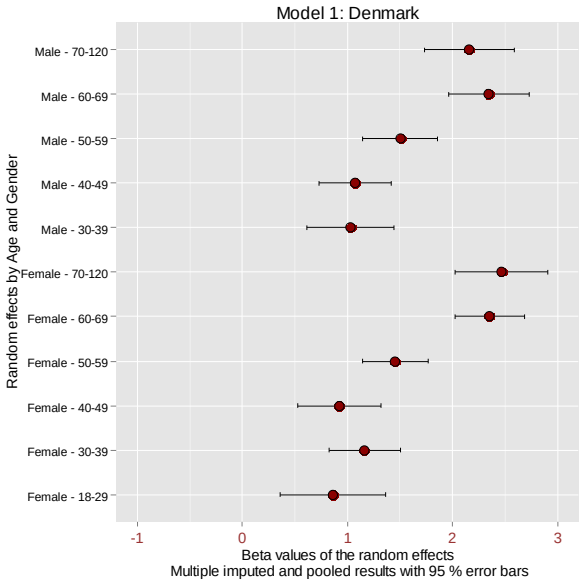
What is found is that - when controlling for education, employment, gender and age within these models - the effects of living area seem to vanish. There are only very small effects. A difference (though of a size not worth taking action on) is for the capability of affiliation where it is found that living in the city has a small but significant negative effect related to living in the countryside. Already a century ago Georg Simmel, a friend of Max Weber's, pointed to the differences in mentality and how people live within the cities (Ørnstrup, 2000). Likewise Ferdinand Tönnies in his seminal book on “Gemeinschaft und Gesellschaf“ (Tönnies, 1991 [1887]) shows how the relationships between people living in the countryside differ towards those living in cities. Those living in the country having closer relations – for good and bad – in comparison to those living in cities. This may very well be what the conversion factor in this case point to.

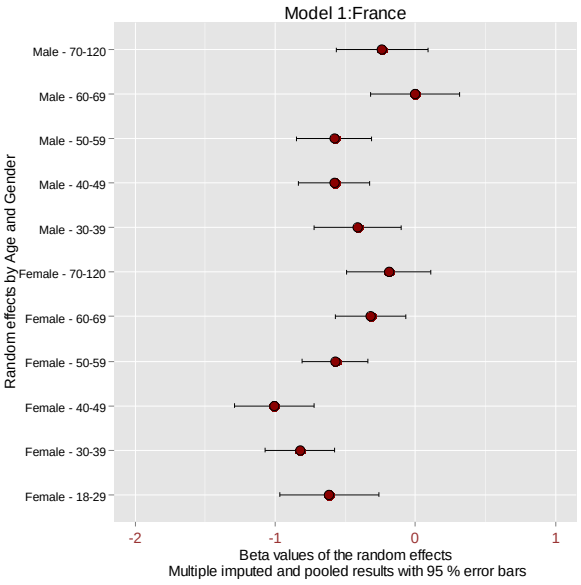
Let us now turn to the conversion factors of age and gender which is furthermore modeled with varying group intercepts for the countries in order to take the different overall levels in the countries into account and still be able to find patterns of similarities etc. when compared which is a form of comparative interpretation focused on contrasts (Winter-Jensen, 2004)

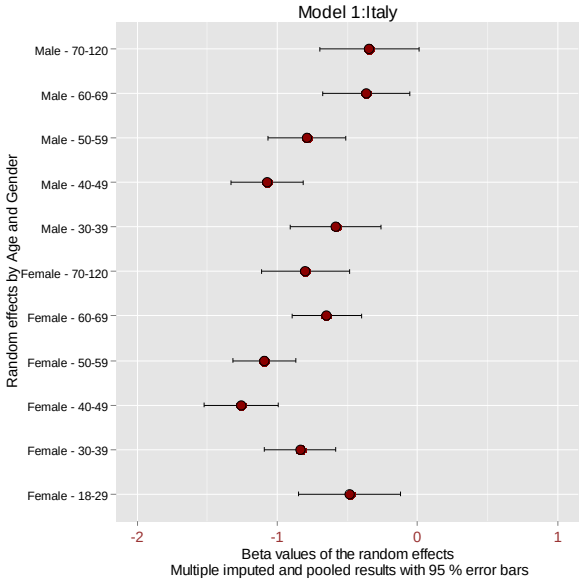
5.6 Conversion factors related to gender, age and quantitative case for models 1-3 - random effects

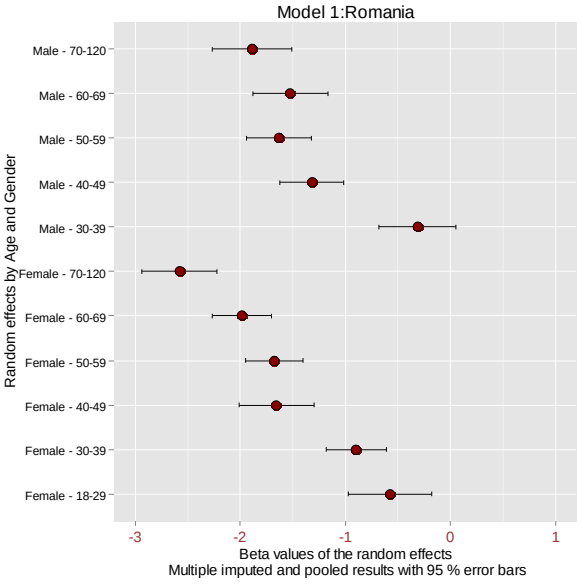
This bringing in countries as groups with varying intercepts and having the age and gender categories with varying coefficients serve its purpose in relation to the overall models and description of the relation between the investigated capabilities within each model (the fixed part). Indeed, it has interesting insights to offer when interpreting. Let us start with the first model pointing to the capability for adequate shelter with certain emphasis on the characteristics of the accommodation and the ability not getting behind paying for gas, water, rental etc.

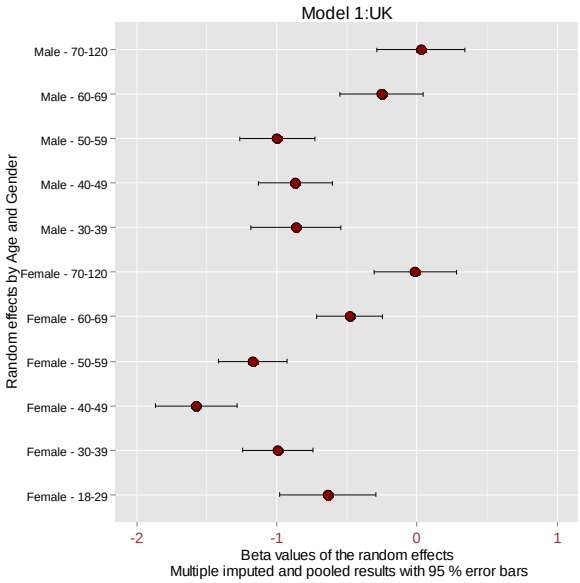
When reading the figures one should have in mind that the reference category in this case is young males in the age from 18-29.


Model 1: Denmark
Male - 70-120
Male - 60-69
Male - 50-59
Male - 40-49
Male - 30-39
Female - 70-120
Female - 60-69
Female - 50-59
Female - 40-49
Female - 30-39
Female - 18-29
Random effects by Age and Gender
-1
0
1
2
3
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

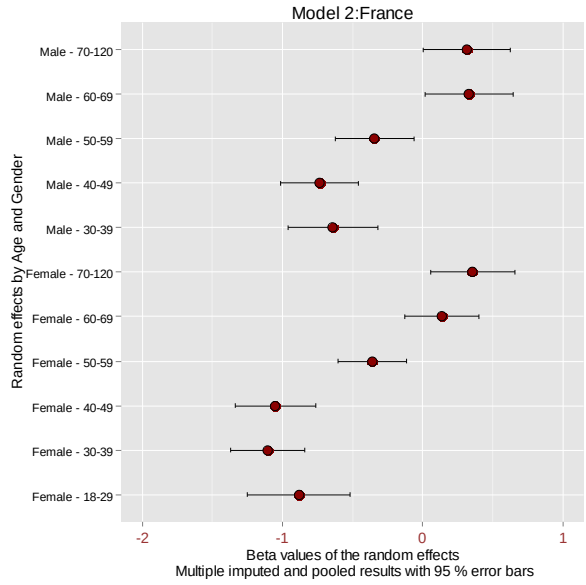

Model 1:France
Male - 70-120
Male - 60-69
Male - 50-59
Male - 40-49
Male - 30-39
Female - 70-120
Female - 60-69
Female - 50-59
Female - 40-49
Female - 30-39
Female - 18-29
Random effects by Age and Gender
-2
-1
0
1
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

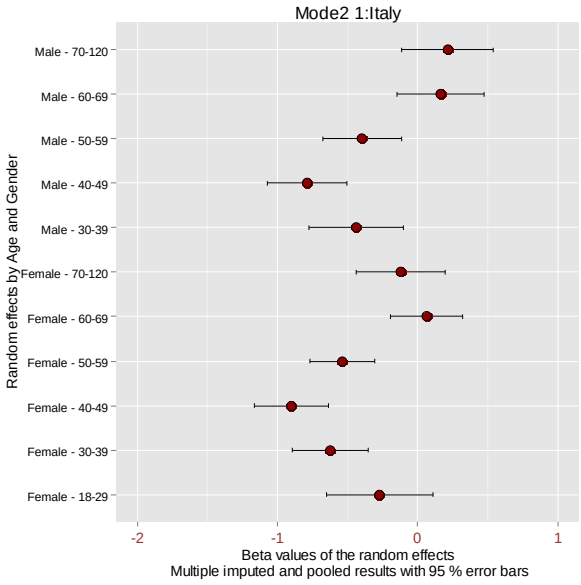

Model 1:Italy
Male - 70-120
Male - 60-69
Male - 50-59
Male - 40-49
Male - 30-39
Female - 70-120
Female - 60-69
Female - 50-59
Female - 40-49
Female - 30-39
Female - 18-29
Random effects by Age and Gender
-2
-1
0
1
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

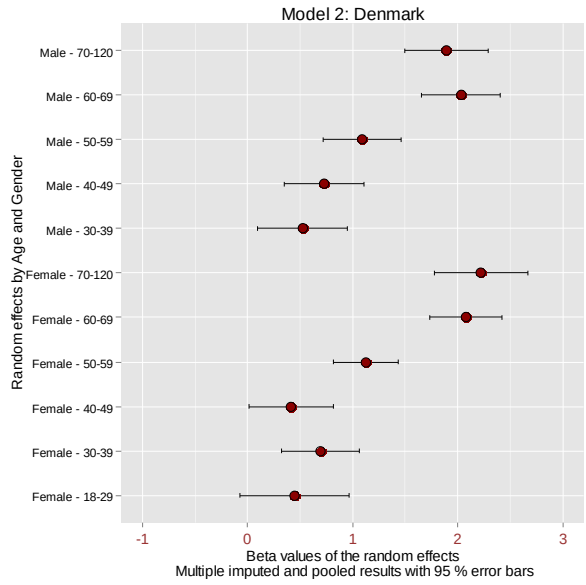

Model 1:Romania
Male - 70-120
Male - 60-69
Male - 50-59
Male - 40-49
Male - 30-39
Female - 70-120
Female - 60-69
Female - 50-59
Female - 40-49
Female - 30-39
Female - 18-29
Random effects by Age and Gender
-3
-2
-1
0
1
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

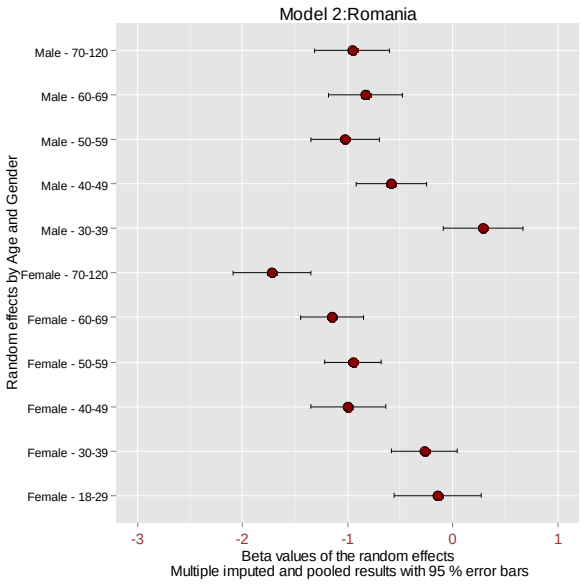


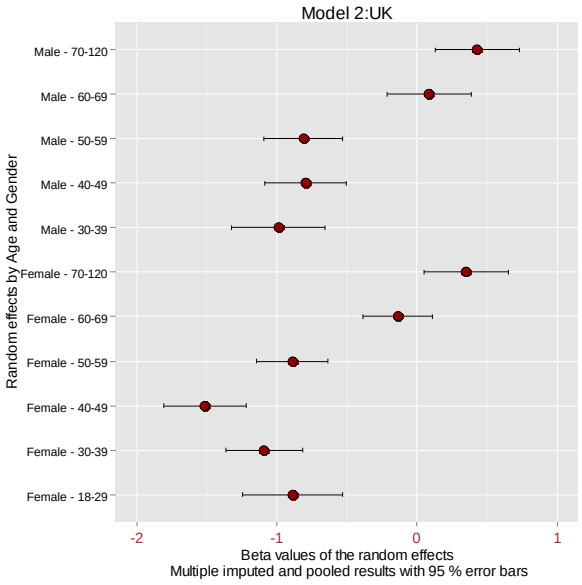
The figures representing the model 1 for the five case-countries show different patterns of conversion factors in age and gender. Noteworthy is the three different patterns of conversion that can be found. The UK has a significant U shape for females compared within the ages. Conversion in regards of SCQL score is effected negatively for the 40-49 years old females in UK. Not as significantly a similar shape is found in Italy. Only between the tails of the differences among females in France we find a similar relationship. Within Denmark all the age and gender groups are better off than the young males when brought into the model (ceteris paribus). This is interpreted as a special situation compared to the four other countries. Also worth noticing is that the SCQL score follow a positive trend in both genders with increasing age – it is the fully opposite picture in Romania. As can be seen from the next figures similar patterns are found. Furthermore it is mentioning that for the UK there seem to be a significantly positive effect for both genders in the aging population (70+)


Model 2:France
Male - 70-120
Male - 60-69
Male - 50-59
Male - 40-49
Male - 30-39
Female - 70-120
Female - 60-69
Female - 50-59
Female - 40-49
Female - 30-39
Female - 18-29
Random effects by Age and Gender
-2
-1
0
1
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

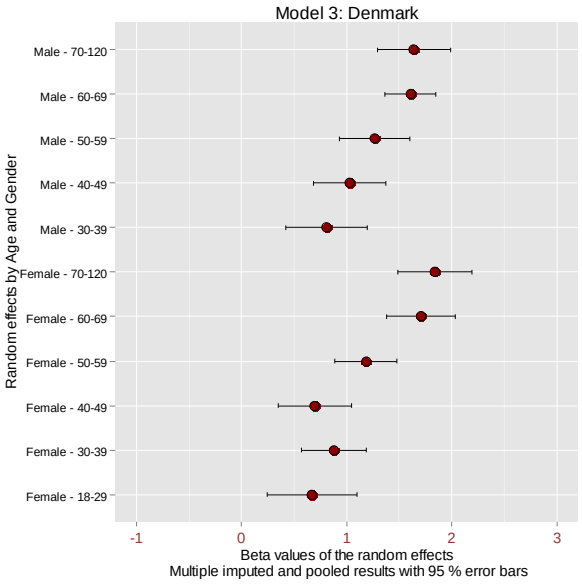

Mode2 1:Italy
Male - 70-120
Male - 60-69
Male - 50-59
Male - 40-49
Male - 30-39
Female - 70-120
Female - 60-69
Female - 50-59
Female - 40-49
Female - 30-39
Female - 18-29
Random effects by Age and Gender
-2
-1
0
1
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

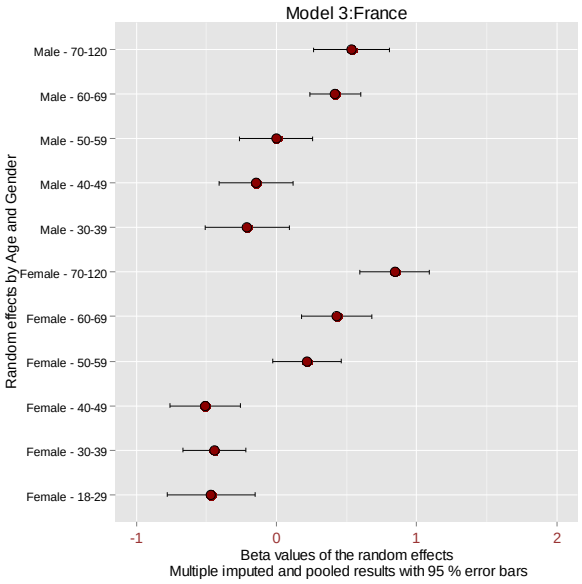

Model 2: Denmark
Male - 70-120
Male - 60-69
Male - 50-59
Male - 40-49
Male - 30-39
Female - 70-120
Female - 60-69
Female - 50-59
Female - 40-49
Female - 30-39
Female - 18-29
Random effects by Age and Gender
-1
0
1
2
3
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

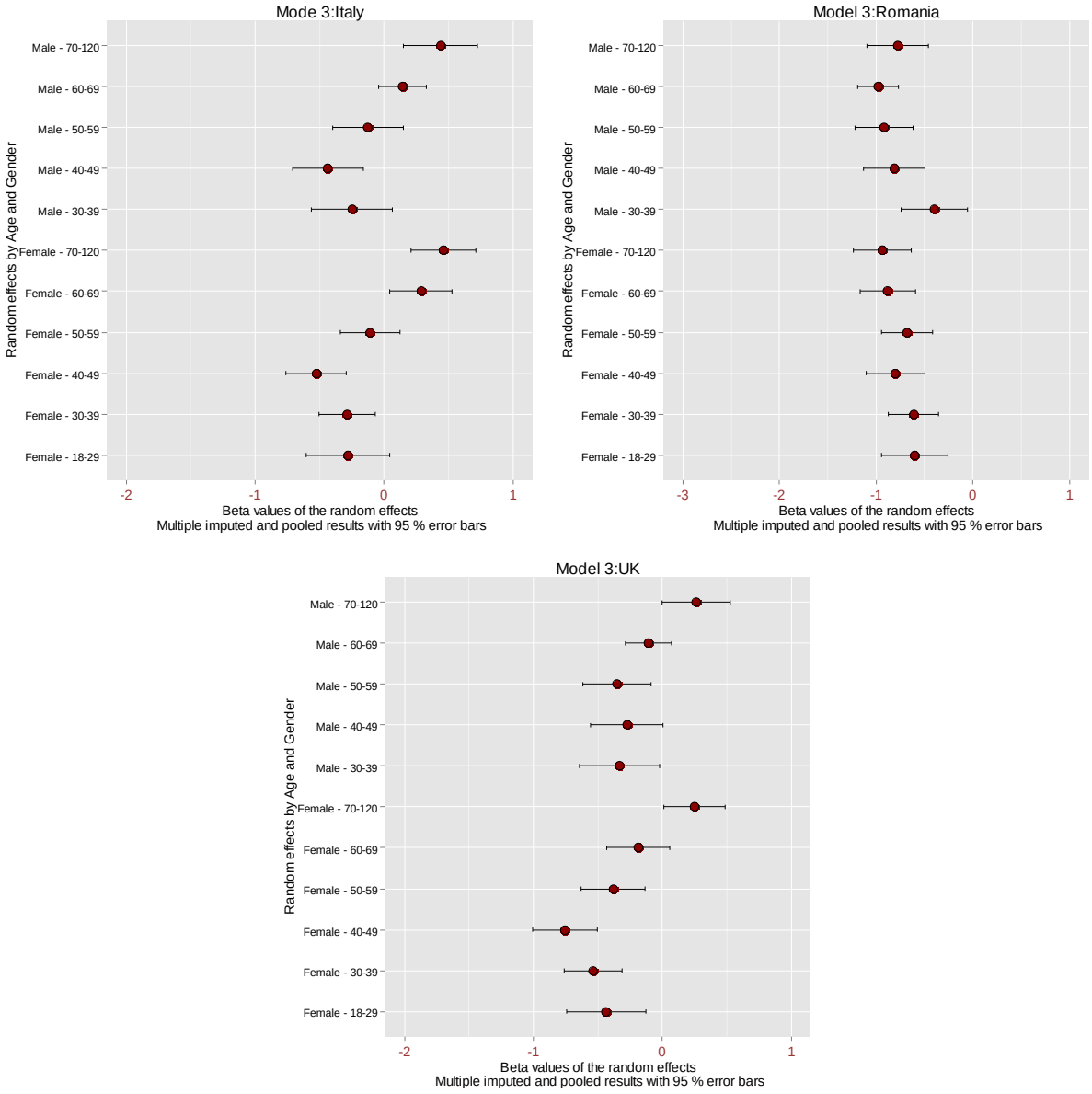

Model 2:Romania
Male - 70-120
Male - 60-69
Male - 50-59
Male - 40-49
Male - 30-39
Female - 70-120
Female - 60-69
Female - 50-59
Female - 40-49
Female - 30-39
Female - 18-29
Random effects by Age and Gender
-3
-2
-1
0
1
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars



Let us now turn to the last model with varying slopes and intercepts which models the capability for affiliation. The following figures can be found:







The countries in comparison show different patterns. In relation to the capability of adequate shelter Romania has a quite different pattern within this model. There seems to be near to no (at least not significantly nor high effects) related to gender and age in the case of Romania. In the case of France there seem to be a divide between the 70+ and the young people. This is more even more expressed when focusing on the females. Also in this case the young males in Denmark are more disadvantaged than the other age and gender groups (whereas it is the reference category and all others have positive effects). The overall picture in relation to affiliation is furthermore that the young people aged 18-29 are still those who are the most disadvantaged in relation to age and gender as conversion factors of SCQL score.

5. DISCUSSION AND CONCLUSIONS

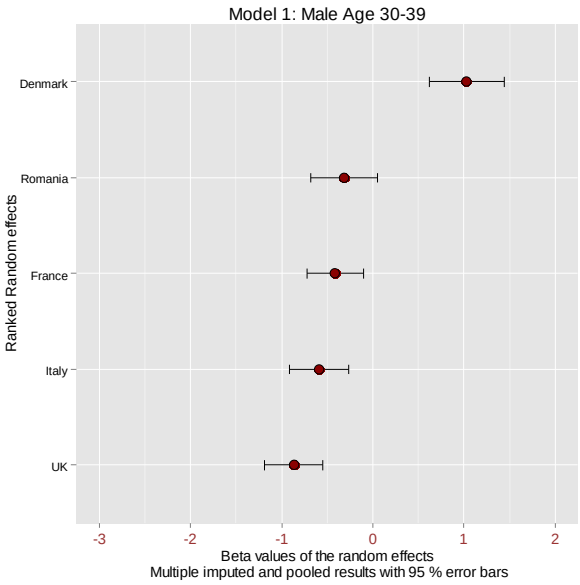
The above presented mixed-effect models could benefit further investigation, correction and development in order to be reworked. Multicollinearity among the predictor variables is not interpreted as being a problem whereas the high variance inflation factor (VIF) is contained for the variables used to control for educational level. The impact of multicollinearity is *inflation* of the standard errors and confidence intervals of the variables having multicollinearity and does not contribute to bias in the other estimates. Whereas this variable is brought into the model for controlling and not for comparison it is not influencing the results. Within such a mixed-effect model, in contrary to one-level models it is possible to have one (but only one) categorical variable without a reference category (Gelman & Hill, 2007). In this analysis the living area had this attribute. It could have eased the interpretation if the gender and age categorization was chosen instead. This will though due to the model fit and complex imputation design with (five imputed datasets with five iterations) demand nearly a week of computer processing time. This naturally opens op for the question or critique: When interpreting in the relational Bourdieu-inspired way – upper, lower, beside etc. why then make a big fuss with complex and advanced procedures of imputation etc. The answer is quite forward. In order to show relations and their differences, one will have to be quite sure that they have a reasonable level of confidence (95 %) in fact –different. It is found to be a promising approach when analysing the data within a capability framework. Especially when combining advanced multiple imputation procedures that reduce the loss of data that else would have reduced the sample sizes especially within regression, because of the row-wise deletion of respondents (Buuren, 2012; McKnight, McKnight, Sidani, & Figuredo, 2008), with a multilevel procedure that distinguishes from classical regression by being able to take all of the data into account even when grouping in groups of small sizes and therefore provide significantly estimates (Gelman & Hill, 2007). The above results call for some reflection both related to the national levels and the different social models, but as well towards the different local compositions between different areas people live in differentiated ordinal from cities or city districts (city suburbs), medium to large towns, villages and small towns and the open countryside. Both age and gender seem to make a difference and consequently different patterns of conversion between the different countries representing diverse social models. It seem to make a

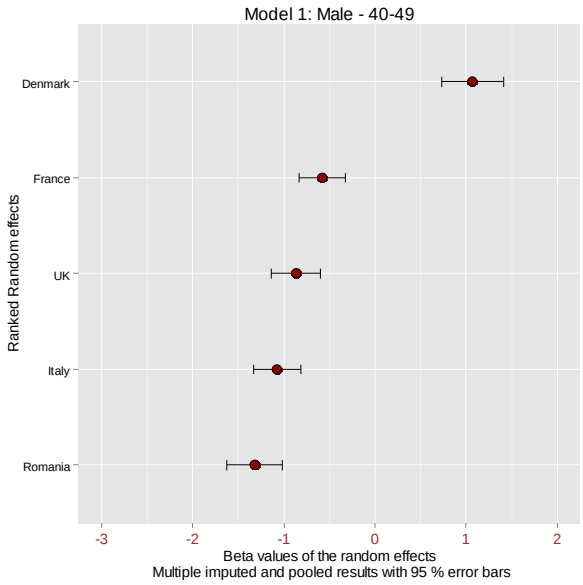
difference which will have to be taken into account as part of a widened and more complex informational basis (IBJJ).

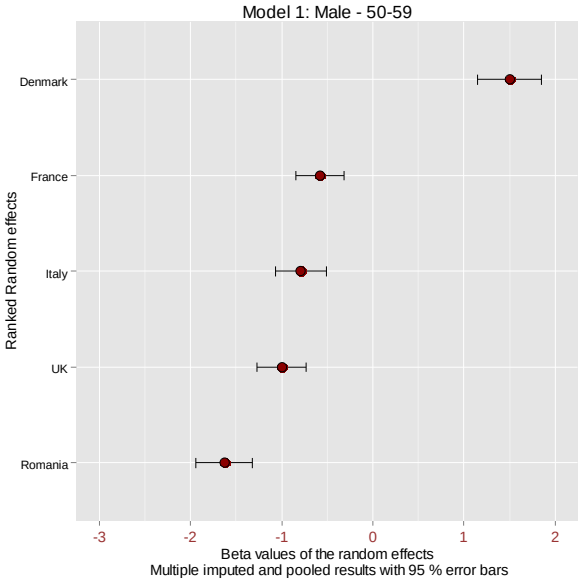
In relation to the Capability Approach similar contrasts in the empirical operationalization have been found. This is not regarded as a deficit of the theoretical approach, on the contrary, but working with a highly relational and complex approach is not solved by reduction of complexity, but will have to be met with similar relational and complex approaches. There seems not to be a quick fix in this matter and therefore more modelling and to some extent perhaps a new methodological development is needed rather than reducing the strength of the theory which is its relational and nested nature. For this reason I would argue that this has been an ambling first attempt and it must be acknowledged that the further development of such a capability oriented composite model needs to be an iterative development also in the time to come *"which is not done once and for all at the beginning, but in every moment of a research, through a multitude of small corrections"* (Bourdieu, Chamboredon, & Passeron, 1991, p. 253).

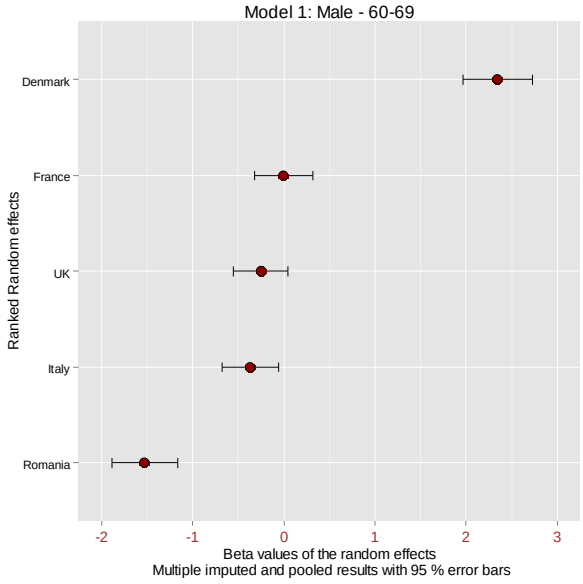
The results and error estimates analysed have been pooled from results on multiple imputations with five iterations of five imputed datasets as suggested by Schafer (Schafer, 1997) and only to some extent taken the multilevel nature of the data into account when imputing. By doing so it has to be taken into account that these *"approaches generally ignore the clustering structure in hierarchical data. Not much is known how imputations by such procedures affects the complete data analysis"* (Buuren, 2011, p. 174) and even though there are multilevel approaches to the chosen multiple imputation strategy in this case, Stef Van Buuren concludes: *"Multiple imputation is a general statistical technique for handling incomplete data problems. Some work on MI in multilevel settings has been done, but many open issues remain."* (Buuren, 2011, p. 193). The models informed by the normative choice of the central capabilities could be further developed by applying the method of multiple imputations of mixed data and performing simulations for the complex errors of the group predictors (Gelman & Hill, 2007). Still this would mainly increase the complexity of an already complex theoretical approach and would probably only provide sparse further insights.

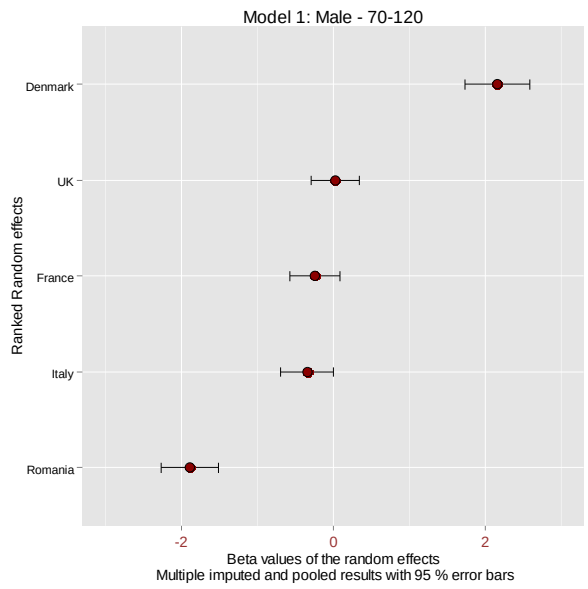
6. APPENDICES

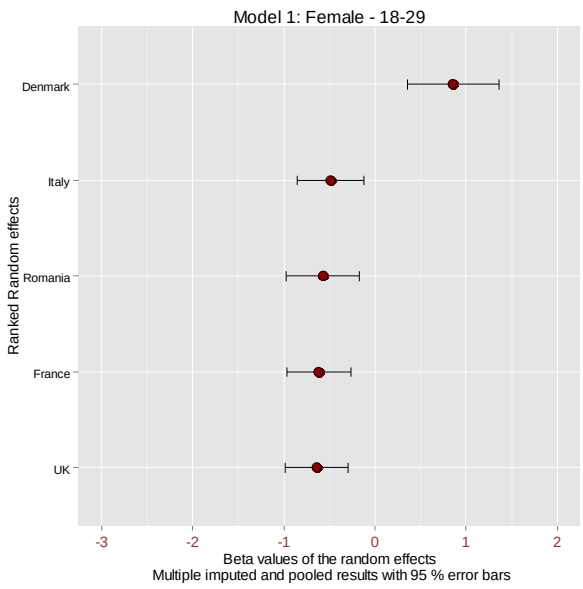


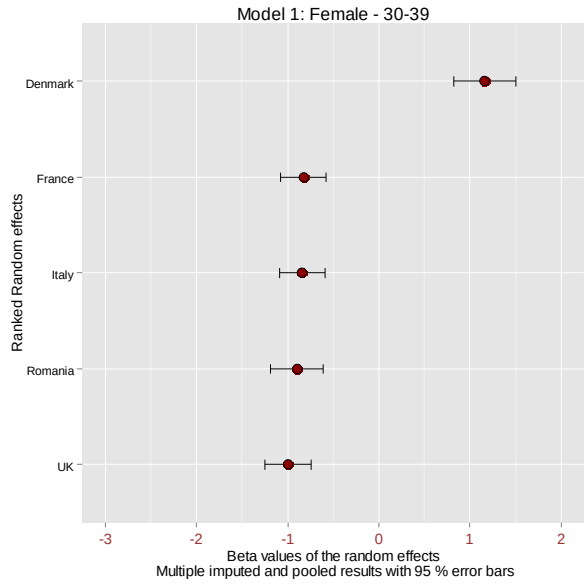


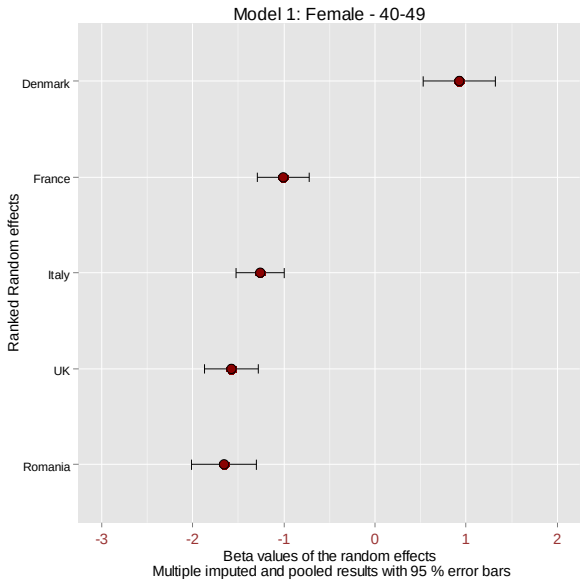


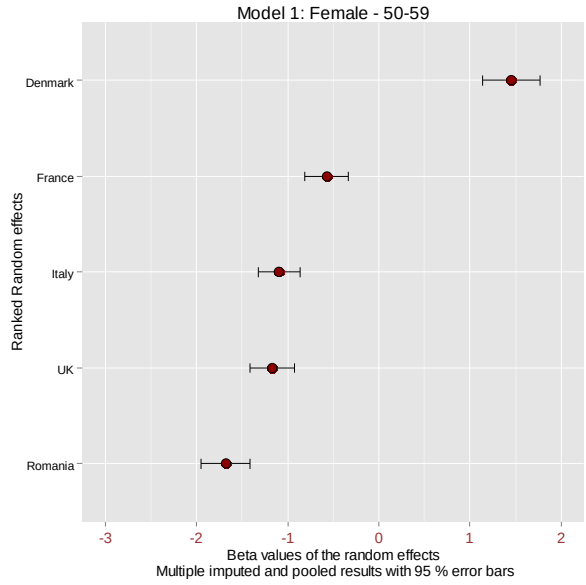


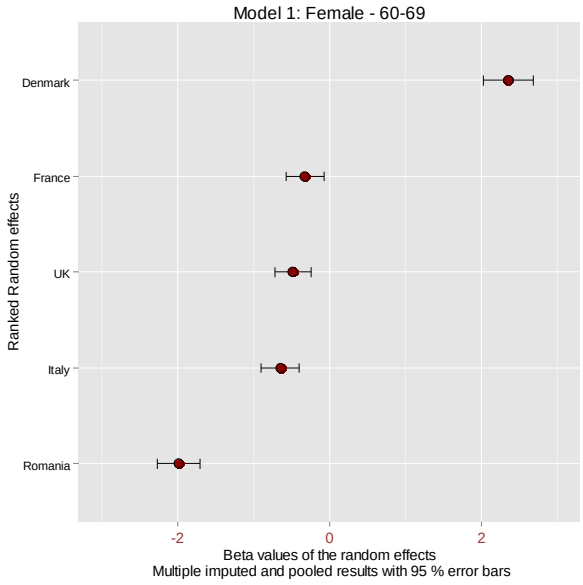

Model 1: Male - 70-120
Denmark
UK
France
Italy
Romania
Ranked Random effects
-2
0
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

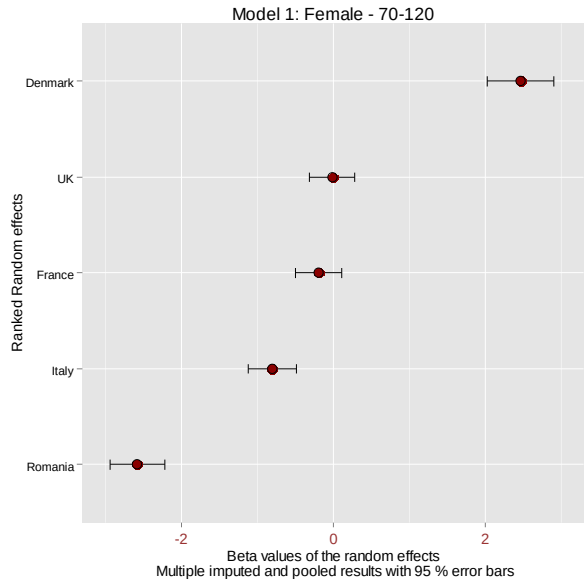

Model 1: Female - 18-29
Denmark
Italy
Romania
France
UK
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

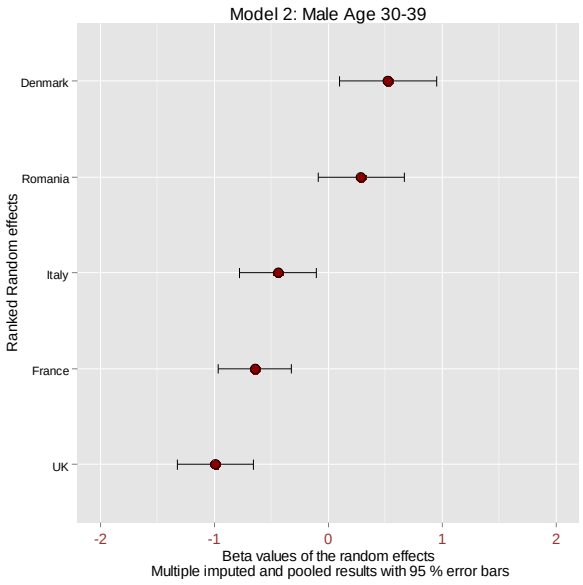

Model 1: Female - 30-39
Denmark
France
Italy
Romania
UK
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

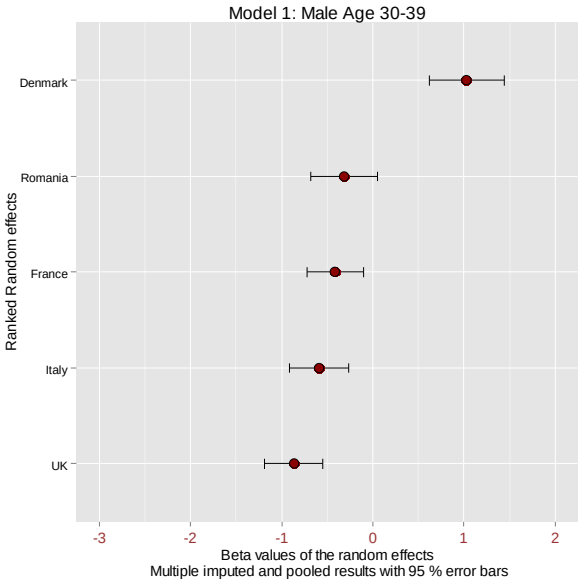

Model 1: Female - 40-49
Denmark
France
Italy
UK
Romania
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

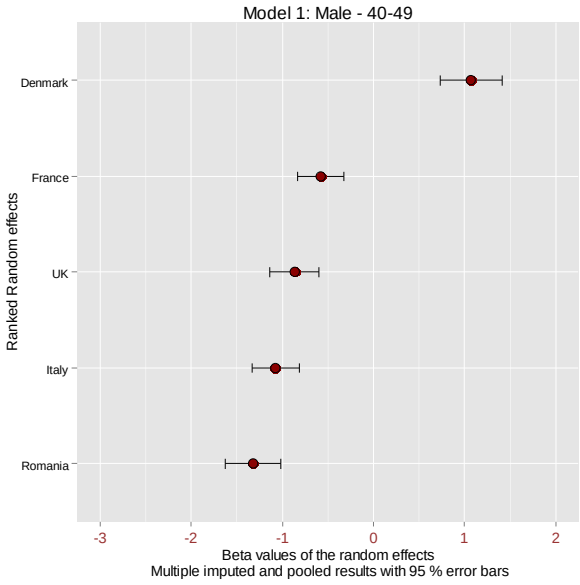

Model 1: Female - 50-59
Denmark
France
Italy
UK
Romania
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

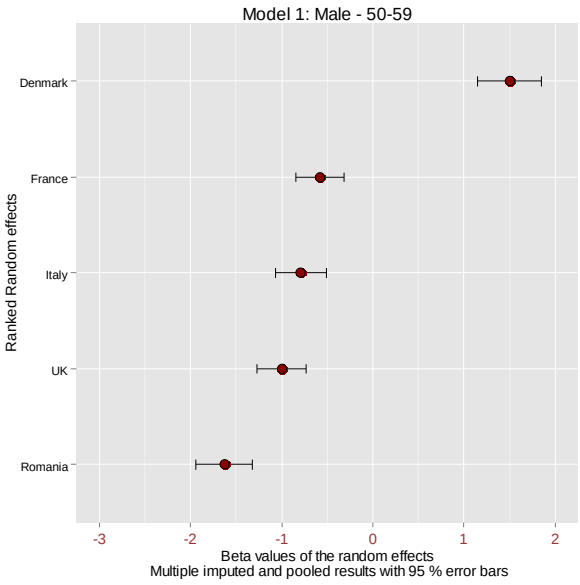

Model 1: Female - 60-69
Denmark
France
UK
Italy
Romania
Ranked Random effects
-2
0
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

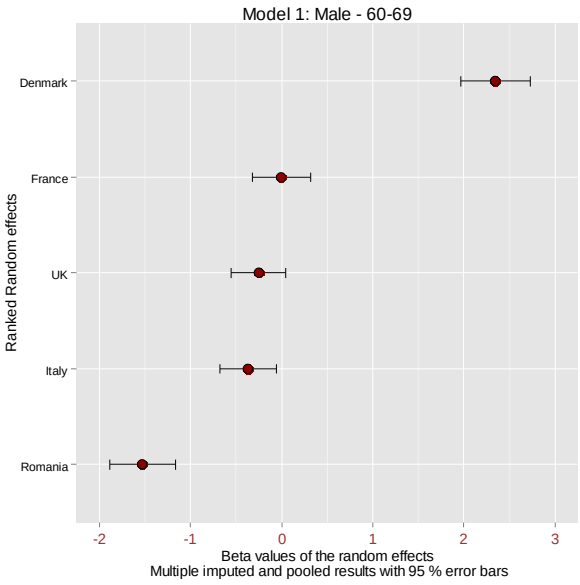

Model 1: Female - 70-120
Denmark
UK
France
Italy
Romania
Ranked Random effects
-2
0
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

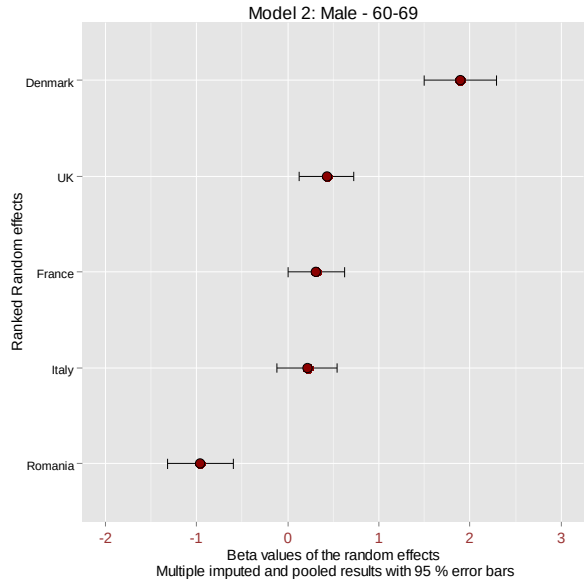

Model 2: Male Age 30-39
Denmark
Romania
Italy
France
UK
Ranked Random effects
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

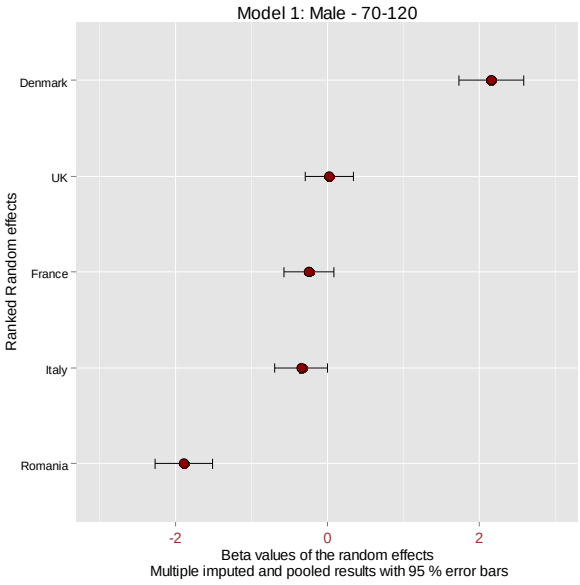

Model 1: Male Age 30-39
Denmark
Romania
France
Italy
UK
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

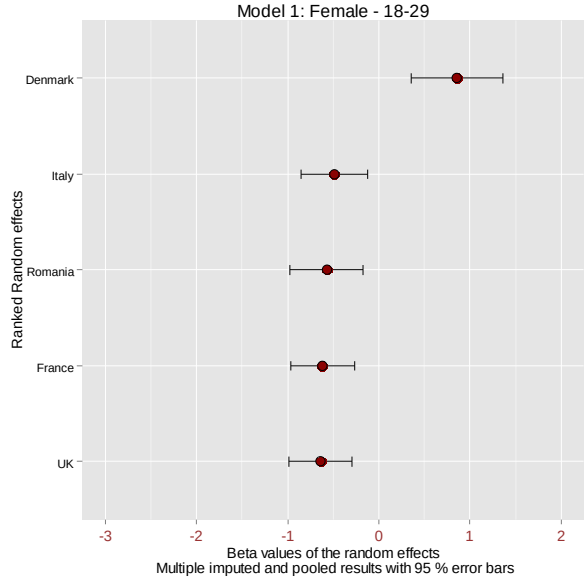

Model 1: Male - 40-49
Denmark
France
UK
Italy
Romania
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

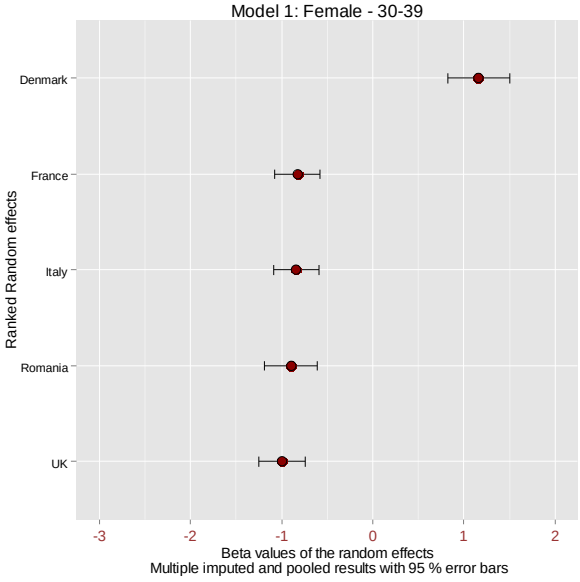

Model 1: Male - 50-59
Denmark
France
Italy
UK
Romania
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

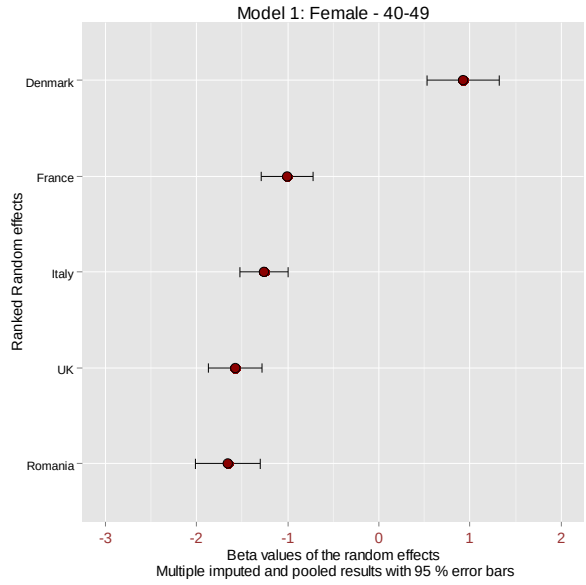

Model 1: Male - 60-69
Denmark
France
UK
Italy
Romania
Ranked Random effects
-2
-1
0
1
2
3
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

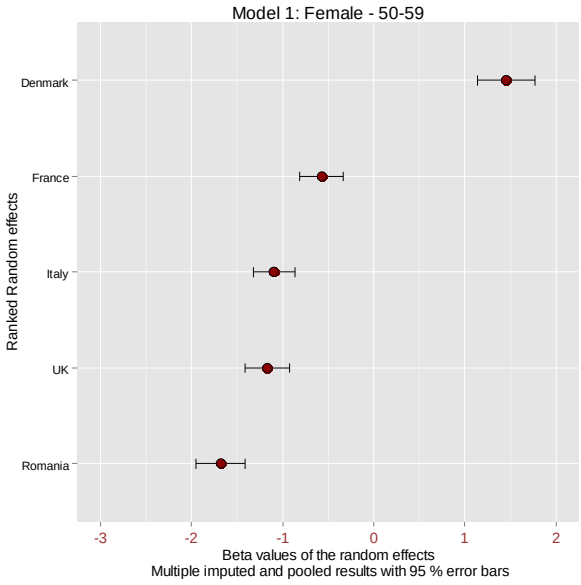

Model 2: Male - 60-69
Denmark
UK
France
Italy
Romania
Ranked Random effects
-2
-1
0
1
2
3
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

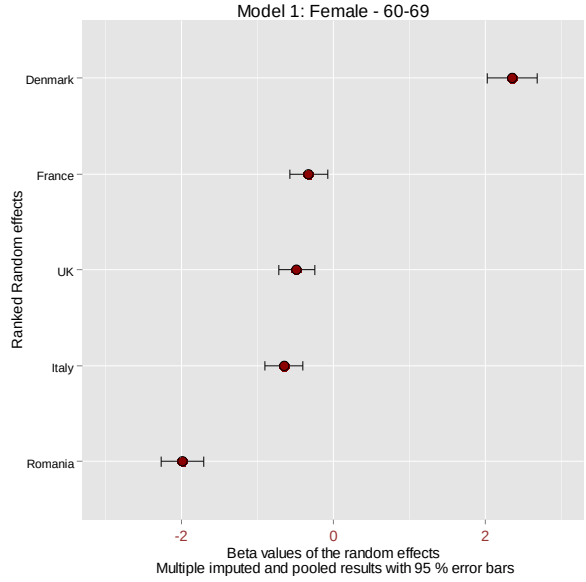

Model 1: Male - 70-120
Denmark
UK
France
Italy
Romania
Ranked Random effects
-2
0
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

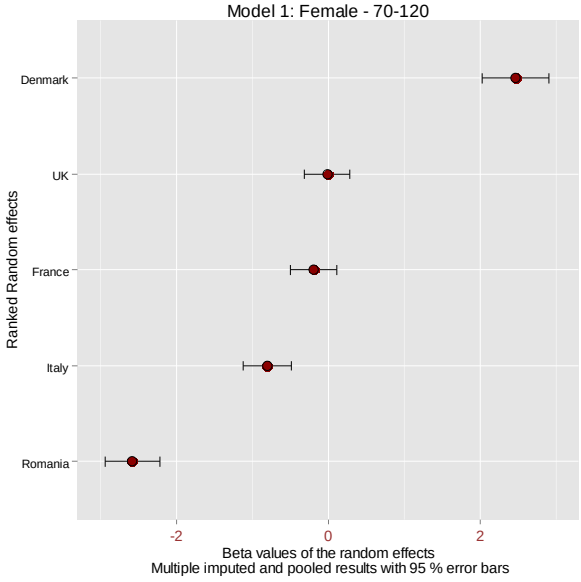

Model 1: Female - 18-29
Denmark
Italy
Romania
France
UK
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

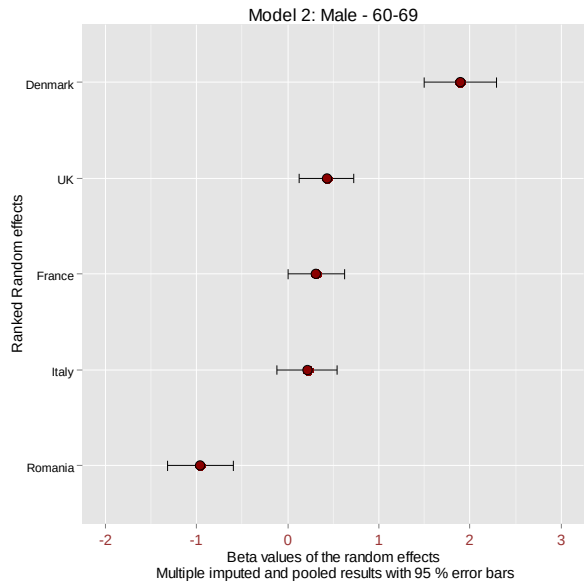

Model 1: Female - 30-39
Denmark
France
Italy
Romania
UK
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

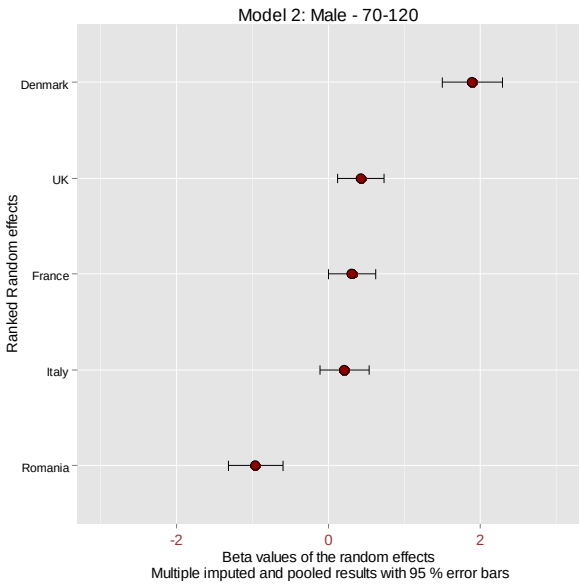

Model 1: Female - 40-49
Denmark
France
Italy
UK
Romania
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

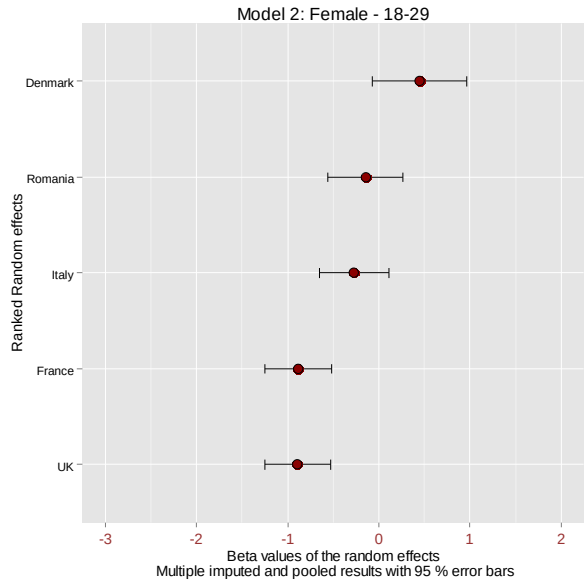

Model 1: Female - 50-59
Denmark
France
Italy
UK
Romania
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

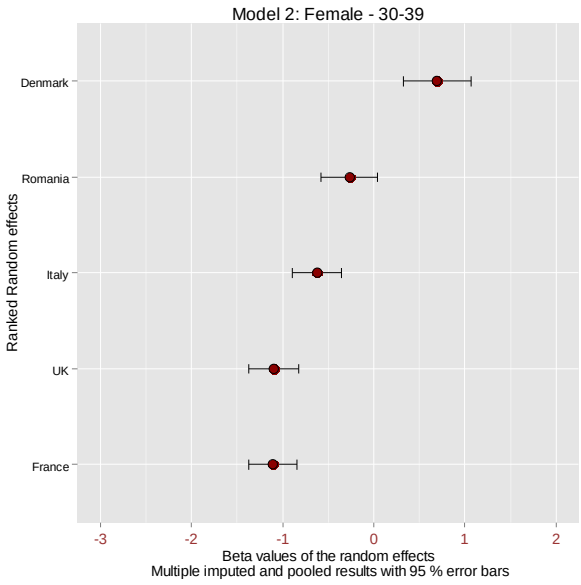

Model 1: Female - 60-69
Denmark
France
UK
Italy
Romania
Ranked Random effects
-2
0
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

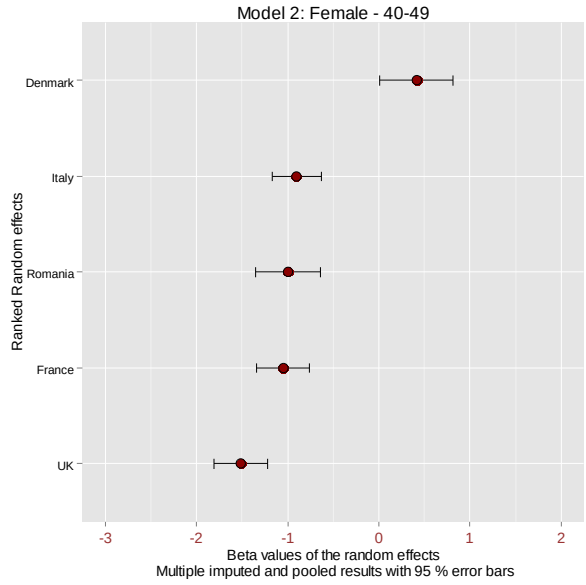

Model 1: Female - 70-120
Denmark
UK
France
Italy
Romania
Ranked Random effects
-2
0
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

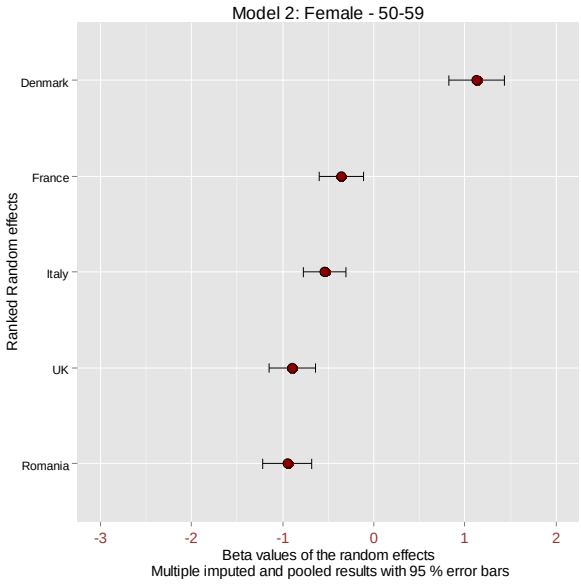

Model 2: Male - 60-69
Denmark
UK
France
Italy
Romania
Ranked Random effects
-2
-1
0
1
2
3
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

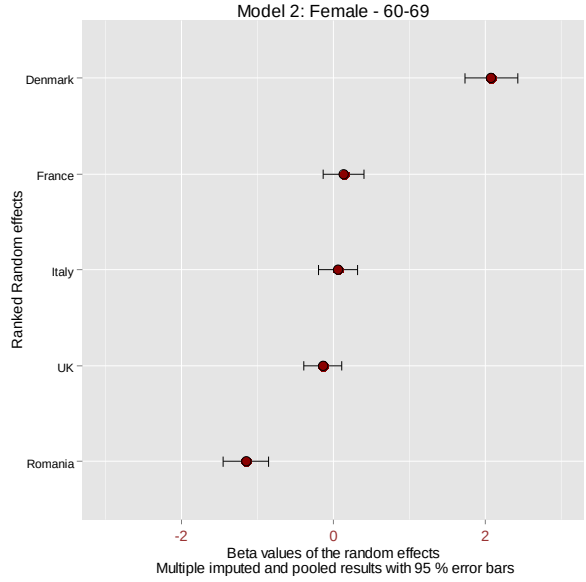

Model 2: Male - 70-120
Denmark
UK
France
Italy
Romania
Ranked Random effects
-2
0
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

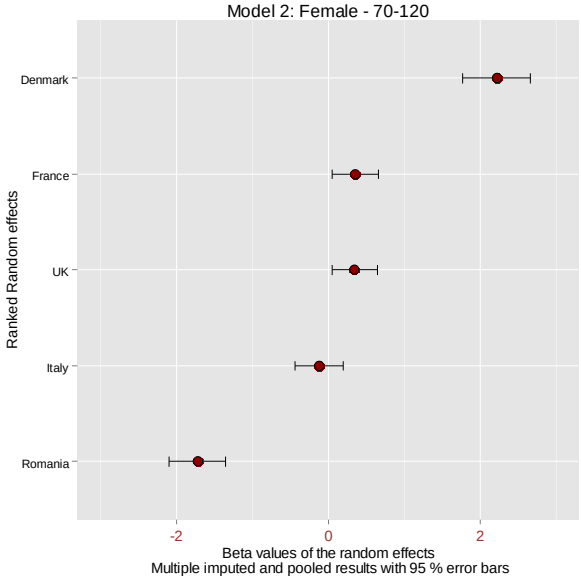

Model 2: Female - 18-29
Denmark
Romania
Italy
France
UK
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

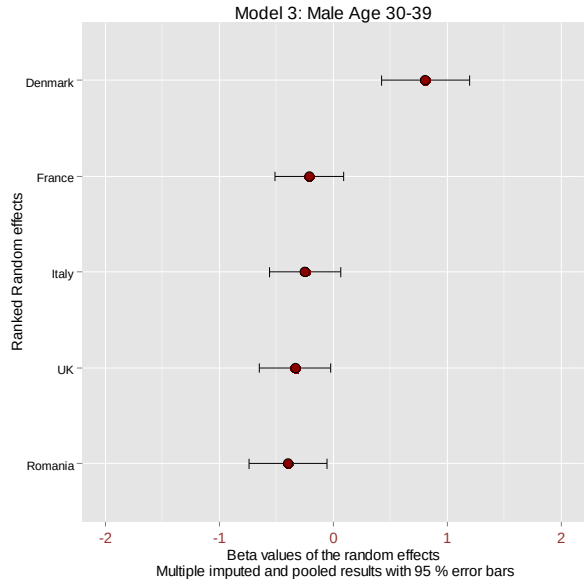

Model 2: Female - 30-39
Denmark
Romania
Italy
UK
France
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

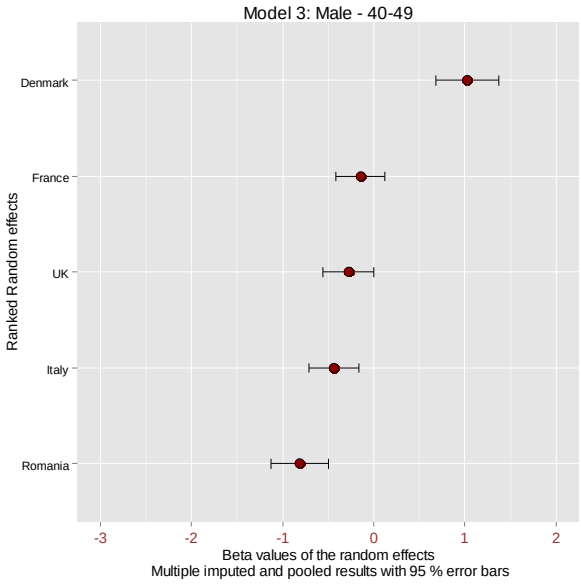

Model 2: Female - 40-49
Denmark
Italy
Romania
France
UK
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

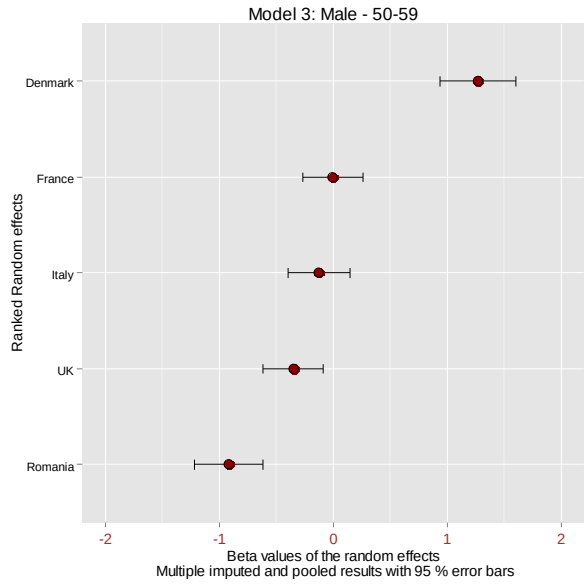

Model 2: Female - 50-59
Denmark
France
Italy
UK
Romania
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

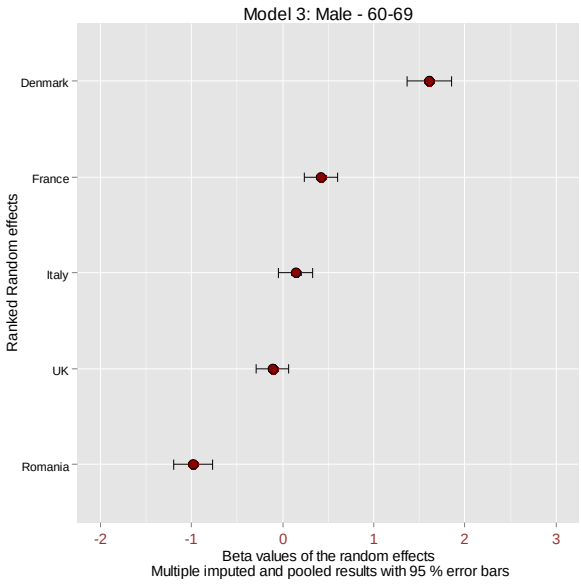

Model 2: Female - 60-69
Denmark
France
Italy
UK
Romania
Ranked Random effects
-2
0
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

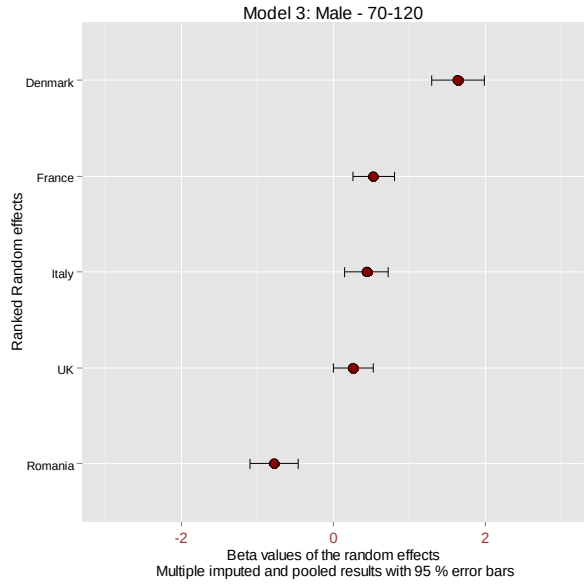

Model 2: Female - 70-120
Denmark
France
UK
Italy
Romania
Ranked Random effects
-2
0
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

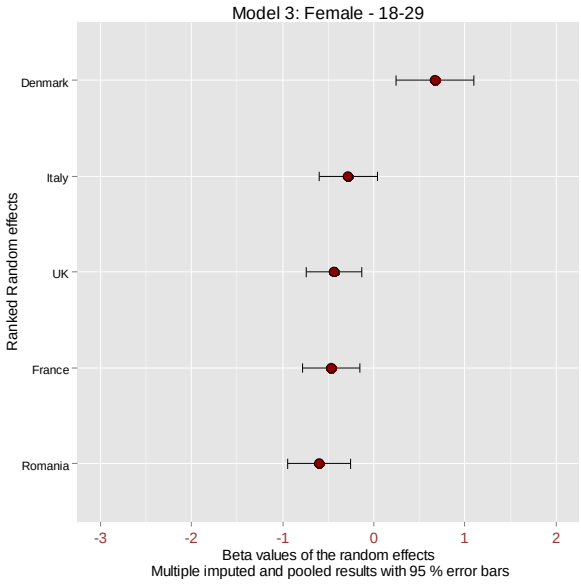

Model 3: Male Age 30-39
Ranked Random effects
Denmark
France
Italy
UK
Romania
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

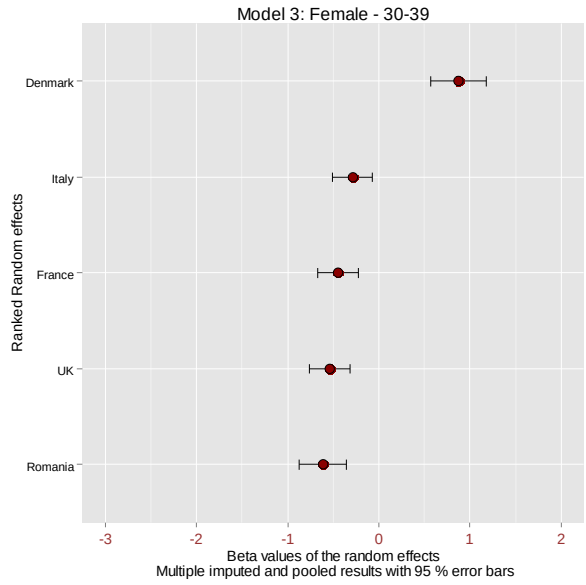

Model 3: Male - 40-49
Ranked Random effects
Denmark
France
UK
Italy
Romania
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

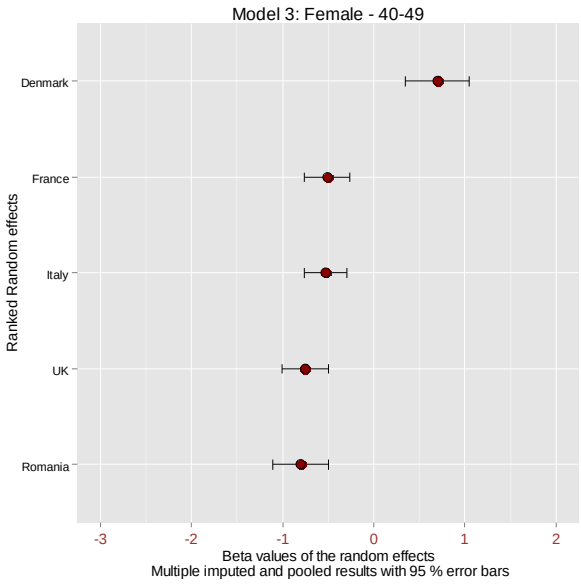

Model 3: Male - 50-59
Ranked Random effects
Denmark
France
Italy
UK
Romania
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

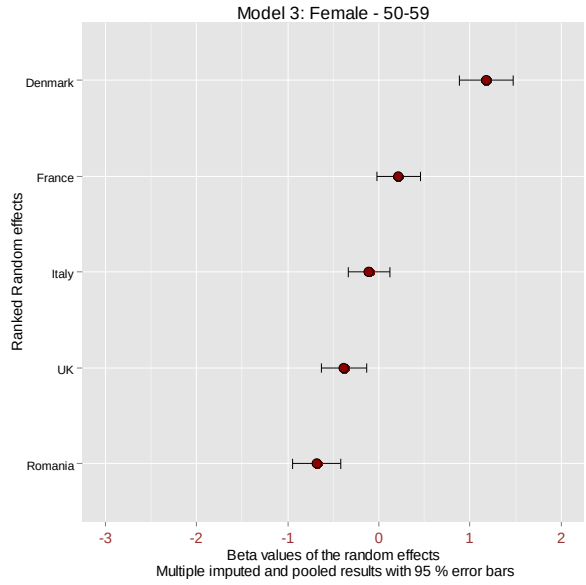

Model 3: Male - 60-69
Ranked Random effects
Denmark
France
Italy
UK
Romania
-2
-1
0
1
2
3
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

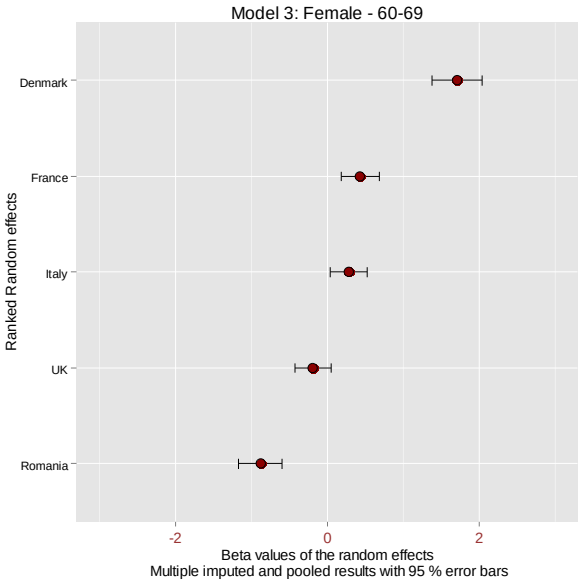

Model 3: Male - 70-120
Denmark
France
Italy
UK
Romania
Ranked Random effects
-2
0
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

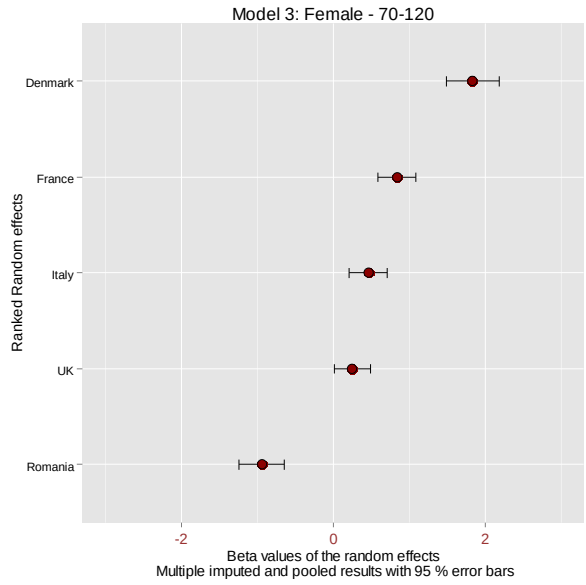

Model 3: Female - 18-29
Denmark
Italy
UK
France
Romania
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

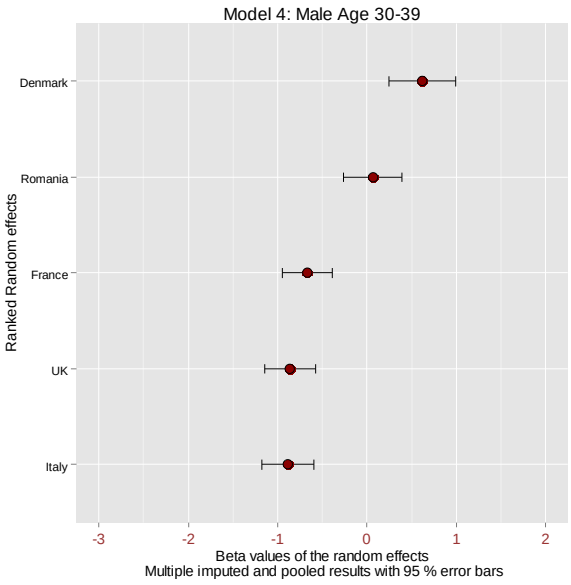

Model 3: Female - 30-39
Denmark
Italy
France
UK
Romania
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

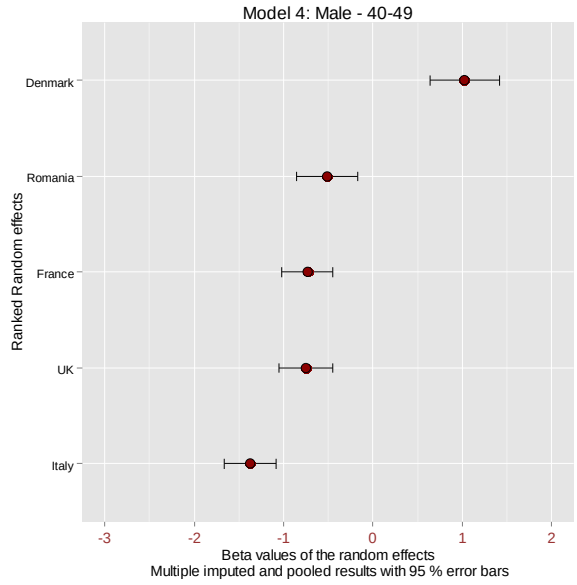

Model 3: Female - 40-49
Denmark
France
Italy
UK
Romania
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

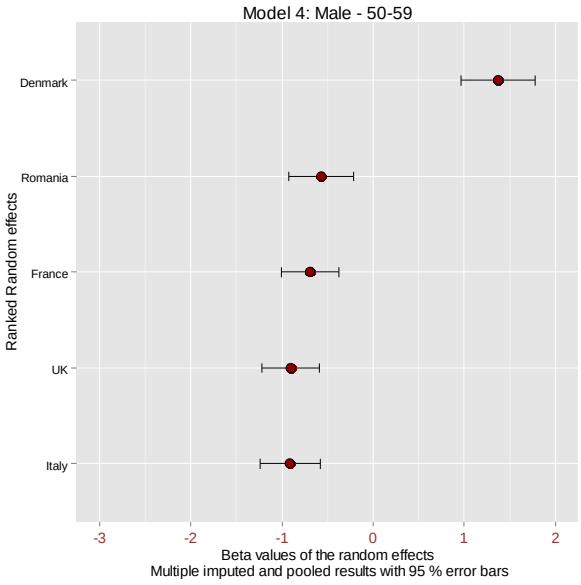

Model 3: Female - 50-59
Denmark
France
Italy
UK
Romania
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

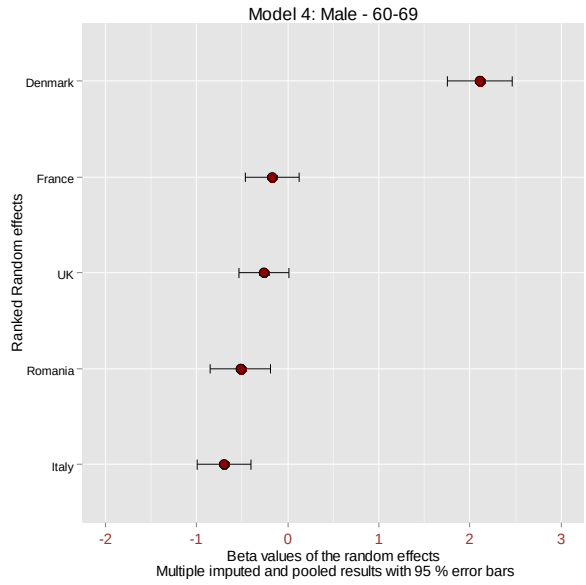

Model 3: Female - 60-69
Denmark
France
Italy
UK
Romania
Ranked Random effects
-2
0
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

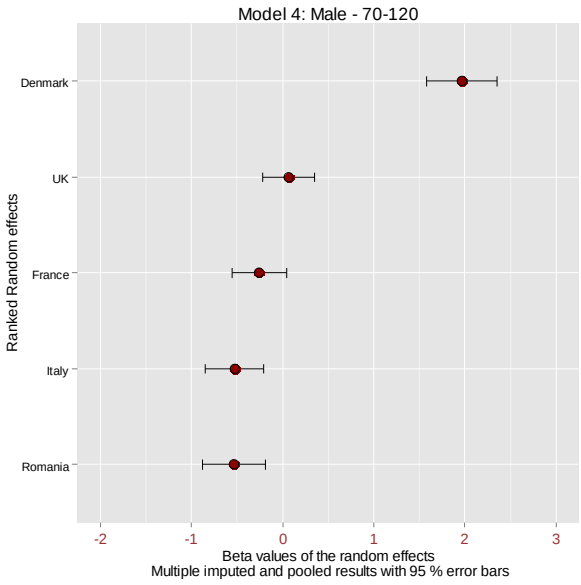

Model 3: Female - 70-120
Denmark
France
Italy
UK
Romania
Ranked Random effects
-2
0
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

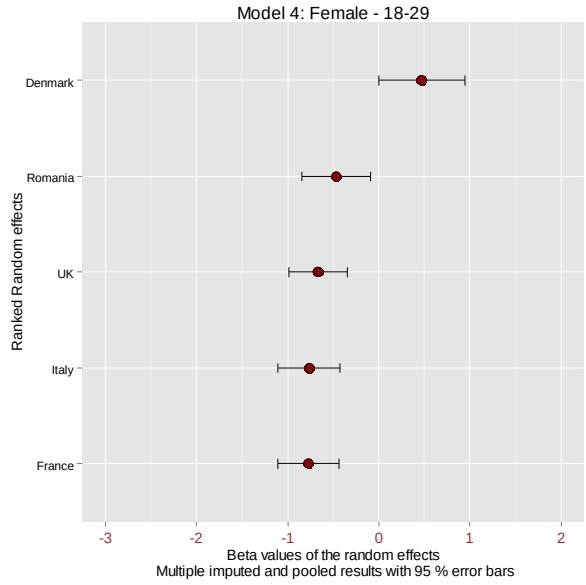

Model 4: Male Age 30-39
Denmark
Romania
France
UK
Italy
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

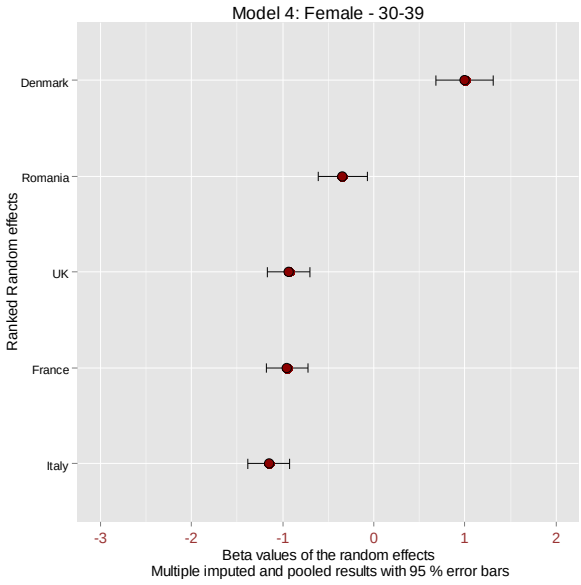

Model 4: Male - 40-49
Denmark
Romania
France
UK
Italy
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

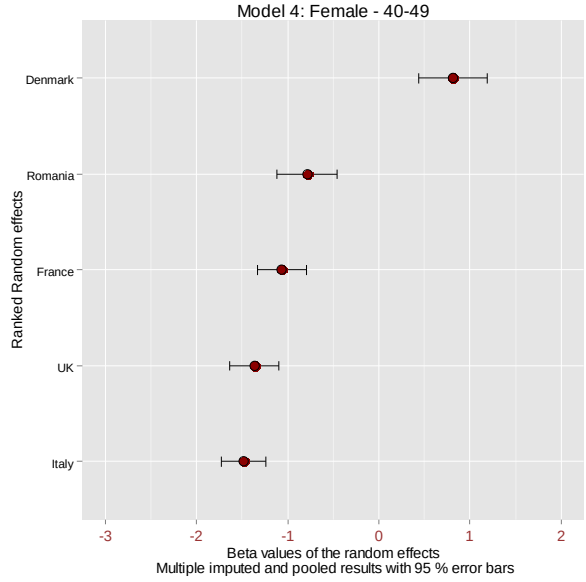

Model 4: Male - 50-59
Denmark
Romania
France
UK
Italy
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

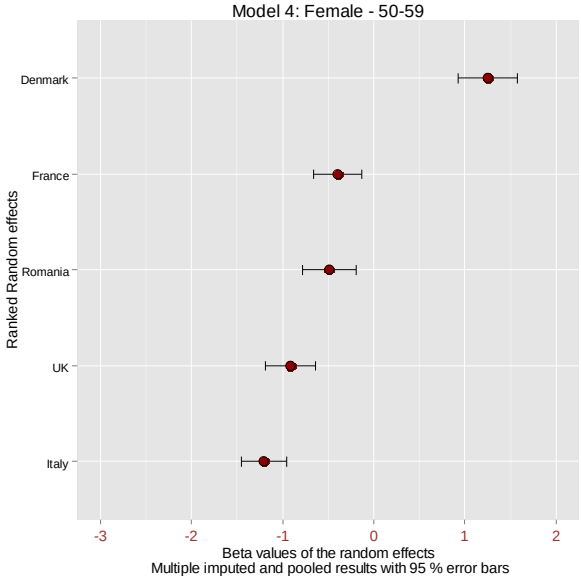

Model 4: Male - 60-69
Denmark
France
UK
Romania
Italy
Ranked Random effects
-2
-1
0
1
2
3
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

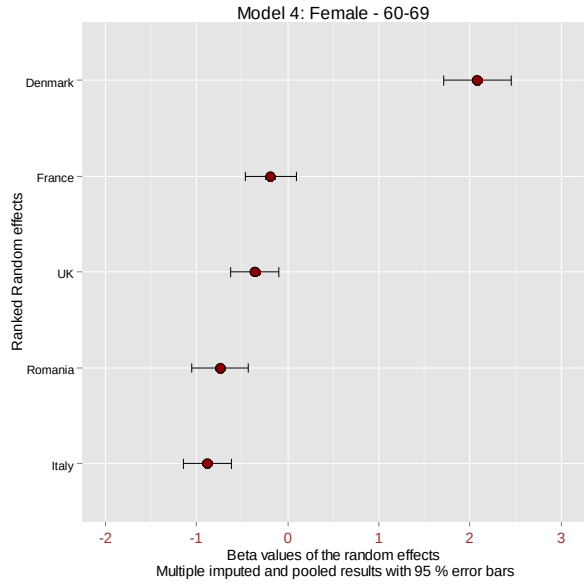

Model 4: Male - 70-120
Denmark
UK
France
Italy
Romania
Ranked Random effects
-2
-1
0
1
2
3
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars

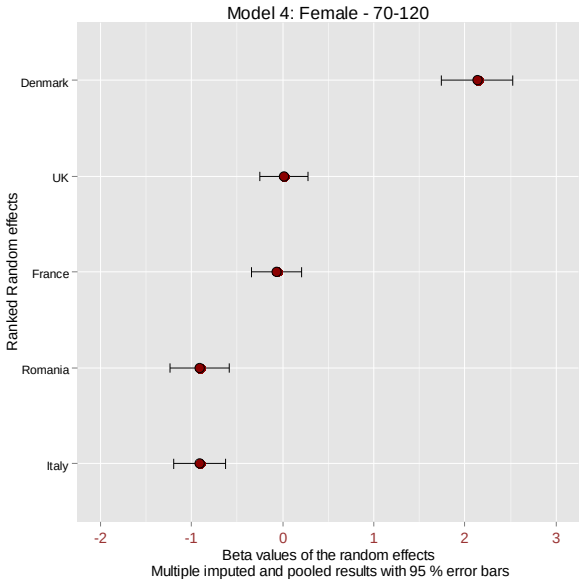

Model 4: Female - 18-29
Denmark
Romania
UK
Italy
France
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars


Model 4: Female - 30-39
Denmark
Romania
UK
France
Italy
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars


Model 4: Female - 40-49
Denmark
Romania
France
UK
Italy
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars


Model 4: Female - 50-59
Denmark
France
Romania
UK
Italy
Ranked Random effects
-3
-2
-1
0
1
2
Beta values of the random effects
Multiple imputed and pooled results with 95 % error bars





Model 1			
Question/description	**Variable within dataset**	**Categorical responce**	**Multiple Imputed Variance Inflation Factor (VIP)**
What is the highest level of education you completed? Is this …?	Y11_IscedSimple	No education completed (ISCED 0)	Reference
	Y11_IscedSimple	Primary education (ISCED 1)	5,075595
	Y11_IscedSimple	Lower secondary education (ISCED 2)	9,966545
	Y11_IscedSimple	Upper secondary education (ISCED 3)	14,52338
	Y11_IscedSimple	Post-secondary including pre-vocational or vocational education but not tertiary (ISCED 4)	3,886338
	Y11_IscedSimple	Tertiary education – first level (ISCED 5)	11,61774
	Y11_IscedSimple	Tertiary education – advanced level (ISCED 6)	1,645219

	Y11_IscedSimple	Completed education abroad	1,26144
Employment status (7 categories)	Y11_EmploymentStatus	Employed	Reference
	Y11_EmploymentStatus	Unemployed	1,099659
	Y11_EmploymentStatus	Unable	1,048174
	Y11_EmploymentStatus	Retired	1,147672
	Y11_EmploymentStatus	Homemaker	1,147078
	Y11_EmploymentStatus	Student	1,047526
	Y11_EmploymentStatus	Other	1,025164
Which of the following best describes your accommodation?	Y11_Q18	Own without mortgage (i.e. without any loans	Reference
	Y11_Q18	Own with mortgage	1,247192
	Y11_Q18	Tenant, paying rent to private landlord	1,304719
	Y11_Q18	Tenant, paying rent in social/voluntary/municipal housing	1,202392
	Y11_Q18	Accommodation is provided rent free	1,052711
	Y11_Q18	Other	1,019836
Shortage of space / Problems with your accommodation?	Y11_Q19a	Yes	Reference
	Y11_Q19a	No	1,100755
Rot in windows, doors or floors / Problems with your accommodation?	Y11_Q19b	Yes	Reference
	Y11_Q19b	No	1,284181
Damp or leaks in walls or roof / Problems with your accommodation?	Y11_Q19c	Yes	Reference
	Y11_Q19c	No	1,249033
Lack of indoor flushing toilet / Problems with your accommodation?	Y11_Q19d	Yes	Reference
	Y11_Q19d	No	2,164998
Lack of bath or shower / Problems with your accommodation?	Y11_Q19e	Yes	Reference
	Y11_Q19e	No	2,182888
Lack of place to sit outside / Problems with your accommodation?	Y11_Q19f	Yes	Reference
	Y11_Q19f	No	1,082749

How likely need to leave your accom within the next 6mths because you can no longer afford it?	Y11_Q20	Very likely	Reference
	Y11_Q20	Quite likely	2,467272
	Y11_Q20	Quite unlikely	5,935105
	Y11_Q20	Very unlikely	6,965306
Has your household been in arrears at any time during the past 12 months, that is, unable to pay as scheduled any of the following? Rent or mortgage payments for accommodation	Y11_Q60a	Yes	Reference
	Y11_Q60a	No	1,552982
Has your household been in arrears at any time during the past 12 months, that is, unable to pay as scheduled any of the following? Utility bills, such as electricity, water, gas	Y11_Q60b	Yes	Reference
	Y11_Q60b	No	1,51287
Has your household been in arrears at any time during the past 12 months, that is, unable to pay as scheduled any of the following? Payments related to consumer loans, including credit card overdrafts (to buy electrical appliances, a car, furniture, etc.)	Y11_Q60c	Yes	Reference
	Y11_Q60c	No	1,442992

Model 2			
Question/description	**Variable within dataset**	**Categorical responce**	**Multiple Imputed Variance Inflation Factor (VIP)**
What is the highest level of education you completed? Is this …?	Y11_IscedSimple	No education completed (ISCED 0)	Reference
	Y11_IscedSimple	Primary education (ISCED 1)	5,086624
	Y11_IscedSimple	Lower secondary education (ISCED 2)	9,939997
	Y11_IscedSimple	Upper secondary education (ISCED 3)	14,45349

	Y11_IscedSimple	Post-secondary including pre-vocational or vocational education but not tertiary (ISCED 4)	3,863609
	Y11_IscedSimple	Tertiary education – first level (ISCED 5)	11,56396
	Y11_IscedSimple	Tertiary education – advanced level (ISCED 6)	1,640322
	Y11_IscedSimple	Completed education abroad	1,260564
Employment status (7 categories)	Y11_EmploymentStatus	Employed	Reference
	Y11_EmploymentStatus	Unemployed	1,079733
	Y11_EmploymentStatus	Unable	1,042661
	Y11_EmploymentStatus	Retired	1,148606
	Y11_EmploymentStatus	Homemaker	1,145294
	Y11_EmploymentStatus	Student	1,041224
	Y11_EmploymentStatus	Other	1,023031
Noise / Thinking of your immediate neighbourhood - do you have problems with the following?	Y11_Q50a	Major problems	Reference
	Y11_Q50a	Moderate problems	3,710131
	Y11_Q50a	No problems	4,319688
Air quality / Thinking of your immediate neighbourhood - do you have problems with the following?	Y11_Q50b	Major problems	Reference
	Y11_Q50b	Moderate problems	3,684632
	Y11_Q50b	No problems	4,425292
Quality of drinking water / Thinking of your immediate neighbourhood - do you have problems with the following?	Y11_Q50c	Major problems	Reference
	Y11_Q50c	Moderate problems	2,898687
	Y11_Q50c	No problems	3,146675
Crime, violence or vandalism / Thinking of your immediate neighbourhood - do you have problems with the following?	Y11_Q50d	Major problems	Reference
	Y11_Q50d	Moderate problems	4,185871
	Y11_Q50d	No problems	4,715129
Litter or rubbish on the street / Thinking of your immediate neighbourhood - do you have problems with the following?	Y11_Q50e	Major problems	Reference
	Y11_Q50e	Moderate problems	3,552865
	Y11_Q50e	No problems	4,106488

Traffic congestion / Thinking of your immediate neighbourhood - do you have problems with the following?	Y11_Q50f	Major problems	Reference
	Y11_Q50f	Moderate problems	2,805315
	Y11_Q50f	No problems	3,238317
Recreational or green areas / How would you describe your access to the following services?	Y11_Q51e	with great difficulty	Reference
	Y11_Q51e	with some difficulty	3,293183
	Y11_Q51e	easily	7,695378
	Y11_Q51e	very easily	7,264567
	Y11_Q51e	service not used	3,163649
Social/municipal housing / How would you rate the quality of each of the following public services?	Y11_Q53f	1 - very poor quality	Reference
	Y11_Q53f	2	1,699372
	Y11_Q53f	3	1,96202
	Y11_Q53f	4	2,12183
	Y11_Q53f	5	3,052747
	Y11_Q53f	6	2,693345
	Y11_Q53f	7	2,78565
	Y11_Q53f	8	2,38579
	Y11_Q53f	9	1,573639
	Y11_Q53f	10 - very high quality	1,535206

Model 3			
Question/description	**Variable within dataset**	**Categorical responce**	**Multiple Imputed Variance Inflation Factor (VIP)**
What is the highest level of education you completed? Is this …?	Y11_IscedSimple	No education completed (ISCED 0)	Rerence
	Y11_IscedSimple	Primary education (ISCED 1)	5,097102
	Y11_IscedSimple	Lower secondary education (ISCED 2)	9,893238
	Y11_IscedSimple	Upper secondary education (ISCED 3)	14,41837
	Y11_IscedSimple	Post-secondary including pre-vocational or vocational education but not tertiary (ISCED 4)	3,866653

	Y11_IscedSimple	Tertiary education – first level (ISCED 5)	11,54908
	Y11_IscedSimple	Tertiary education – advanced level (ISCED 6)	1,643482
	Y11_IscedSimple	Completed education abroad	1,260408
Employment status (7 categories)	Y11_EmploymentStatus	Employed	
	Y11_EmploymentStatus	Unemployed	1,093953
	Y11_EmploymentStatus	Unable	1,055446
	Y11_EmploymentStatus	Retired	1,16309
	Y11_EmploymentStatus	Homemaker	1,158641
	Y11_EmploymentStatus	Student	1,053804
	Y11_EmploymentStatus	Other	1,023023
Participate in social activities of a club, society, or an association / How frequently?	Y11_Q21d	Every day or almost every day	Rerence
	Y11_Q21d	At least once a week	4,563731
	Y11_Q21d	One to three times a month	4,319888
	Y11_Q21d	Less often	5,868592
	Y11_Q21d	Never	8,727697
If you were feeling a bit depressed and wanting someone to talk to / From whom would you get support?	Y11_Q35d	A member of your family / relative	Reference
	Y11_Q35d	A friend, neighbour, or someone else, who does not belong to your family or relatives	1,065431
	Y11_Q35d	A service provider, institution or organisation	1,028987
	Y11_Q35d	Nobody	1,054562
Contact with family members living in this hhld or elsewhere / Do you spend as much time as you would like?	Y11_Q39a	Spend less time	Reference
	Y11_Q39a	As much as I currently do	5,286513
	Y11_Q39a	Spend more time	5,059293
	Y11_Q39a	(Not applicable)	1,438215
Other social contact (not family) / Do you spend as much time as you would like?			
	Y11_Q39b	Spend less time	Reference
	Y11_Q39b	As much as I currently do	4,077013
	Y11_Q39b	Spend more time	4,029934
Your social life / How satisfied are you?	Y11_Q40g	1 - very dissatisfied	Reference
	Y11_Q40g	2	1,903883
	Y11_Q40g	3	2,361372
	Y11_Q40g	4	2,776162
	Y11_Q40g	5	5,133792

	Y11_Q40g	6	5,081912
	Y11_Q40g	7	7,083098
	Y11_Q40g	8	8,417494
	Y11_Q40g	9	6,105307
	Y11_Q40g	10 - very satisfied	7,281337
I have felt lonely / Which is closest to how you have been feeling over the last two weeks	Y11_Q46b	All of the time	Reference
	Y11_Q46b	Most of the time	2,923121
	Y11_Q46b	More than half of the time	3,139649
	Y11_Q46b	Less than half of the time	4,349898
	Y11_Q46b	Some of the time	8,733926
	Y11_Q46b	At no time	10,79694

Model 4			
Question/description	**Variable within dataset**	**Categorical responce**	**Multiple Imputed Variance Inflation Factor (VIP)**
What is the highest level of education you completed? Is this …?	Y11_IscedSimple	No education completed (ISCED 0)	Reference
	Y11_IscedSimple	Primary education (ISCED 1)	5,134139
	Y11_IscedSimple	Lower secondary education (ISCED 2)	9,93516
	Y11_IscedSimple	Upper secondary education (ISCED 3)	14,45928
	Y11_IscedSimple	Post-secondary including pre-vocational or vocational education but not tertiary (ISCED 4)	3,86782
	Y11_IscedSimple	Tertiary education – first level (ISCED 5)	11,73029
	Y11_IscedSimple	Tertiary education – advanced	1,647108

		level (ISCED 6)	
	Y11_IscedSimple	Completed education abroad	1,260589
Employment status (7 categories)	Y11_EmploymentStatus	Employed	Reference
	Y11_EmploymentStatus	Unemployed	1,117015
	Y11_EmploymentStatus	Unable	1,049723
	Y11_EmploymentStatus	Retired	1,148372
	Y11_EmploymentStatus	Homemaker	1,143548
	Y11_EmploymentStatus	Student	1,045957
	Y11_EmploymentStatus	Other	1,024059
Material Deprivation Index Imputed and recalculated	Material Deprivation Index	mean	Reference
	Material Deprivation Index	min 1 max 6	1,117057
Would you consider the area in which you live to be...?	Y11_Q49	The open countryside	Reference
	Y11_Q49	A village/small town	2,993518
	Y11_Q49	A medium to large town	2,789106
	Y11_Q49	A city or city suburb	2,713785

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WORK PACKAGE 5: PARTICIPATORY RESEARCH

SocIEtY: SOCIAL INNOVATION - EMPOWERING THE YOUNG FOR THE COMMON GOOD

CHAPTER 3
EXPLORING CONTEXTUAL AND INDIVIDUAL DETERMINANTS OF INVOLUNTARY TEMPORARY OR PART-TIME JOBS AMONG YOUNG WORKERS IN EUROPE: A CAPABILITY APPROACH

Céline Goffette and Josiane Vero
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Céreq

Executive Summary

This chapter is an attempt to shed some light on involuntary part-time employment as well as involuntary temporary employment and their determinants, or at least their correlates, in 2012, five years since the crisis began. Unlike most studies of involuntary employment, we adopt a comparative perspective. We contrast and compare European countries in terms of performance and institutions. The capability approach is used here to understand how individual and environmental factors interactively affect processes that lead to involuntary part-time and involuntary temporary work. Using multi-level regressions, the paper assesses the contribution of both individual and country-level characteristics (educational institutions, labour market policies, business-cycle indicators) to a possible explanation in working involuntary in a temporary or part-time job. Thus, the purpose of the chapter is threefold. First, using descriptive statistics, the issue at stake is to compare the situation of the European countries regarding involuntary part-time and involuntary temporary employment. Second, the main goal of the paper is to measure the relative weight of individual and contextual levels on these involuntary situations. Third, we aim at identifying contextual determinants, including relevant macroeconomic, policy or institutional factors.

We use data from the European Union Labour Force Survey (LFS) and focus on young Europeans aged 15-24 being employed during the 2006-2012 period. Our analyses consist in determining both the individual and contextual determinants of capability-unfriendly jobs, i.e involuntary part-time jobs as well as involuntary temporary jobs. This is done by enriching EU-LFS data with macro and meso variables derived from other data sets, such as the Labour Market Policy database. The issue at stake is to understand the relative importance of the various levels at play (individual, regional, national) and the determinants at each level (for instance, economic structures, active labour market policies), therefore multilevel models are implemented.

Besides individual effects, there are also important contextual effects on the propensity to be in an involuntary temporary job or in an involuntary part-time job. Biggest effects are observed at the country level. 14% of the variation in the propensity to be in an involuntary part-time job lies between countries, and 27% of the variation in the propensity to be in an involuntary temporary job lies between countries. Interestingly, country determinants for involuntary part-time jobs and involuntary temporary job differ. For what concerns the propensity to be in an involuntary part-time job, it increases with the country GDP, individual characteristics being controlled for. This propensity also increases with the early-school-leavers rate and with the unemployment rate of young people. No effect is observed for active labour market policy expenditures. Concerning the propensity to be in an involuntary temporary job, country GDP and early-school-leavers rate have no effect on it. On the other hand, this propensity increases with the share of GDP dedicated to active labour market policy expenditures.

Exploring contextual and individual determinants of involuntary temporary or part-time jobs among young workers in Europe: a Capability Approach

Céline Goffette and Josiane Vero, Céreq

Abstract

This chapter is an attempt to shed some light on involuntary part-time employment as well as involuntary temporary employment and their determinants, or at least their correlates, in 2012, five years since the crisis began. Unlike most studies of involuntary employment, we adopt a comparative perspective. We contrast and compare countries. in terms of performance and institutions, yet sharing a recent increase in involuntary part-time work. The capability approach is used here to understand how individual and environmental factors interactively affect processes that lead to involuntary part-timer and involuntary temporary worker. Using multi-level regressions, the paper assesses the contribution of both individual and country-level characteristics (educational institutions, labour market policies, business-cycle indicators) to a possible explanation in working involuntary in a temporary or part-time job.

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1. Introduction

The deterioration in young people's job quality was overshadowed for much of the 2000s by other concerns, such as the rise in youth unemployment. Nevertheless, job quality had been a priority issue for the European Commission at the end of the 1990s, against the background of a slight improvement in the economic situation. At the beginning of the new century, faced with a slowdown in economic growth and rising unemployment, the European Union embarked on a gradual revision of the European employment strategy, shifting the emphasis from job quality to quantity and 'refocusing priorities on growth and employment'. The concern with quality was subsequently displaced by flexicurity. As the second decade of the 21st century began, European leaders began to refocus attention on job quality, with reference to the Europe 2020 strategy that had been developed during the crisis years. The strategy reaffirmed the importance of this issue and made it necessary to review the quality of the jobs held by young people.

At the Special European Council held in the year 2000, the member states drew up the so-called Lisbon strategy, which aimed to create more jobs of better quality by 2010. Nevertheless, the economic climate in the EU changed from the spring of 2008 onwards, leading to a sharp rise in unemployment. Young people under 25 years of age were one of the groups hardest hit by the crisis, which demonstrated the particular sensitivity of this age group to the change in economic circumstances. Between 2006 and 2012, their unemployment rate rose by almost 6 percentage points, double that for the economically active population as a whole. By 2012 it had reached 23%, compared with 10.6% for adult workers in the EU-28.

According to Robert Salais, ‘the upheaval introduced by the capability approach relates to the choice of the (yardstick against which collective action (policies, legislation, and procedures) should be devised, implemented and assessed. For Sen, the only ethically legitimate reference point for collective action is the person, and specifically his situation as regards the amount of real freedom he possesses to choose and conduct the life she/he wishes to lead’ (Salais, 2005: 10).

The (CA) provides an analysis frame to reconsider the relationship between freedom and responsibility. It develops a demanding conception of freedom based on democratic participation, opportunity access and the power to act. Capabilities aim at giving an actual content beyond its formal aspects, to the concept of freedom. One of the specificities of the approach is thus to combine a descriptive assessment prospect of the freedom to act with a normative prospect which makes the equal distribution of this freedom a principle of justice (Sen, 2009). At the core of the capability approach, exercising any responsibility requires a scope of choice between various possible options and a power to convert the chosen option into an actual achievement. As a consequence, if young people from disadvantaged backgrounds are called to become active player of their school-to-work transition this implies from a normative point of view that they are given the means which enable them to take their responsibility. In Salais’ words, the more this condition is satisfied the more economic efficiency and social justice can be reconciled (Salais and Villeneuve, 2004)

This perspective sets out an ambitious way forward for public policy-making, which is not merely about enhancing people's adaptability to labour market requirements but first and foremost about promoting their real freedom to choose the life they have every good reason to lead. Collective action is therefore expected to develop opportunities for people while acknowledging their free choice with regard to ways of living or being. Central to this endeavour is the capability for work, i.e. "The real freedom to choose the work one has reason to value" (Bonvin and Farvaque, 2006). As a consequence, labour market policies cannot only take into account how to make the individual employable, but also how to adjust the available jobs so that they meet what the individual has reason to value.

Hence, a global approach of job quality, which draws on the Capability Approach initiated by Amartya Sen, puts the focus on the extent of the individuals "real freedom to lead the life they have reason to value". It includes the capability for work, i.e. the real freedom to choose the work one has reason to value (Bonvin and Farvaque, 2006). To consider job quality through the lens of Sen's capabilities approach it is to change perspective in order to focus on the real freedom young people enjoy to choose a job they have good reasons to value. This perspective differs from the standard indicators, which consider job quality independently of the constraints that may determine individuals' choices. In particular, to focus on actual freedoms is to separate the situations in which individuals actually find themselves from what they are free to do. The same employment situation may result from the presence or absence of freedom of choice. For example, someone who is in a part-time job because they have been unable to find a full-time position does not enjoy as wide a range of choices as a person who has deliberately opted for part-time work for personal reasons.

This chapter is an attempt to shed some light on involuntary part-time employment as well as involuntary temporary employment and their determinants, or at least their correlates, in 2012, five years since the crisis began. Unlike most studies of involuntary employment, we adopt a comparative perspective. We contrast and compare European countries in terms of performance and institutions. The capability approach is used here to understand how individual and environmental factors interactively affect processes that lead to involuntary part-timer and involuntary temporary worker. Using multi-level regressions, the paper assesses the contribution of both individual and country-level characteristics (educational institutions, labour market policies, business-cycle indicators) to a possible explanation in working involuntary in a temporary or part-time job. Thus, the purpose of the chapter is threefold. First, using descriptive statistics the issue at stake is to compare the situation of the European countries regarding involuntary part-time and involuntary temporary employment. Second, it aims at identifying the role of structural factors and business cycles by exploiting cross-sectional variation across countries from the LFS survey. Third, the main goal of the paper is to measure the relative weight of determinants including relevant macroeconomic, policy or institutional factors.

2. Background

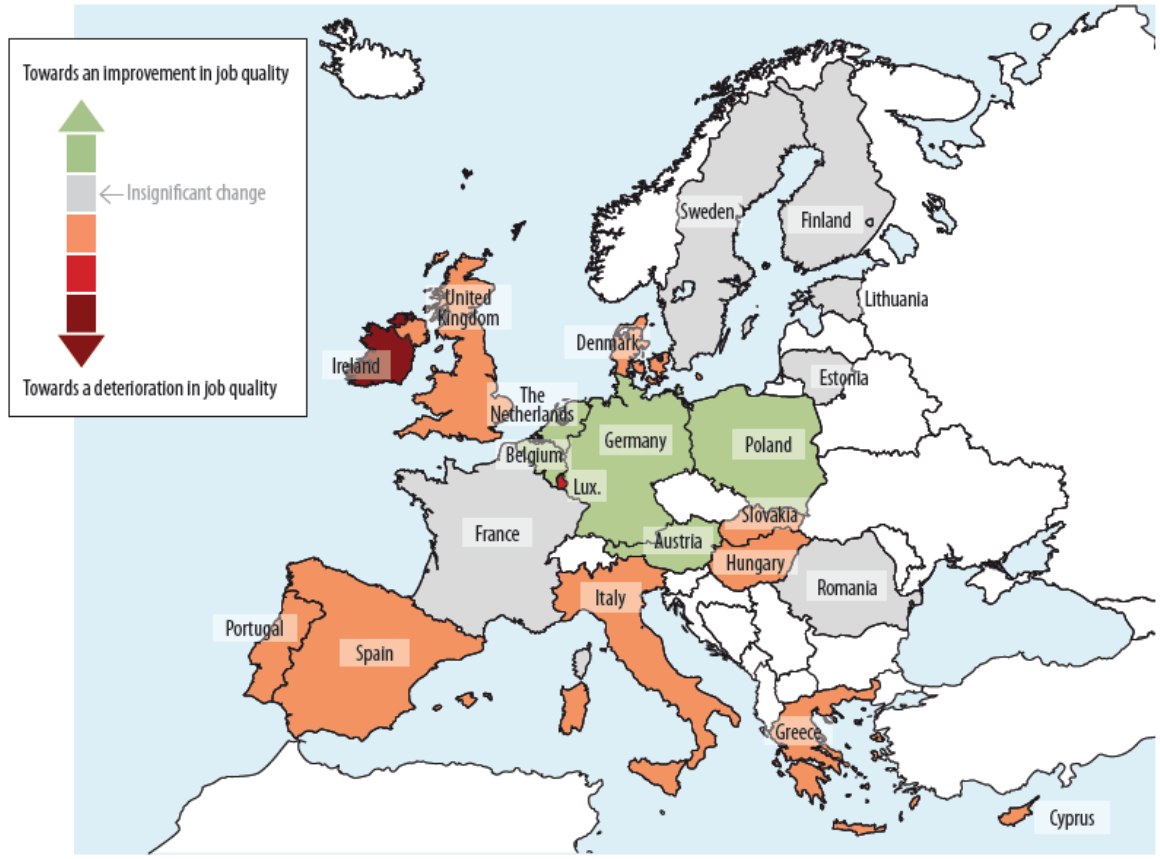
2.1 In times of crisis, unemployment and capability-unfriendly jobs evolved in conjunction

Previous research undertaken as part of the SocIEty project (Goffette and Vero, 2015) shows that the rise in youth unemployment to unprecedented levels between 2006 and 2012 was accompanied by a deterioration in job quality. Thus unemployment and capability-unfriendly jobs evolved in conjunction with each other, such that no country experienced a decline in unemployment at the cost of a deterioration in job quality from a capability perspective.

The deterioration in young people's job quality was overshadowed for much of the 2000s by other concerns, such as the rise in youth unemployment. Nevertheless, job quality had been a priority issue for the European Commission at the end of the 1990s, against the background of an economic upturn. At the beginning of the new century, faced with a slowdown in economic growth and rising unemployment, the European Union embarked on a gradual revision of the European employment strategy, shifting the emphasis from job quality to quantity and "refocusing priorities on growth and employment". The concern with quality was subsequently displaced by flexicurity. As the second decade of the 21st century began, European leaders began to refocus attention on job quality, with reference to the Europe 2020 strategy that had been developed during the crisis years. The strategy reaffirmed the importance of this issue and made it necessary to review job quality.

Thus when job quality is examined from the Capability Unfriendly Job Index (CauJI), the survey reveals a general deterioration in the situation of young Europeans between 2006 and 2012 (Figure 1). Here too, however, situations differ from country to country. Between 2006 and 2012, job quality improved in five countries: Germany, Austria, Poland, Belgium and the Netherlands. On the other hand, it deteriorated in most other EU member states. This was particularly the case in Ireland and Luxembourg, as well as in Portugal, Greece, Slovakia, Spain and the UK.

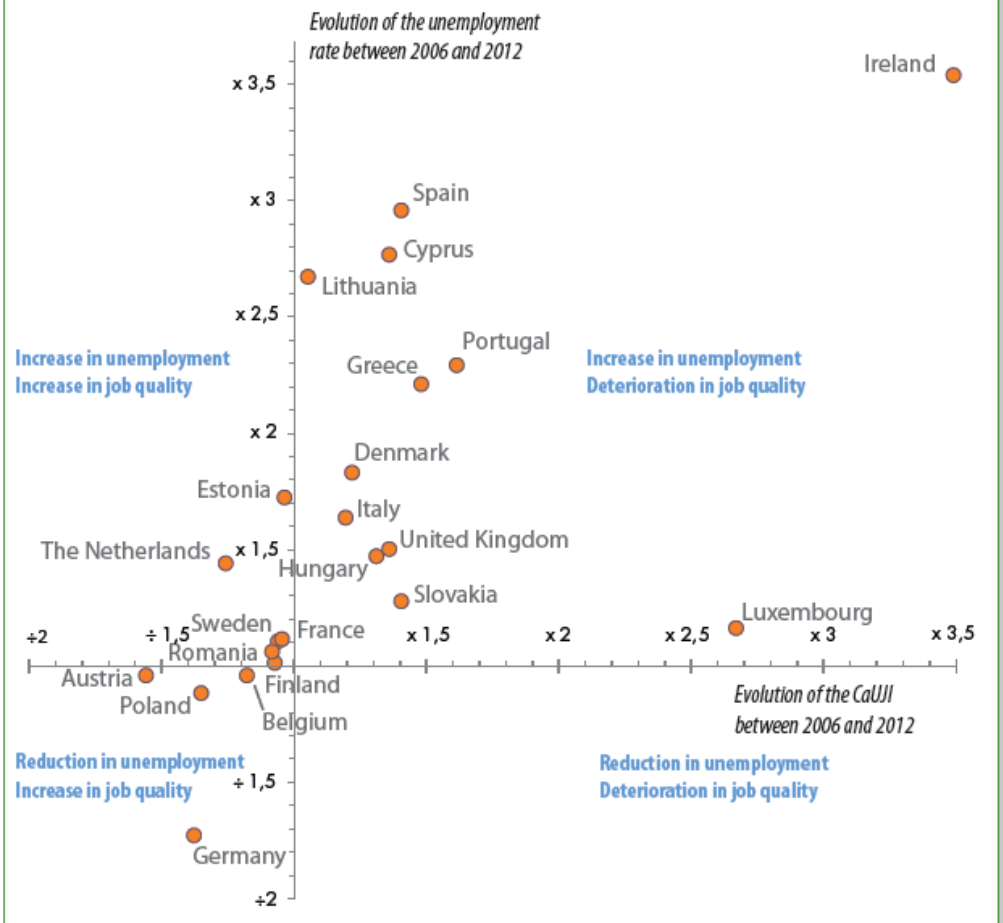
Figure 1 • Variation in job quality between 2006 and 2012



Interpretation: between 2006 and 2012, job quality deteriorated very considerably in Ireland, according to the Capability-Unfriendly Job Index (CaUJI). Source: Europe Labour Force Surveys - Calculations: Céreq

On the basis of a combined analysis of the evolution of unemployment rates and of the Capability-Unfriendly Job Index between 2006 and 2012, three groups of countries can be identified (Figure 1). It would appear that those countries that saw a fall in unemployment are also those that, according to our index, saw the most marked improvements in job quality, namely Germany, Austria, Poland and Belgium. In the second group of countries, unemployment reached unprecedented levels and at the same time there was the most glaring deterioration in job quality: this was the case in Ireland, Greece, Cyprus, Spain and Portugal. The majority of the countries investigated are in this group, which suffered a double deterioration in both the quantity and quality of jobs. A third group of countries, finally, saw a more modest increase in unemployment combined with relatively stable job quality. The Netherlands and France, among others, belong to this group. These results show that the changes in job quality and quantity are correlated and proceed according to the same dynamic.

Figure 2 • Unemployment and job quality: evolution between 2006 and 2012



Source: European Labour Force Survey - Calculations: Céreq
Interpretation: between 2006 and 2012, the Capability-Unfriendly Job Index (CaUJI) increased by a factor of 1.4 in Spain, while the unemployment rate rose by a factor of 2.9 during the same period.

In the European countries under consideration, the increase of Capability-Unfriendly jobs was due mainly to the rise in involuntary part-time working (30% increase). The United Kingdom, Romania, France, Italy or Denmark which five very different European labour markets in terms of performance and institutions, yet sharing a recent increase in involuntary part-time work. Comparative analysis across EU Countries thus seems to reflect a growing convergence of national trajectory regarding involuntary part-time workers. It is only mainly the Germanic countries (Germanty, Austria) and one or two others that are exceptions to this trend. These similar movements reflect changing standard of employment held by young toward less capability-friendly jobs between 2006 and 2012 (Table 1).

Table 1 – Involuntary Part-time Employment of 15-24 year olds
Evolution between 2006 and 2012

	% in 2006	% in 2012	Evolution 2012/2006
AT	2,8	2,3	0,8
BE	7,9	5,6	0,7
CY	5,7	10,6	1,9
DE	5,1	2,7	0,5
DK	4,9	5,9	1,2
EE	1,5	1,7	1,1
ES	7,1	23,1	3,3
FI	8,0	8,4	1,0
FR	9,1	10,2	1,1
GR	6,3	12,6	2,0
HU	1,6	5,0	3,1
IE	2,4	15,6	6,6
IT	8,8	20,3	2,3
LT	1,8	2,8	1,5
LU	2,4	4,0	1,6
NL	4,4	6,4	1,5
PL	4,9	4,4	0,9
PT	4,1	9,2	2,2
RO	10,3	12,6	1,2
SE	14,7	16,6	1,1
SK	0,4	3,5	9,8
UK	4,5	10,8	2,4
Total	*6,1*	*8,8*	*1,5*

On the other hand, the data do not show such a convergence in involuntary temporary employment between the European Union countries or a rise in unpaid overtime, and nor do they show an increase in the share of young people in employment looking for alternative or additional jobs. Nevertheless, the situation varies considerably from one country to another. For example, involuntary temporary employment increased almost tenfold in Ireland, whereas it was almost halved in Germany (Table 2). The number of jobs involving unpaid overtime quadrupled in Luxembourg and almost doubled in Greece and Finland, whereas it fell by 50% or even more in Sweden and Austria. Finally, the number of jobs whose holders were searching for alternative employment increased by a factor of more than 1.5 in Portugal, while it fell by 50% in Germany.

Table 2 – Involuntary Temporary Employment of 15-24 year olds
Evolution between 2006 and 2012

	% in 2006	% in 2012	Evolution 2012/2006
AT	1,3	1,1	0,8
BE	16,1	18,3	1,1
CY	13,9	13,7	1,0
DE	4,0	2,5	0,6
DK	6,2	7,0	1,1
EE	2,2	2,4	1,1
ES	35,9	44,1	1,2
FI	18,9	17,9	0,9
FR	18,8	20,5	1,1
GR	10,4	10,7	1,0
HU	9,5	13,2	1,4
IE	1,1	10,2	9,4
IT	11,1	20,1	1,8
LT	5,4	3,5	0,6
LU	12,1	10,2	0,8
NL	8,1	7,6	0,9
PL	33,6	32,3	1,0
PT	33,1	40,2	1,2
RO	2,0	2,4	1,2
SE	25,3	24,2	1,0
SK	9,8	14,7	1,5
UK	2,6	4,8	1,8
Total	*12,6*	*12,4*	*1,0*

In this context, this chapter focus on involuntary part-time employment as well as involuntary temporary employment and their determinants, or at least their correlates, in 2012, five years since the crisis began. Unlike most studies of involuntary employment, we adopt a comparative perspective. We contrast and compare countries, very different European labour markets in terms of performance and institutions, yet sharing a recent increase in involuntary part-time work and for the majority of them some divergence in involuntary temporary employment.

2.2 Disentangling the determinants of working involuntary in a temporary or part-time job: highlighting the respective weight of conversion factors

A crucial distinction in the capability approach is the distinction between commodities (that is, goods, services, formal rights) on the one hand and functionings on the other hand. However, the relation between the good and the functionings to achieve certain beings and doings is influenced by conversion factors (Robeyns, 2003).

As mentioned by Bonvin and Farvaque (2006), put differently, the very point of the CA, is to focus on the conversion factors allowing to translate formal rights and formal freedoms into real rights and real freedoms, i.e. capabilities. Conversely, the CA also requires struggling against obstruction factors such as the lack of available jobs or infrastructure, that impede the appropriate conversion of commodities or any form of individual capital (be it income or competencies) into capabilities.

Conversion factors that could develop or impede real freedom young people enjoy choosing a job they have reason to value could be attributable to individual characteristics (lack of education, competences, gender, or experience on the labour market). Secondly contextual characteristics may play a role that may impede the appropriate conversion of commodities or any form of individual capital (be it income or competencies) into capabilities. The main purpose of this chapter is then to share ideas about the contextual characteristics of that may impact the involuntary part-time and temporary part-time:

Hence, knowing individual characteristics a person owns or can use is not enough for public action. Therefore we need to know much more about the person and the circumstances in which she is living and disentangling the determinants of working involuntary in a temporary or part-time job.

Multi-level models have been the subject of renewed interest since the development of large international databases. These models are useful when individuals are ‘nested’ into higher level structures. In our study, individuals are ‘nested’ in countries, each country being characterized by specific national institutions but also by specific economic trends (especially in the crisis). Multi-level models offer an interesting framework enabling both individual and contextual determinants of an observed event to be taken into account.

3. Data and methods

As stressed in the previous part of the chapter, the issue at stake is to shed some light on involuntary part-time employment as well as involuntary temporary employment and their determinants, or at least their correlates, in 2012, five years since the crisis began. We adopt a comparative perspective. We contrast and compare countries.

The most appropriate way of analyzing it is through a multilevel the most appropriate way of analyzing it is through a multilevel model (Goldstein, 2003; Rabe-Hesketh and Skrondal, 2005). As is well known, multilevel approaches are particularly appropriate for measuring country-level or regional-level variation in relation to individual-level variation and to control for country-level or regional-level influences. In our case, by taking a multilevel approach, we are able to ask whether unvoluntary part-time young workers or involuntary temporary young workers among people across Europe reflects different individual characteristics in different countries, whether it reflects the different contextual characteristics in each country or whether it is a mixture of these two features.

3.1 The LFS Survey

The empirical analysis is based on the European Labour Force Survey (EU-LFS). It consists on a cross-sectional and household sample survey, coordinated by Eurostat. The database comprises observations on labour market participation and persons outside the labour force. The EU-LFS is the largest European household sample survey, providing quarterly and annual data on labour participation of people aged 15 and over and on persons outside the labour force. It covers residents in private households according to labour status : employment, unemployment, inactivity.

The EU-LFS currently covers 33 (participating) countries, providing Eurostat with data from national labour force surveys: the 28 Member States of the European Union, three EFTA countries (Iceland, Norway and Switzerland), and two EU candidate countries, i.e. the Former Yugoslav Republic of Macedonia and Turkey. Each quarter some 1.8 million interviews are conducted throughout the participating countries to obtain statistical information for some 100 variables. The sampling rates in the various countries vary between 0.2 % and 3.3 %.

The LFS is an important source of information on the situation and trends in the EU labour market. Most notably, it forms the basis for the monthly harmonised unemployment rate, one of Eurostat's key short-term indicators. Due to the diversity of information and the large sample size the EU-LFS is also an important source for other European statistics, e.g. education statistics or regional statistics.3

The survey covers the entire population living in private households and excludes those in collective households such as boarding houses, halls of residence and hospitals. Employed population consists of those persons who during the reference week did any work for pay or

[3] More information on the EU-LFS is available at the following address: http://epp.eurostat.ec.europa.eu/portal/page/portal/employment_unemployment_lfs/introduction

profit for at least one hour, or were not working but had jobs from which they were temporarily absent.

The first indicator considered here refers to involuntary part-time workers: the share of young people aged 15-24, who are in part-time work, wish to work more and are available to do so. The second indicator considered here refers to involuntary part-time workers: the share of young people ages 15-24, who would prefer to work full-time but has been unable to obtain full-time employment. The percentage of young employees working involuntary in a temporary or part-time job can be directly measured using the variables temperas or ftptreas of the LFS database.

The perspective outlined above supposes, on the one hand, to include into the LFS database national information related to environmental conversion factors alongside with the individual ones. For this purpose, the ALM database from Eurostat (Eurostat, 2012) is first used to complement EU-LFS database and integrate Active Labour spending of each country. Besides, the national unemployment rate (Eurostat 2009) and early school leaver rate published by Eurostat is also included as additional information of LFS. Besides, GDP is also included. Second it entails adopting econometric models that would allow disentangling individual and environmental conversion factors which influence the various involuntary part-time and temporary employment identified in the previous section. This will require the use of multilevel models (Snijders 1999, Bressoux 2008).

3.2 Estimation Strategy: multilevel modelling

Multilevel models are used to specify the effect of social context and explore the link between the macro and micro levels of social phenomena. The analysis is based on the assumption that people are nested within regions nested within countries and the analysis provides fixed effects that are assumed to be homogeneous across countries and random effects capturing differences between countries.

When individuals are nested within higher units, we can assume that two members of the same unit (here, country and region) are more likely to 'resemble' each other than two individuals randomly drawn from the sample. In other words, an unobservable cluster-effect may affect practices. Multilevel models are appropriate tools to explore hierarchical datasets (Snijders and Bosker, 1999). Traditional regression models seek to explain the variation of the response variable by using predictors that describe differences in mean behaviour. Multilevel models have the same goal, but they also take advantage of the nested structure of the data to provide information on residual variance (variation that remains unexplained by predictors). Information derived from the model allows to partition this residual variation in two components: an individual and a cluster component. In other words, multilevel models allow decomposing the overall residual variance into a 'within-variance' component (which reflects variation among individuals) and a 'between-variance' components (which reflects variation among clusters).

Three-level logistic multilevel models are implemented on a step-by-step basis. First, an empty multilevel model is run. This model does not contain any explanatory variable but just take into account the country and region clustering. It is implemented to make a baseline assessment of variance components: with this model, it is possible to decompose the variability of the propensity to be in an involuntary part-time job, or involuntary temporary job, into three parts: one which is accounted for by the country-level, one which is accounted for by the region-level, and the other which is accounted for by the individual-level. Then individual and contextual predictors are successively added to the model.

Variables at the individual level are the following: age (15-19 years old, 20-24 being the reference category), educational level (ISCED-low, ISCED-high, ISCED-medium being the reference category). At the NUTS1 level, GDP per capita in purchasing power standards is used. GDP, and thus GDP per capita, provides a measure of the total economic activity in a region. It is used to compare the degree of economic development of regions. The PPS (purchasing power standard) is an artificial currency that takes into account differences in national price levels. This unit allows meaningful volume comparisons of economic indicators over countries. GDP per capita in PPS, ALMP expenditures, youth unemployment rate and early school leaver (ESL) rate are introduced as country variables. The European Union defines early school leavers as people aged 18-24 who have only lower secondary education or less and are no longer in education or training.[4].

4. Results

The aim of this section is to describe, contrast and compare countries regarding involuntary part-time and temporary part-time in 2012 exploiting LFS Survey. Our aim is to answer three specific questions (1) Are there substantial differences between countries and regions? (2) What is the role of individual and contextual factors? (3) What is the relative contribution of the business cycle, employment policies, educational systems and structural factors to the development of part-time employment and temporary employment?

4.1 Involuntary temporary and part-time jobs in 2012 : a statistical overview

Involuntary temporary employment

At the European level, involuntary temporary contracts, has seen little change since 2006 among young workers. In 2012, young people with involuntary temporary employment contracts accounted for 13% of all young employees, with a slight variation from 12,5 % among men to 13.6% among women.

[4] Early school leavers are therefore those who have only achieved pre-primary, primary, lower secondary or a short upper secondary education of less than 2 years.

In 2012, the figures vary significantly across the European Member-States. Indeed, the situation differs from country to country as a result of historical differences in labour market structures and regulation. Spain and Portugal had the highest involuntary temporary rates, at 42,7% and 39,6% respectively for the young men and 46,3% and 41,3% for the young women. Poland exceeds the fateful 30% mark. Much lower incidences are observed in a range of other countries including the Netherlands, Denmark, the United Kingdom. Finally, Austria (1,1%), Germany (2,6%) and Romania (2,2%) where among the good performers (see Figure 3-6 and Appendix 1).

As a matter of fact, having a high-skill level degree "protect" from having an involuntary temporary employment for men while it is the contrary for women, at the European level. Women are somewhat more likely to be in involuntary temporary employment with a high-skill level as those with a low-skill level. This observation can be made for each of the States, except for Cyprius, Hungary and Slovakia,.

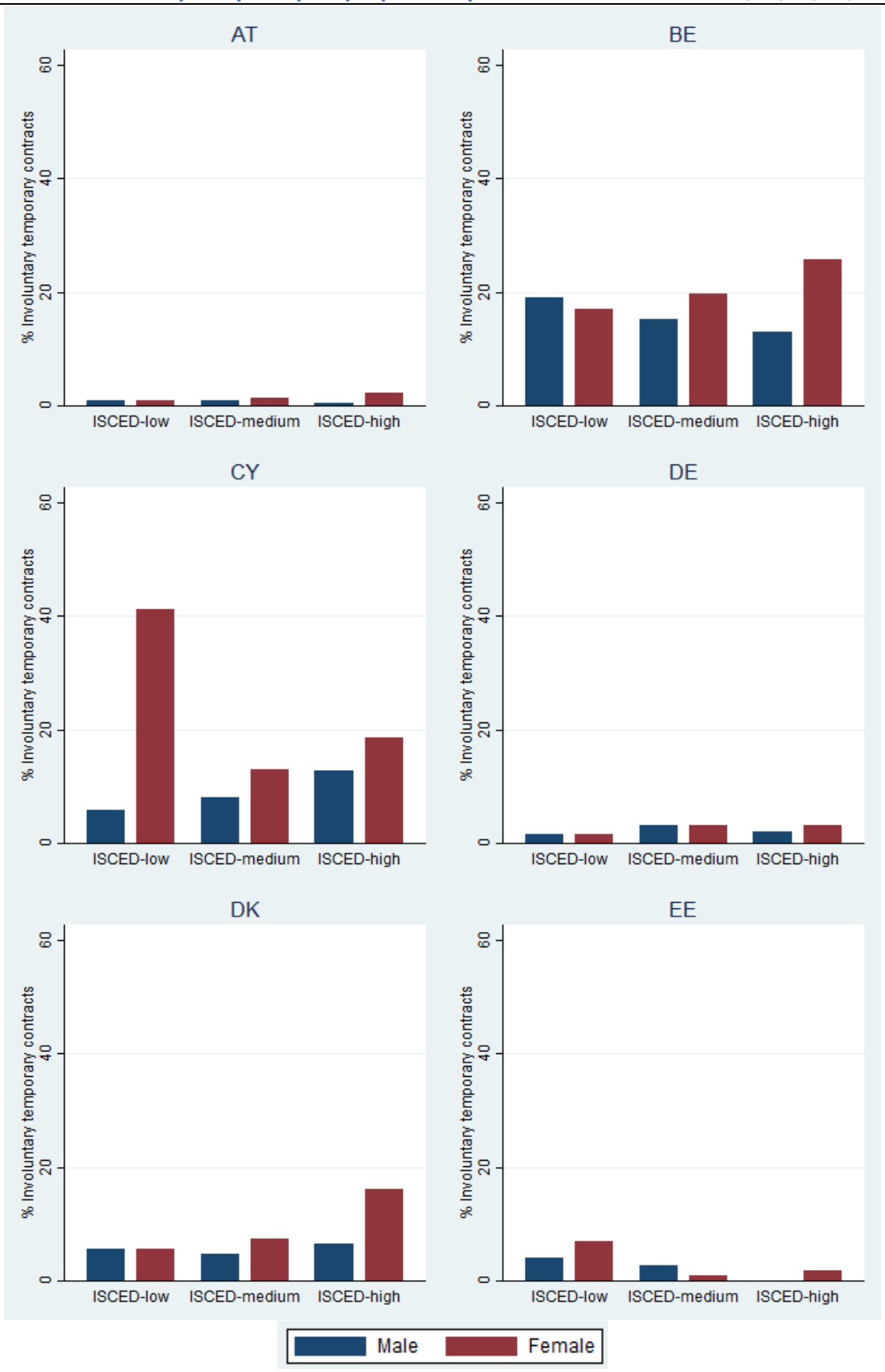
Involuntary part-time employment

In 2012, the incidence of involuntary part-time work in Europe is greatest than six years ago. Figure 7-10 present for each country under examination the rate of youth part-time workers broken down by gender and by educational attainment. However, the situation differs from country to country. Spain (16,4%), Ireland (14,9%) and Romania (13,8%) had the highest involuntary part-time rates for men. As for women, Italy (31,2%), Spain (30,8%) and Sweden (23,1%) had the highest part-time rates for women. On the other hand, in Austria, Germany, Estonia, Denmark, Luxembourg, Poland and Slovakia, this rate is around no more than 5 percent.

At the European level, data show that low-skilled young people generally experience higher level of involuntary part-time compared to the high-skilled level, but we don’t observe an actual difference across the three groups of education level. At the European level this gap is 1.1 percentage points for women and 0.1 point for men between low-skill level and high-skill level (Appendix 1).

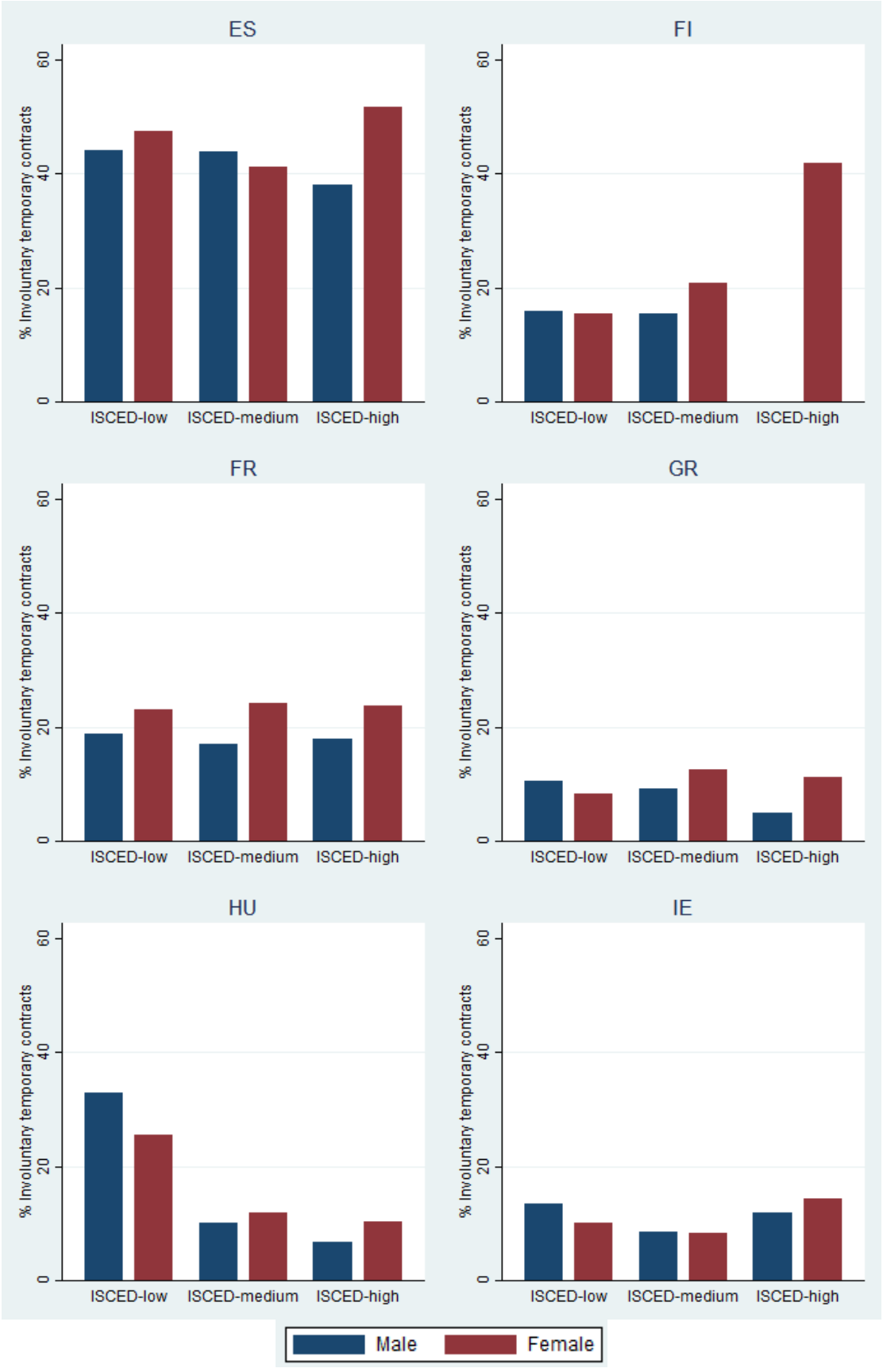
By contrast the involuntary part-time workforce is predominantly female for all EU countries under examination, except Romania. The share of young women in involuntary part-time employment is on average twice that of the young men. This overall picture conceals significant national variability, an issue examined later in the chapter.

Figure 3 - Involuntary temporary employment by sex and ISCED-level in AT,BE,CY;DE,DK,EE



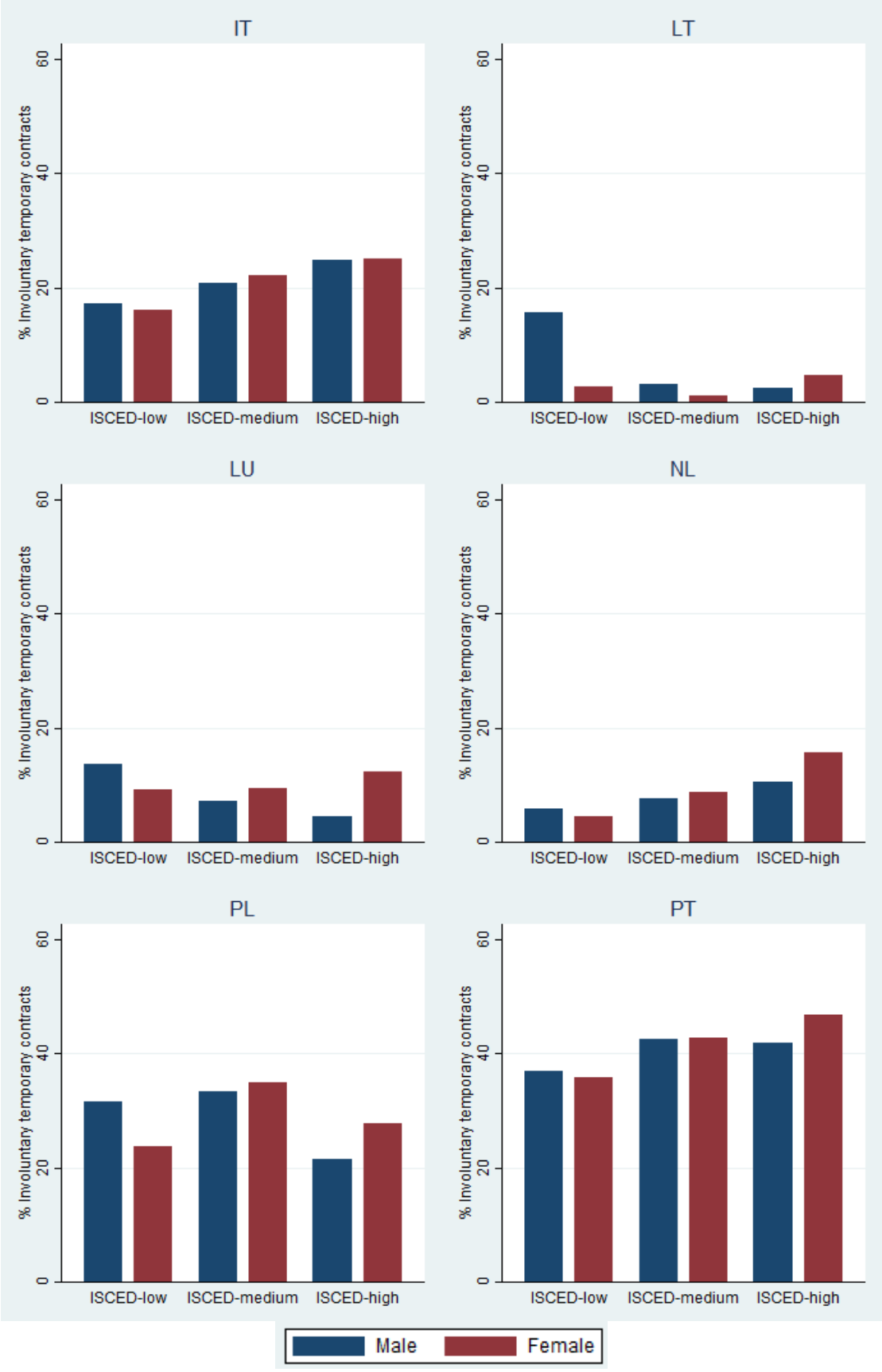
Source : EU-LFS 2012, Cereq calculations- 15-24 years old

Figure 4 - Involuntary temporary employment by sex and ISCED-level ES, FI, FR, GR, HU, IE



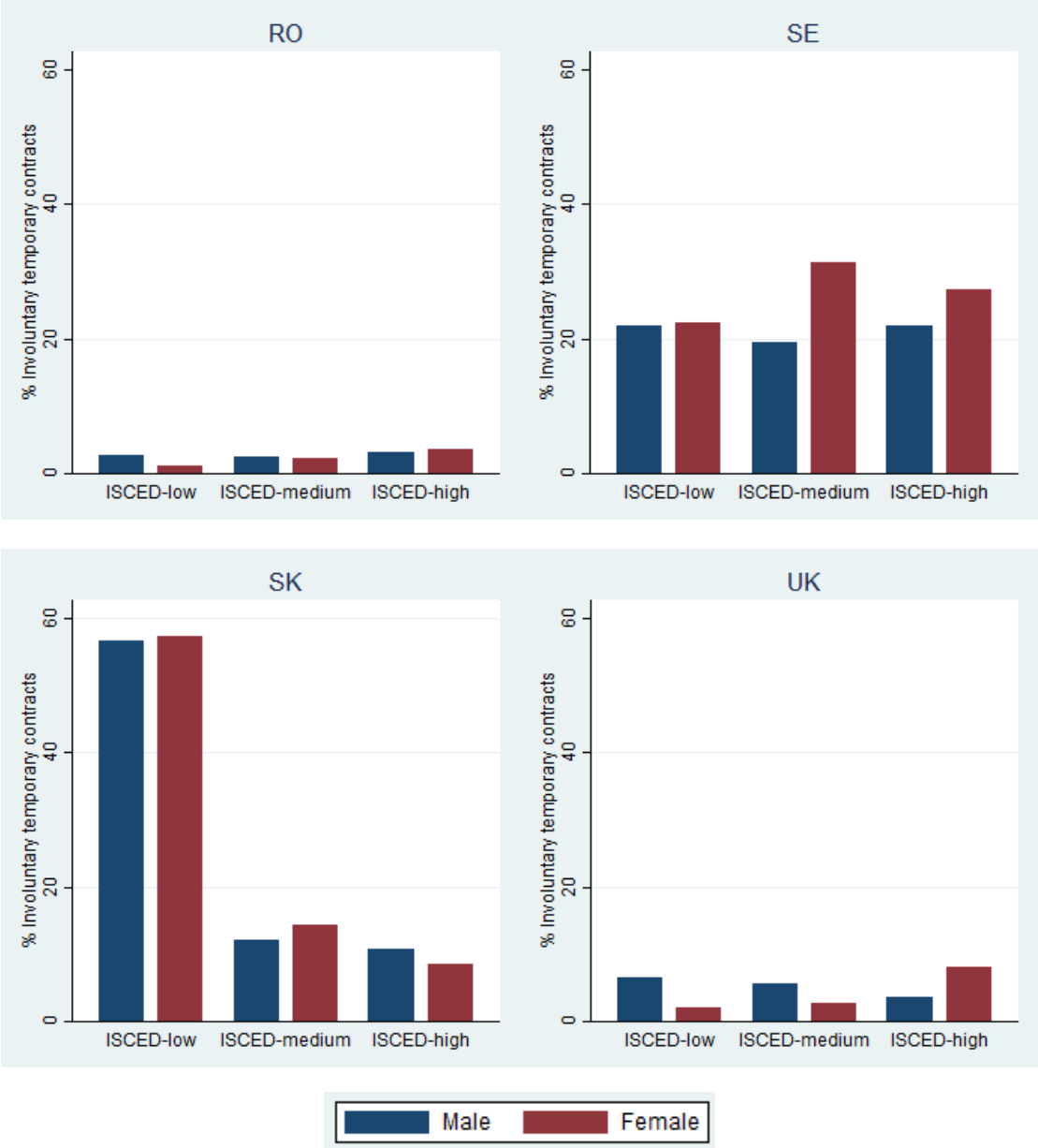
Source : EU-LFS 2012, Cereq calculations - 15-24 years old

Figure 5 - Involuntary temporary employment by sex and ISCED-level in IT,LT,LU,NL,PL,PT



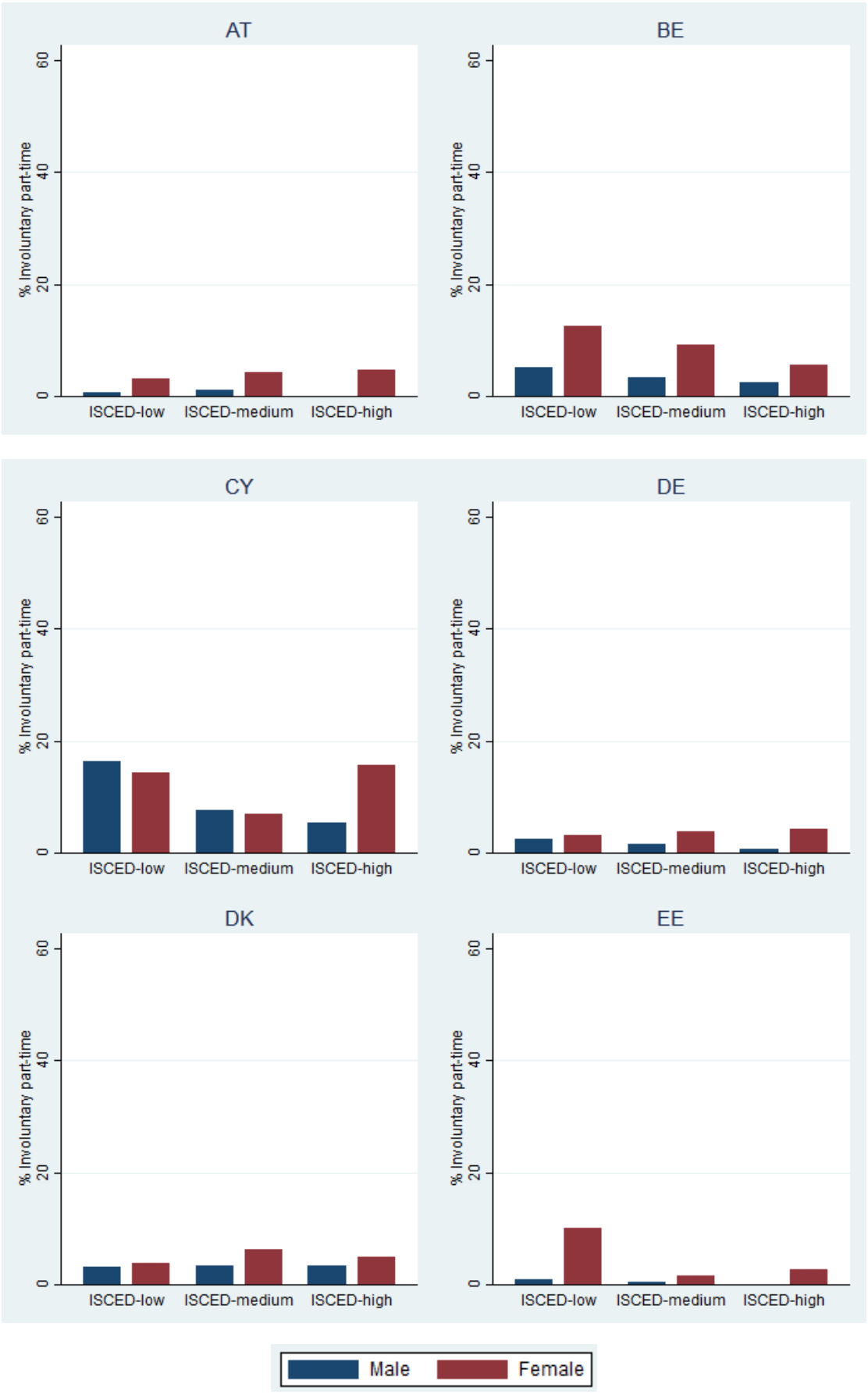
Source : EU-LFS 2012, Cereq calculations - 15-24 years old

Figure 6 - Involuntary temporary employment by sex and ISCED-level in RO, SE, SK, UK



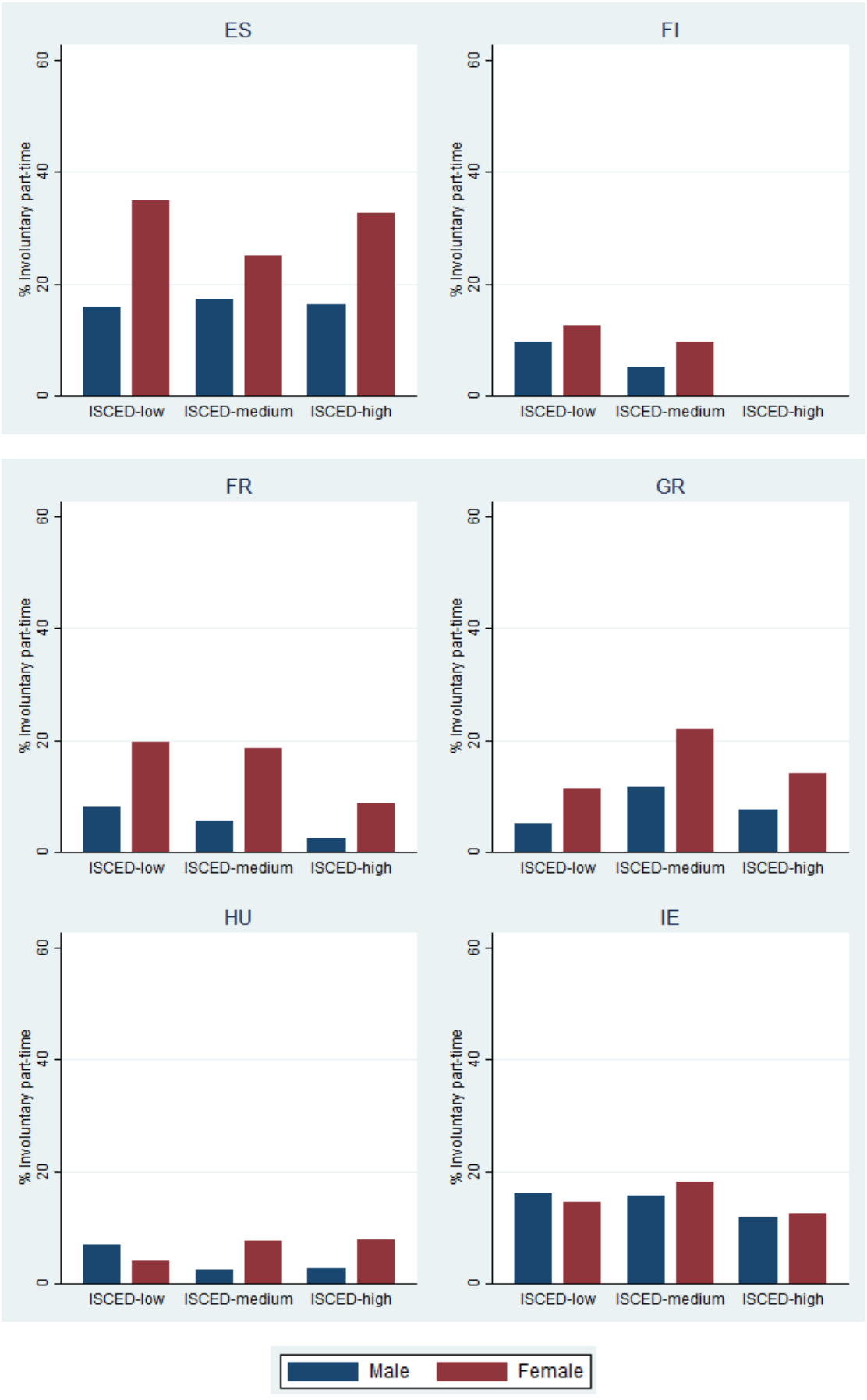
Source : EU-LFS 2012, Cereq calculations - 15-24 years old

Figure 7 - Involuntary part-time employment by sex and ISCED-level in AT,BE,CY;DE,DK,EE



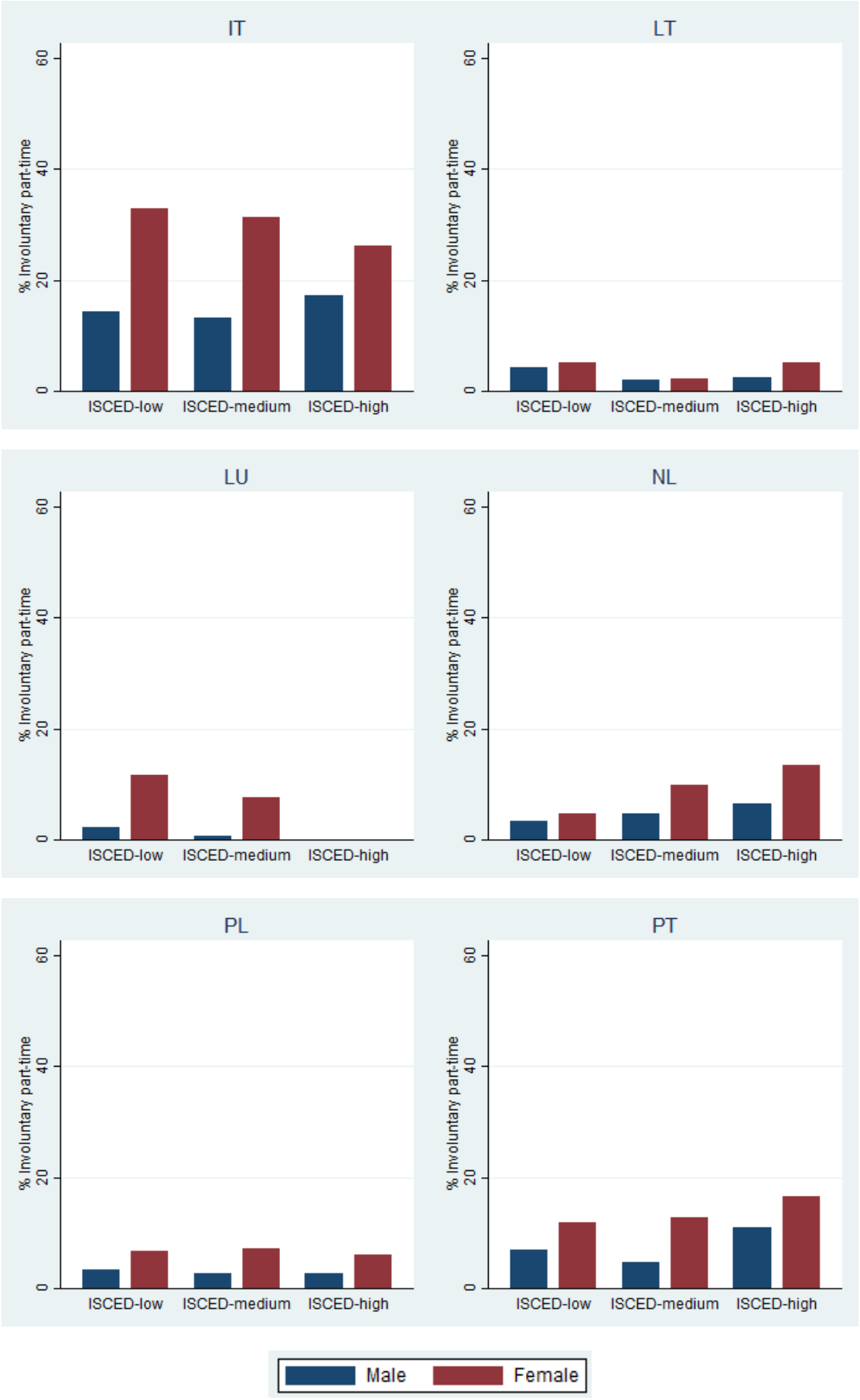
Source: EU-LFS 2012– Cereq calculations - 15-24 years old

Figure 8 - Involuntary part-time employment by sex and ISCED-level ES, FI, FR, GR, HU, IE



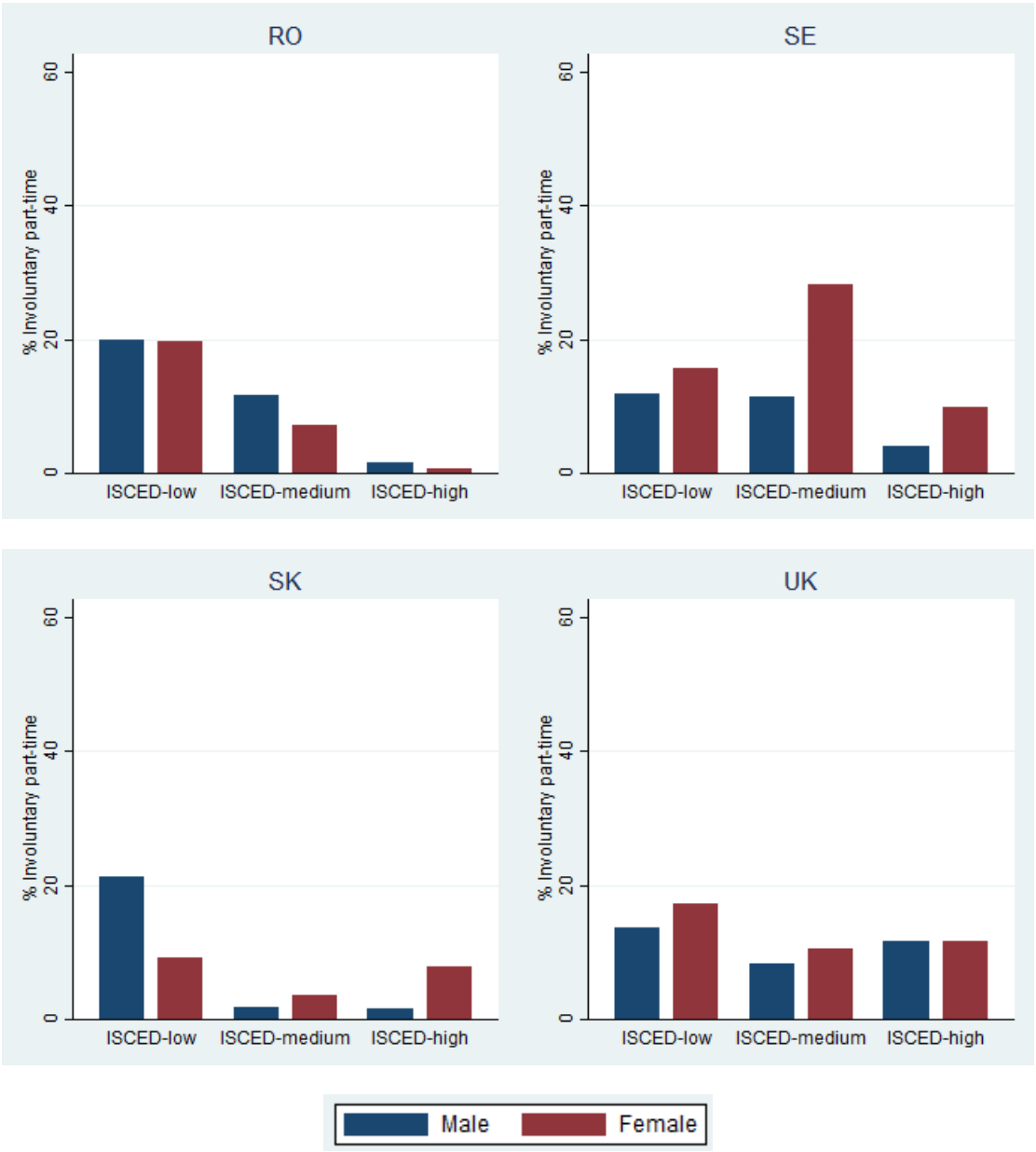
Source: EU-LFS 2012 – Cereq calculations - 15-24 years old

Figure 9 - Involuntary Part-time employment by sex and ISCED-level in IT,LT,LU,NL,PL,PT



Source EU-LFS 2012: Céreq - calculations

Figure10 - Involuntary part-time employment by sex and ISCED-level in RO, SE, SK, UK



Source : EU-LFS 2012, Cereq calculations - 15-24 years old

4.2 Individual and contextual determinants of involuntary temporary employment

The results presented in this section stem from multilevel models presented in table 3. The models uncover the relationship between the variables of interest, involuntary temporary work, and the conversion factors that may influence the propensity to be in an involuntary temporary job. The issue of individual conversion factors relates to the gender variable, age and the level of education. Social conversion factors comprise ALMP expenditures, youth unemployment rate and early school leaver (ESL) rate.

What we learn from these models is first the proportion of the observed response variation that lies at each level of the model hierarchy, namely the country level, NUTS1 level and individual level. Calculating variance partition coefficients (VPC) allow to establish the relative importance of countries, NUTS1 and individuals as sources of variation the propensity to be in an involuntary temporary job. 27% of the variation in the propensity to be in an involuntary temporary job lies between countries, 2% lies within countries between NUTS1 and 71% lies within NUTS1 between individuals. Thus, there is important variation in the propensity to be in an involuntary temporary job across countries, but modest variations within countries between regions; most of the variation is seen across individuals.

A very modest decline in the country variance is observed when adding individual variables to the model. This small decline indicates that country effects are not produced by composition effects in terms of sex, age and educational level. Being a woman is associated with a higher propensity to be in an involuntary temporary job. Compared to young people aged 20-24, 15-19 years old have a lower propensity to be in an involuntary temporary job. Highly-educated youngsters have a lower propensity to be in an involuntary temporary job, compared to people with an ISCED-medium level. No significant differences are observed between ISCED-low and ISCED-medium levels.

Adding NUTS1 and country variables decreased notably the country variance. Individual characteristics being controlled for, country GDP and early-school-leavers rate have no effect on the propensity to be in an involuntary temporary job. On the other hand, this propensity increases with the share of GDP dedicated to active labour market policy expenditures.

The last model allows the educational effect to vary between countries. What the previous models have implicitly assumed is that the effect of educational level is the same across all countries. This last model indicates that the effect of the educational level varies between countries. This fact should be investigated in depth in future research.

Table 3: Logistic Multilevel Model – Involuntary temporary employment

	Model 1		Model 2		Model 3		Model 4	
	Log-odds	P-value	Log-odds	P-value	Log-odds	P-value	Log-odds	P-value
Intercept	-2,21	0,000	-2,28	0,000	-2,9	0,000	-2,9	0,048
Individual level								
Female (ref. male)			0,25	0,000	0,27	0,000	0,27	0,000
Age 15-19 (ref. 20-24)			-0,31	0,000	-0,32	0,000	-0,29	0,000
ISCED-low (ref. ISCED-medium)			0,03	0,197	0,016	0,502	0,02	0,837
ISCED-high (ref. ISCED-medium)			-0,006	0,773	-0,09	0,001	0,04	0,618
Contextual level								
GDP NUTS1					-0,03	0,044	-0,03	0,000
GDP country					-0,05	0,300	-0,05	0,335
ESL rate					0,005	0,917	0,003	0,953
Active LM expenditures					3,48	0,001	3,42	0,002
Unemployment rate 15-24					0,04	0,055	-0,03	0,000
Random-effects Parameters								
Random intercept								
Variante NUTS1	0,09		0,09		0,05		0,05	
Variance country	1,25		1,23		0,63		0,65	
VPC NUTS1	2%		2%		1%			
VPC country	27%		27%		16%			
Random slope								
Variance country, ISCED-low							0,2	
Variance country, ISCED-high							0,06	

4.3 Individual and contextual determinants of involuntary part-time employment

The results presented in this section stem from multilevel models presented in table 4. The models uncover the relationship between the variables of interest, involuntary part-time work, and the conversion factors that may influence the propensity to be in an involuntary part-time job. The issue of individual conversion factors relates to the gender variable, age and the level of education. Social conversion factors comprise ALMP expenditures, youth unemployment rate and early school leaver (ESL) rate.

Calculating variance partition coefficients (VPC) allow us to establish the relative importance of countries, NUTS1 and individuals as sources of variation the propensity to be in an involuntary part-time job. 14% of the variation in the propensity to be in an involuntary part-time job lies between countries, 4% lies within countries between NUTS1 and 82% lies within NUTS1 between individuals. Thus, there is less variation in the propensity to be in an involuntary part-time job across countries, than in the propensity to be in a involuntary temporary job.

No decline in the country variance is observed when adding individual variables to the model. This indicates that country effects are not produced by composition effects in terms of sex, age and educational level. Being a woman is associated with a higher propensity to be in an involuntary part-time job. Compared to young people aged 20-24, 15-19 years old have a lower propensity to be in an involuntary part-time job. Highly-educated youngsters have a lower propensity to be in an involuntary part-time job, compared to people with an ISCED-medium level. No significant differences are observed between ISCED-low and ISCED-medium levels.

Adding NUTS1 and country variables decreased notably the country variance. Interestingly, country determinants for involuntary part-time jobs and involuntary temporary job differ. Individual characteristics being controlled for, living in a country with a higher GDP increases the propensity to be in an involuntary part-time job. This propensity also increases with the early-school-leavers rate and with the unemployment rate of young people. No effect is observed for active labour market policy expenditures.

The last model allows the educational effect to vary between countries. What the previous models have implicitly assumed is that the effect of educational level is the same across all countries. This last model indicates that the effect of the educational level varies between countries, especially for low ISCED levels. This fact should be investigated in depth in future research.

Table 4- Logistic Multilevel Model – Involuntary part-time employment

	Model 1		Model 2		Model 3		Model 4	
	Log-odds	P-value	Log-odds	P-value	Log-odds	P-value	Log-odds	P-value
Intercept	-2,59	0,000	-2,92	0,000	-5,33	0,000	-5,53	0,000
Individual level								
Female (ref. male)			0,83	0,000	0,94	0,000	0,94	0,000
Age 15-19 (ref. 20-24)			-0,31	0,000	-0,20	0,404	-0,17	0,000
ISCED-low (ref. ISCED-medium)			0,03	0,258	0,02	0,000	0,09	0,438
ISCED-high (ref. ISCED-medium)			-0,45	0,000	-0,53	0,000	-0,327	0,058
Contextual level								
GDP NUTS1					-0,02	0,003	-0,02	0,010
GDP country					0,05	0,000	0,06	0,046
ESL rate					0,05	0,006	0,03	0,249
Active LM expenditures					0,09	0,847	0,18	0,771
Unemployment rate 15-24					0,03	0,000	0,04	0,001
Random-effects Parameters								
Random intercept								
Variante NUTS1	0,15		0,15		0,14		0,13	
Variance country	0,54		0,54		0,17		0,18	
VPC NUTS1	4%		4%		4%			
VPC country	14%		14%		5%			
Random slope								
Variance country, ISCED-low							0,16	
Variance country, ISCED-high							0,36	

5. Discussion and conclusion

Besides individual effects, there are also important contextual effects on the propensity to be in an involuntary temporary job or in an involuntary part-time job. Biggest effects are observed at the country level. 14% of the variation in the propensity to be in an involuntary part-time job lies between countries, and 27% of the variation in the propensity to be in an involuntary temporary job lies between countries. Interestingly, country determinants for involuntary part-time jobs and involuntary temporary job differ. For what concerns the propensity to be in an involuntary part-time job, it increases with the country GDP, individual characteristics being controlled for. This propensity also increases with the early-school-leavers rate and with the unemployment rate of young people. No effect is observed for active labour market policy expenditures. Concerning the propensity to be in an involuntary temporary job, country GDP and early-school-leavers rate have no effect on it. On the other hand, this propensity increases with the share of GDP dedicated to active labour market policy expenditures.

Activation policies have become a matter of growing importance in response to the converging pressure of economic globalization and the political “modernization” of social welfare. Thus, employment policies have undergone strong reforms since the beginning of the 1990’s in all developed countries. The main lines of these reforms relied on a theoretical paradigm resulting from the unemployment economic theory in which income support policies must be made more incentive to job search while schemes which result in lower labour costs are developed (including cuts in social security contributions) in order to stimulate employment, as well as job search or training schemes for the unemployed. This set of reforms usually summed up by the word “activation” plays out differently regarding the specificities of national institutions and policies. However it has generally resulted in a reduced generosity of unemployment insurance, the development of social contributions related to employment (negative income tax), the strengthening of employment services (often involving institutional reforms meant to improve efficiency), the incitation and even obligation to accept an active program of employment policy after a certain unemployment period (Erhel, 2008). This shift from demand-side policies to supply-side policies is determinant. It no longer comes to insuring macroeconomic conditions favourable to the capability for work, but to acting on work offers, assessing the individuals looking for a job and providing them with the measures considered as the most suitable to their reintegration into the labour market.

The inclusion of young people from disadvantaged backgrounds has become a priority on the agenda of the European Union. In this perspective, the most vulnerable groups (namely more particularly the unskilled youth, immigrants, etc.) are those who are the most targeted by activation logics. Young benefit recipients should be encouraged (via making work pay programmes) or constrained (via workfare schemes) to quickly reintegrate into the labour market (Bonvin and Orton, 2008), whether or not it is a voluntary choice. The impact of

ALMP on involuntary temporary work is in line with the desire to raise employment rates, which lies at the heart of the European strategy (Salais, 2006): it sees work as the ideal functioning, without taking account of work and employment quality or the person's specific circumstances (i.e. his or her physical, psychological or other ability to work, to balance work and family life, etc.). This perspective therefore views activation from the angle of adapting to labour market requirements and issues related to quality of life or work are left aside. Hence, active labour market expenditures fail to be viewed as capability-friendly as they increases the propensity of young workers to be in involuntary temporary jobs.

Appendix 1 –Involuntary part-time or temporary job by Country

Involontary temporary contract in 2012

	Male				Female			
	ISCED-low	ISCED-medium	ISCED-high	*TOTAL*	ISCED-low	ISCED-medium	ISCED-high	*TOTAL*
AT	0.8	1,0	0.4	*0.9*	0.9	1.4	2.3	*1.3*
BE	19,0	15.2	12.9	*15.6*	16.9	19.7	25.6	*21.4*
CY	5.8	8,0	12.8	*8.3*	41.2	13,0	18.5	*18.5*
DE	1.5	3.1	2.1	*2.5*	1.6	3.1	3.1	*2.7*
DK	5.6	4.6	6.5	*5.2*	5.5	7.4	16,0	*7.4*
EE	4.1	2.7	0,0	*2.9*	6.9	0.8	1.7	*1.8*
ES	44,0	43.8	37.9	*42.7*	47.4	41.1	51.6	*46.3*
FI	15.8	15.3	0,0	*15.3*	15.4	20.7	41.8	*20.2*
FR	18.7	17.1	17.8	*17.6*	23.1	24.2	23.6	*23.9*
GR	10.6	9.1	5,0	*9.1*	8.3	12.5	11.2	*11.4*
HU	32.9	10.1	6.6	*13.6*	25.4	11.8	10.2	*12.8*
IE	13.4	8.6	11.8	*9.9*	10.1	8.4	14.3	*10.5*
IT	17.2	20.8	24.9	*19.8*	16.2	22,0	25.1	*21.1*
LT	15.7	3.1	2.4	*4.5*	2.7	1.1	4.7	*2.4*
LU	13.7	7.2	4.4	*9.7*	9,0	9.4	12.3	*10,0*
NL	5.8	7.6	10.6	*7,0*	4.4	8.8	15.7	*8.1*
PL	31.6	33.3	21.5	*32.1*	23.7	34.9	27.7	*32.5*
PT	37,0	42.4	41.8	*39.6*	35.8	42.7	46.8	*41.4*
RO	2.6	2.5	3,0	*2.5*	1.1	2.2	3.5	*2,0*
SE	21.9	19.4	21.9	*20.1*	22.3	31.2	27.4	*28.9*
SK	56.5	12.1	10.7	*14.5*	57.3	14.4	8.6	*14.9*
UK	6.5	5.5	3.6	*5.3*	1.9	2.7	8.1	*3.9*
Total	*12.4*	*12.5*	*13.4*	*12.5*	*10.6*	*12.9*	*19.1*	*13.6*

Source: EU-LFS 2012 – Cereq calculations – 15-24 years old

Involontary part-time contract in 2012

	Male				Female			
	ISCED-low	ISCED-medium	ISCED-high	*TOTAL*	ISCED-low	ISCED-medium	ISCED-high	*TOTAL*
AT	0.7	1,0	0,0	*0.9*	3,0	4.3	4.6	*4,0*
BE	5,0	3.2	2.5	*3.5*	12.6	9.1	5.5	*8.4*
CY	16.3	7.6	5.3	*9,0*	14.3	6.9	15.6	*11.8*
DE	2.5	1.5	0.7	*1.8*	3.2	3.8	4.2	*3.7*
DK	3.1	3.3	3.4	*3.2*	3.7	6.3	4.9	*4.9*
EE	0.8	0.5	0,0	*0.5*	10,0	1.6	2.5	*2.9*
ES	15.9	17.2	16.4	*16.4*	35,0	25.1	32.7	*30.3*
FI	9.6	5.2	0,0	*6.3*	12.4	9.7	0,0	*10,0*
FR	7.9	5.5	2.5	*5.4*	19.7	18.6	8.6	*15.7*
GR	5.1	11.5	7.5	*9.2*	11.3	22,0	14.1	*18,0*
HU	7,0	2.4	2.7	*3.2*	4.1	7.6	7.7	*7.3*
IE	16,0	15.6	11.9	*14.9*	14.6	18,0	12.6	*15.8*
IT	14.2	13.2	17.2	*13.6*	32.9	31.3	26.3	*31.2*
LT	4.2	1.9	2.3	*2.3*	5.2	2.2	5.2	*3.4*
LU	2.2	0.6	0,0	*1.2*	11.5	7.5	0,0	*6.8*
NL	3.3	4.6	6.4	*4.2*	4.8	9.9	13.3	*8.4*
PL	3.3	2.7	2.7	*2.8*	6.6	7,0	6,0	*6.8*
PT	6.8	4.6	10.9	*6.2*	11.8	12.7	16.6	*13.2*
RO	20,0	11.6	1.5	*13.8*	19.6	7.2	0.7	*10.3*
SE	11.9	11.3	4,0	*10.7*	15.6	28.1	9.7	*23.1*
SK	21.1	1.8	1.5	*2.9*	9.2	3.6	7.9	*4.4*
UK	13.7	8.2	11.5	*9.7*	17.3	10.5	11.5	*11.4*
Total	*7.5*	*5.8*	*6.7*	*6.4*	*11.7*	*11.7*	*11.2*	*11.6*

Source: EU-LFS 2012 – Cereq calculations- 15-24 years old

Appendix 2 - Eurostat Labour Market Policy (LMP)

LMP statistics are an important source of data for monitoring the European Employment Strategy (EES) which advocates active and preventive labour market measures. Labour market interventions can be described as "Public interventions in the labour market aimed at reaching its efficient functioning and correcting disequilibria and which can be distinguished from other general employment policy interventions in that they act selectively to favour particular groups in the labour market". Public interventions refer to actions taken by general government in this respect, which involve expenditure, either in the form of actual disbursements or of foregone revenue (reductions in taxes, social contributions or other charges normally payable).

The scope of LMP statistics is limited to interventions that are explicitly targeted at groups of persons with difficulties in the labour market: the unemployed, persons employed but at risk of involuntary job loss and persons currently considered as inactive persons but who would like to enter the labour market. The unit of observation is the labour market intervention and data on the expenditure and participants for each intervention are collected annually from administrative sources in each country. In addition extensive qualitative information describing the details of each intervention is collected. LMP interventions are grouped into three main types – LMP services, LMP measures and LMP supports –and then further classified into nine detailed categories according to the type of action.

Category 1: Labour market services: they cover all services and activities of the Public Employment Services (PES) together with any other publicly funded services for jobseekers. LMP services cover all services and activities of the Public Employment Services (PES) together with any other publicly funded services for jobseekers. Services include the provision of information and guidance about jobs, training and other opportunities that are available and advice on how to get a job (e.g. assistance with preparing CVs, interview techniques, etc.)

LMP measures cover interventions that provide temporary support for groups that are disadvantaged in the labour market and which aim at 'activating' the unemployed, i.e. they require participants to take part in some activity, in addition to or instead of their regular job-search, that aims to broaden their skills or experience of work and therefore improve their chance of finding a regular job in future. Measures can also aim at helping people move from involuntary inactivity into employment or to maintaining the jobs of persons threatened by unemployment.

Category 2: Training;

Category 3: Job rotation and job sharing

Category 4: Employment incentives

Category 5: Supported employment and rehabilitation

Category 6: Direct job creation

Category 7: Start-up incentives

LMP supports cover financial assistance that aims to compensate individuals for loss of wage or salary and support them during job-search (i.e. mostly unemployment benefits) or which facilitates early retirement. It includes

Category 8: Out-of-work income maintenance and support

Category 9: Early retirement

Source: Eurostat (2012) Labour Market Policy – expenditure and participants.

Appendix 3 –Involuntary part-time or temporary job by Nuts2

	Involuntary temporary contract	Involuntary part-time
AT1	0,8%	3,0%
AT2	1,3%	2,4%
AT3	1,2%	1,7%
BE1	13,0%	10,3%
BE2	15,3%	3,8%
BE3	25,3%	8,4%
CY0	13,4%	10,4%
DE1	2,1%	1,6%
DE2	2,1%	1,4%
DE3	3,1%	6,1%
DE4	3,4%	5,4%
DE5	3,1%	5,9%
DE6	0,7%	2,3%
DE7	3,1%	2,7%
DE8	2,0%	3,4%
DE9	2,8%	3,0%
DEA	2,6%	2,5%
DEB	2,5%	3,2%
DEC	2,4%	3,3%
DED	4,2%	5,2%
DEE	3,9%	4,1%
DEF	2,1%	2,7%
DEG	3,9%	4,1%
DK0	6,2%	4,0%
EE0	2,4%	1,7%
ES1	46,1%	20,1%
ES2	38,2%	22,0%
ES3	27,2%	17,7%
ES4	39,0%	22,2%
ES5	47,5%	25,0%
ES6	52,4%	23,9%
ES7	53,7%	31,3%
FI1	17,8%	8,2%
FI2	21,7%	12,2%
FR1	15,5%	7,0%
FR2	23,1%	10,7%
FR3	23,2%	12,3%
FR4	21,5%	11,7%
FR5	20,4%	9,3%
FR6	19,4%	14,2%
FR7	19,4%	7,6%
FR8	24,4%	12,3%

	Involuntary temporary contract	Involuntary part-time
GR1	12,8%	13,0%
GR2	9,5%	8,9%
GR3	7,5%	16,5%
GR4	11,7%	8,8%
HU1	4,2%	3,6%
HU2	10,2%	4,9%
HU3	22,4%	6,2%
IE0	10,2%	15,4%
ITC	16,4%	18,4%
ITF	23,5%	24,6%
ITG	27,3%	30,7%
ITH	19,8%	14,9%
ITI	20,5%	22,5%
LT0	3,5%	2,8%
LU0	9,8%	3,7%
NL0	7,6%	6,3%
PL1	32,0%	3,1%
PL2	28,3%	5,5%
PL3	31,7%	6,2%
PL4	33,6%	3,7%
PL5	31,5%	1,9%
PL6	38,3%	4,8%
PT1	40,4%	9,3%
PT2	35,2%	6,0%
PT3	49,2%	17,4%
RO1	2,1%	10,7%
RO2	3,5%	20,1%
RO3	2,4%	10,8%
RO4	0,4%	2,3%
SE1	21,8%	15,3%
SE2	25,4%	18,2%
SE3	28,3%	17,6%
SK0	14,7%	3,5%
UKC	9,6%	10,3%
UKD	3,3%	12,4%
UKE	4,6%	7,0%
UKF	4,5%	9,8%
UKG	3,4%	15,3%
UKH	2,4%	10,1%
UKI	4,1%	11,5%
UKJ	5,6%	8,0%
UKK	5,1%	10,5%
UKL	6,7%	14,3%
UKM	5,4%	8,6%
UKN	4,1%	11,9%

Appendix 4 - Incidence of Apprentices in the Youth population in EU 27 (2011)

	Incidence (%) of Apprentices in the Youth population (aged 15-29) in 2011
AT	High incidence
BE	Low incidence
CY	Low incidence
DE	High incidence
DK	High incidence
EE	Missing data
ES	Low incidence
FI	Low incidence
FR	Medium Incidence
GR	Low incidence
HU	Low incidence
IE	Low incidence
IT	Medium Incidence
LT	Missing data
LU	Medium Incidence
NL	Low incidence
PL	Medium Incidence
PT	Medium Incidence
RO	Missing data
SE	Low incidence
SK	Missing data
UK	Low incidence

Source: Apprenticeship and Traineeship Schemes in EU-27: Key Success Factors
http://ec.europa.eu/education/policy/vocational-policy/doc/alliance/apprentice-trainee-success-factors_en.pdf
NB: Data for CZ, EE, LT, MT, RO, SI and SK is missing; data for BG, CY, HU, IE and LV is only weakly reliable

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WORK PACKAGE 5: PARTICIPATORY RESEARCH

SocIEtY: SOCIAL INNOVATION - EMPOWERING THE YOUNG FOR THE COMMON GOOD

CHAPTER 4
JOB-RELATED TRAINING IN THE UK FROM 2000 TO 2014: INSIGHTS FROM THE LFS

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1. Executive Summary

Introduction

Encouraging skills development is considered essential for a modern workforce, especially when national and European strategies are dependent on economic growth fuelled by innovation. Given that the proportion of younger workers in the workforce fell between 2008 and 2009, this chapter explores whether young people are disadvantaged with respect to taking part in job training. The questions addressed are:

1. Has the relative disadvantage of young people (those below the age of 25) also been reflected in reduced training received by this age group, perhaps reflecting that those who entered work are in a precarious labour market situation, occupying low level positions and lacking permanent contracts?

2. Alternatively, have training rates increased as the number of labour market entrants decreased?

Data and Methods

To investigate the issue of how job-related training was provided to the UK employees during the period from 2000 to 2014, the relevant Quarterly Labour Force Survey (LFS) dataset were obtained from the UK Data Service. The key variable from the LFS related to job-related training is the response to the question:

> "*In the 3 months since [date] have you taken part in any education or any training connected with your job or a job that you might be able to do in the future?*"

The first step of the analysis was to look at the training patterns for different age groups (16-19, 20-24, 25-49, 50-59 and 60+) over the 15 year period, and then build statistical models to find out what factors might affect participation in training. Factors examined are those that might affect taking part in training, such as the level of qualification, ethnicity, sex, region, and full-time or part-time working. The statistical models were a series of independent multivariate logistic regression models to predict if someone took part in training in the last 13 weeks.

Statistical models were fitted to each of the 15 years over the period 2000 to 2014. The dependent variable for logistic regression in this case is whether or not the individual has taken part in training in the last 13 weeks. he independent variables in the model included highest qualification, industry sector, marital status and age. This analysis is conditional on the person having entered employment.

Models were fitted independently each year over the period 2000 to 2014, and the coefficients of the age groups tracked and assessed to determine if they differed significantly from year to year.

Results

- The age group with the highest proportion receiving training was the 16-19 years age group. The proportion receiving training then diminished across the age groups, with those in the 60+ years age group least likely to receive training.

- The young and middle-aged groups showed a similar general pattern of the proportion receiving training rising (2000-2002), falling (2002-2009) and rising (2009-2011) and falling (2011-2014) again. The pattern among the older age groups (50-59 and 60+) seems to differ from the younger age groups; the general trend was that the proportion receiving training increased during the period, with almost no large fluctuations.

- Factors associated with a higher likelihood of receiving training were: holding higher levels of qualification and spending longer in full-time education; working full-time; living in the North West, South West and Eastern areas in England; working in the public administration, education and health industries; working in a professional or associate professional occupation; working for a larger employer; having fewer dependent children in the household; and being unmarried. Those who had a disability in the past were more likely to have received training than those who had never had a disability.

- With regard to age groups, it is clear that the younger age groups are more likely to have undertaken training, even after controlling for other factors that might influence the likelihood of training.

- The fall in the age coefficient for the 16-19 year olds in 2009 was found to be significant at the 5% level. The coefficient of the 20 to 24 age group, although considerably lower, was not found to be significantly different from previous years.

- There is not much variation over time in the proportions with a permanent contract.

Discussion and Conclusion

From this exploratory study there is evidence that the proportion of young being trained has reduced during the Great Recession a d the group 16 to 19 is most affected. There is also some evidence that older workers are getting proportionately more training. The approach taken here has limitations as by only taking into account those in work, bias is possible in the estimates. But we argue that this will not matter much as we are tracking proportionate

effects over years. What would matter is if the proportion explained by the control variables change markedly from year to year but we find little evidence of this.

Thus, we conclude that there is evidence that the young are proportionately more disadvantaged than other groups regarding the likelihood of taking part in work related training. This does not seem to be explainable due to changes in contracts.

2. Abstract

This chapter explores whether young people are disadvantaged with respect to taking part in job training. Data from the UK Labour Force Survey is used to investigate how job-related training was provided to UK employees over the period 2000 to 2014. Evidence was found to show that rates of training have reduced over this period for those aged under 25 years; and proportionately more so than for older age groups. This effect is not explained by contract changes**.**

3. Introduction

There is some debate about the impact of the "great recession" of 2008 to 2012 on employment. It is clear that across Europe there was a sharp increase in unemployment, but as van Ours (2014) demonstrates, this was not uniform across age groups; the young were the most affected, older workers much less. Given that the proportion of younger workers in the workforce fell between 2008 and 2009, we explore in this chapter what has happened to training rates, asking:

1. Has the relative disadvantage of young people (those below the age of 25) also been reflected in reduced training received by this age group, perhaps reflecting that those who entered work are in a precarious labour market situation, occupying low level positions and lacking permanent contracts?

2. Alternatively, have training rates increased as the number of labour market entrants decreased?

Encouraging skills development is considered essential for a modern workforce, especially when national and European strategies are dependent on economic growth fuelled by innovation. The previous UK Coalition Government strategy 'Skills for Sustainable Growth' (BIS, 2010) recognised that skills have potential in driving social mobility, enabling people to play a fuller part in society and giving the UK competitive advantage. The strategy stressed the importance of learners undertaking training and qualifications that are of value to businesses, and funding has been prioritised to those with the lowest levels of skills (BIS, 2010). The European Commission has also placed emphasis on skills development and has in place a range of initiatives to support this[5]. For example, the 'Rethinking Education' initiative provides concrete advice as to how member countries can invest in skills for better socio-economic outcomes, and the 'European Skills Panorama' helps with the regular monitoring of skills anticipation and skills assessment at the national and European level.

[5] See for further details: http://ec.europa.eu/education/policy/strategic-framework/skills-development_en.htm

At both the EU and UK government level there is regular monitoring and forecasting of skills need and the skills already held by individuals. Cedefop have produced a skill demand and supply forecast for the European Union for the period 2010 to 2020 (Cedefop, 2012). The forecast predicts that there will be about 83 million job opportunities due to a slight net increase in expansion demand and because of replacement demand as people leave the labour force. Most of these 83 million jobs are anticipated to be at the higher and lower end of the labour market, and most will be in the service sector. The trend towards more skill-intensive jobs at all levels will persist, but as a result of weak employment growth the supply of individuals with a higher level of qualifications will exceed demand for these qualifications. As a result in the short term there will be an issue with the over qualifications of some members of the labour force (Cedefop, 2012). Looking at the skills held by adults (25-64 years) in the EU and uptake of skills development opportunities, the European Commission/EACEA/Eurydice (2015) shows that around 25% of adults have not completed formal education beyond lower secondary education, with Southern European countries most affected by low levels of attainment. Young adults have higher educational attainment compared to the older population. In terms of participation in lifelong learning, the Nordic countries have the highest participation rates in Europe.

At the UK level, the UK Commission for Employment and Skills have made key projections for the labour market for the period 2012 to 2022 (UKCES, 2014). They estimate that there will be around 1.9 million additional jobs by 2022. There will be a shift away from employment in public sector activities and a decline in the manufacturing sector. Following the wider European trends (Cedefop, 2012) the move towards more highly skilled and white collar occupations will continue, although there will still be growth in less skilled occupations too (UKCES, 2014). Analysis at the UK level has looked at the skills held by the workforce and the institutional support for skills development (Felstead et al., 2013; Bosworth, 2014). Between 2002 and 2012 the proportion of the adult population with high level qualifications (Level 4 and above) rose from 25.7% to 37.1%. Fewer people had no or low level formal qualifications (less than Level 2) with the proportion with no or low qualifications falling from 34.8% to 23.9% (Bosworth, 2014). Institutional support for training activities (having a training plan and/or a training budget in place) saw only a small increase between 2005 and 2011 (despite the recession), rising from 33.1% to 32.0%. There is however sectoral variation, with support for training weakening in the public sector (Felstead et al., 2013).

The area of skills development encompasses a wide range of learning situations – and it must be noted that the literature cited in this section refers to a range of learning situations. Cedefop (2014) provide an overview of some of the different adult learning situations. These include:

- Adult education: general or vocational education for adults for education and training for professional and/or personal purposes following initial education. It provides general education on topics of interest; addresses deficits in basic skills; provides access to qualifications; or can update skills.
- Continuing education and training: education or training after initial education and training, or entry into the workplace. It can update skills or help people to acquire new skills, and can also contribute to personal or professional development.
- Lifelong learning: all learning activity undertaken throughout life which develops knowledge, skills, competences and/or qualifications. Learning can be undertaken for personal, social or professional reasons.
- Off-the-job training: Vocational training undertaken away from the normal work situation, but is usually part of a programme which includes on-the-job training.
- On-the-job training: Vocational training given in the normal work situation.
- Vocational education and training (VET): education and training which seeks to provide people with knowledge, know-how, skills and/or competences required in particular occupations or more broadly on the labour market.
- Work-based learning: knowledge and skills are developed in the workplace or a VET institution through carrying out tasks in a vocational context.

Research has indicated the benefits of engaging in some form of skills development on both the individual employee and the organisations which employ them. While employers may have to make some outlay in providing training, there are returns to this (Hogarth et al., 2012). It has for example been found that engagement in VET has a positive influence on the economic performance of firms, which persists across performance indicators (Cedefop, 2011c). Engagement in training has been shown to have a positive wage effect (Salas-Velasco, 2009; Haelermans & Borghans, 2012). However, it must be acknowledged that other research has also highlighted the limitations of wage returns to training. Analysis using data from the British Household Panel Survey for 1991–2006 examined the earnings returns to learning and found a medium-run return for women of 10% after five years on hourly wages. For men the positive return is eliminated once pre-qualification trends are accounted for. Reasons for this disparity between genders could include an effect of the industries in which women tend to work which can require qualifications e.g. the care sector (Blanden et al., 2012).

Training has been found to have a positive effect on employee job satisfaction, although the effects may vary depending on the type of training looked at. For example, data from the British Household Panel Survey has been analysed to show that orientation training has significant positive effect on newcomer male employees' in the private and public sectors and newcomer female public sector employees' job satisfaction. In contrast other types of job training only have a weak impact on job satisfaction (Tabvuma et al., 2015). Elsewhere others have found that employer-funded training has a positive impact on employee

satisfaction with working conditions, whereas employee-funded training does not (Cedefop, 2011b). Workplace learning has also been found to mitigate the negative relationship between task restructuring and employee well-being (Nikolova et al., 2014).

Despite these benefits, uptake of lifelong learning opportunities (both inside and outside the workplace) is uneven. At the UK level findings from the 2014 NIACE Adult Participation in Learning Survey[6] show that 19% of adults are currently learning, while 38% have taken part in some form of learning in the previous three years. 35% have not participated in learning since leaving full-time education. The findings show that participation in learning is determined by social class, employment status, age and prior learning. Older people are, the less likely they are to take part in learning. Those in the highest classes; those in employment; those in professional or service occupations; and those who left full time education when they were aged 21 years plus are more likely to take part in lifelong learning. Mirroring the findings of the 2014 NIACE Adult Participation in Learning Survey, elsewhere it has been asserted that participation in adult education and training is determined by educational attainment, employment status, occupational category, age and skills (European Commission/EACEA/Eurydice, 2015).

Research conducted in other contexts also mirrors some of the findings from the 2014 NIACE Adult Participation in Learning Survey and has provided some indication as to complex extrinsic (workplace, social and economic) and intrinsic (individual, motivational and attitudinal) barriers in the uptake of skills development opportunities in the workplace. Johnson et al. (2009) examined the factors that influence the engagement in workplace learning and found that there were complex combinations of issues that affect individuals' motivation to take-up training opportunities. For example low skilled people and people with few qualifications are less likely to participate in workplace learning; workplace culture is important in shaping demand for learning; there is a lack of awareness and poor access; and there need to be clear progression routes. The findings of Johnson et al. (2009) have been confirmed elsewhere.

The influence of employee characteristics regarding motivation to take part in training, or likelihood to be offered training has been identified in a range of studies. Personal characteristics, socio-historical conditions and social stratifications of the individual are a key determinant of engagement in skills development (Evans et al., 2013). Analysis of 2011 Work and Employment Relations Study shows a correlation between training inequalities and personal characteristics (e.g. age band, pay grade, tenure) as well as the characteristics of the workplace (e.g. the size of the workplace) (Sutherland, 2014).

6 www.niace.org.uk/sites/default/files/resources/2014%20Adult%20Participation%20in%20Learning%20Survey.pdf

Training rates can be especially low for those with low levels of qualifications.

- Companies tend to focus on those in higher status jobs, rather than low skilled employees (Cedefop, 2011a), which could be exacerbated by the lack autonomy of low skilled workers to find the time to train (Bates & Aston, 2004).

- Low skilled employees may not see the need for training because of the lack of skills demand in their role and the low levels of return or opportunities for progression (Kemp et al., 2004; Keep & James, 2010).

- McQuaid et al., (2012) found that low skilled employees' positive attitudes towards workplace learning are linked to jobs requiring learning or allowing the use of knowledge and skills.

Gender is also an important characteristic to consider, although Johnson et al. (2009) found that evidence on the relationship between workplace learning and gender was unclear. However, the effects of the intra-household division of labour, gender segregation of the labour market and a differential access to training by gender in certain occupations, professions, and sectors are important to consider (Huber & Huemer, 2015).

With regards, to age, generally young people are more likely to be trained and training rates decline with age (Carmichael & Ercolani 2015). However, in times of recession young people may be disproportionately affected as companies struggle to retain more experienced and valuable employees (Beck, 2015). This might be further exacerbated by a consequence of pension reforms increasing the minimum retirement age. From a study in Italy Brunello and Comi (2015) showed that a one year increase in the minimum retirement age led to a 9% increase in the incidence of training. Karpinska et al., (2015) from a study in Holland also suggest that with population ageing there is a detectable shift to training being offered more to older workers in an attempt to increase their productivity. However, in Great Britain Canduela et al. (2012) show that older workers remain among those least likely to have been offered training. Others have also found that employers may not offer training to older workers and older workers themselves may not want to take part in training (see for example Taylor & Unwin, 2001; Newton, 2006; McNair et al., 2007; Smeaton & Vegeris, 2009).

Workplace characteristics and organisational culture are also important in promoting participation in skills development activities. Organisational support, management, perceptions regarding its benefits, the transfer of training and positive attitudes towards personal development can be central in access to training (Santos & Stuart, 2003; Bulut & Culha, 2010). Unions have been identified as having a role in developing a culture of lifelong learning in the workplace (Cedefop, 2011a) and it has been found that union members are more likely to receive employer-sponsored training than their non-union members

(Waddoups, 2014). However, Sutherland (2014) finds that the training premium associated with union membership is diminishing. Some have identified a training advantage in the public sector (Murphy et al., 2008). However, others have cautioned that the 'public sector' cannot be viewed homogeneously as training inequalities can be found across predominantly private sector and predominantly public sector industries but also within private sector and public sector workplaces (Sutherland, 2014).

Thus given the perception of the benefits for training and the various reports such as BIS (2010) stressing the need for training we now consider is recession is a disruptor or helps to stress the importance of training. Would the acquirement of new skills be perceived as a long term advantage which will ensure growth and survival when a recession ends? This can be used as an argument to retain employees when markets slacken – retain and up-skill to invest in the future or are recessionary forces so deep as to force training budgets to be sacrificed? As companies downsize in difficult times the need for training can increase as workers take over former colleagues roles and strategies emerge for cross training (see Vee, 2009; Abrams & Berge, 2010). But others question the value of training in a recession. Kissane (2008) for instance points out that training makes workers more agile and puts them in a better position to leave the company for better opportunities. Concerns are raised that cross-training might not be accepted well by employees who equate training to the likelihood of taking on more responsibility and challenging work without commensurate promotion and morale will be negatively affected (Vee, 2009).

4. Data and Methods

To investigate the issue of how job-related training was provided to the UK employees during the period from 2000 to 2014, the relevant Quarterly Labour Force Survey (LFS) dataset were obtained from the UK Data Service. The key variable from the LFS related to job-related training is the response to the question:

> "*In the 3 months since [date] have you taken part in any education or any training connected with your job or a job that you might be able to do in the future?*"

An initial examination of the data indicated that most training was carried out in the final quarter of the year, therefore quarter 4 data of each year of the LFS data was selected for the analysis.

The first step of the analysis was to look at the training patterns for different age groups (16-19, 20-24, 25-49, 50-59 and 60+) over the 15 year period, and then build statistical models to find out what factors might affect participation in training. Factors examined are those that might affect taking part in training, such as the level of qualification, ethnicity, sex, region, and full-time or part-time working. The statistical models were a series of

independent multivariate logistic regression models to predict if someone took part in training in the last 13 weeks.

Statistical models were fitted to each of the 15 years over the period 2000 to 2014. The dependent variable for logistic regression in this case is whether or not the individual has taken part in training in the last 13 weeks. The independent variables in the model are listed in Table 1 below. This analysis is conditional on the person having entered employment[7], i.e.:

$$\Pr(Trg_i | Emp_i = 1) = F(X_i \beta_i)$$

Where

$$Trg_i \begin{cases} = 1 \; if \; the \; individual \; has \; been \; offered \; job \; related \; training \; in \; the \; last \; 13 \; weeks \\ = 0 \; if \; the \; individual \; has \; not \; been \; offered \; job \; related \; training \; in \; the \; last \; 13 \; weeks \end{cases}$$

$$Emp_i \begin{cases} = 1 \; if \; the \; individual \; is \; in \; paid \; employment \\ = 0 \; if \; the \; individual \; is \; not \; in \; paid \; employment \end{cases}$$

X_i is a vector of variables relating to the individuals and the nature and sector of the job. Age is the particular variable of interest and the other variables are used as control variables.

Table 1: Independent variables used in forming the logistic regression models

Variable	Categories
Highest qualification	Degree or equivalent, Higher education, GCE A Level or equivalent, GCSE grades A-C or equivalent, Other qualifications, No qualifications
Working hours	Full-time, part-time
No. employees at workplace	N/A (continuous)
Region	North East, North West, Merseyside, Yorkshire & Humberside, East Midlands, West Midlands, Eastern, London, South East, South West, Wales, Scotland, Northern Ireland
Industry sector	SIC 2007 categories*
Occupation	SOC 2010 categories^
Age when completed cont. FT education	N/A (continuous)
Ethnic origin	White, Black, Mixed/other
Has a disability	Currently has a disability according to the Disability Discrimination Act~, had a disability in the past, has never had a disability
Number of dependent children in family under 19	N/A (continuous)

[7] This model specification reflects that job-related training data are only available for individuals in employment and can lead to biased estimates of the determinants of job related training. To overcome this Mason and Bishop (2010) used Heckman regression. This is not followed in this exploratory analysis as we argue that all the independent variables are equally open to bias and we only wish to observe the change in the coefficients of the variables related to age.

Marital status	Married and living with husband or wife, Single / separated / divorced / widowed
Age	16-19 years, 20-24years, 25-49 years, 50-59 years and 60+years

* www.ons.gov.uk/ons/guide-method/classifications/current-standard-classifications/standard-industrial-classification/index.html

^ www.ons.gov.uk/ons/guide-method/classifications/current-standard-classifications/soc2010/index.html

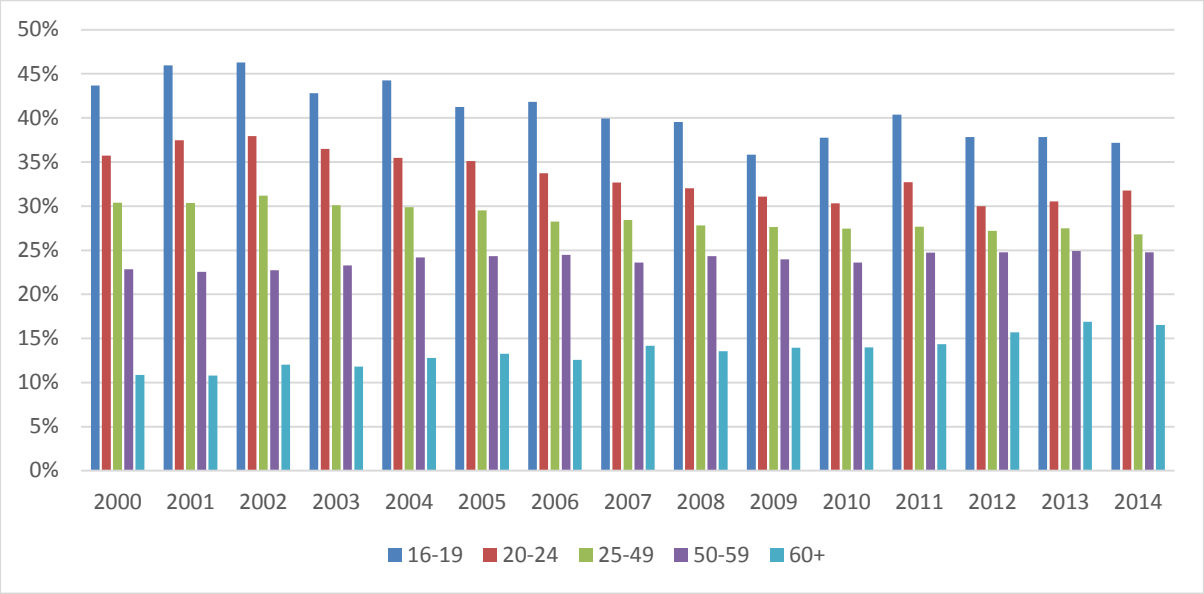
~ The Disability Discrimination Act (DDA) defines a person with disabilities as someone who has a physical or mental impairment that has a substantial and long-term adverse effect on the ability to carry out normal day-to-day activities.

Models were fitted independently each year over the period 2000 to 2014, and the coefficients of the age groups tracked and assessed to determine if they differed significantly from year to year.

5. Results

Variation across the age groups in the amount of training provided is displayed in Figure 1, with figures provided in Table A1 in Appendix 1. The age group with the highest proportion receiving training was the 16-19 years age group, for which the proportion receiving training exceeded 35% in all years. The proportion receiving training then diminished across the age groups, with those in the 60+ years age group least likely to receive training. The young and middle-aged groups (16-19, 20-24 to 25-49) showed a similar general pattern of the proportion receiving training rising (2000-2002), falling (2002-2009) and rising (2009-2011) and falling (2011-2014) again. In 2009 there was the lowest incidence of taking part in training. This could suggest that the economic crisis at the time either had a negative impact on whether they took part in training, or on people's propensity to take up training, or both. The pattern among the older age groups (50-59 and 60+) seems to differ from the younger age groups; the general trend was that the proportion receiving training increased during the period, with almost no large fluctuations.

Figure 1: Taking part in training in the last 13 weeks by employee age



The logistic regression results are displayed in Table 2. From this table, it can be seen that all the predictor variables remained in the final model, and the majority of them have a highly significant influence on whether training was taken. Factors associated with a higher likelihood of receiving training were: holding higher levels of qualification and spending longer in full-time education; working full-time; living in the North West, South West and Eastern areas in England; working in the public administration, education and health industries; working in a professional or associate professional occupation; working for a larger employer; having fewer dependent children in the household; and being unmarried. Those who had a disability in the past were more likely to have received training than those who had never had a disability.

With regard to age groups, it is clear that the younger age groups are more likely to have undertaken training, even after controlling for other factors that might influence the likelihood of training. The coefficients of the age groups 16 to 19 years and 20 to 24 years are all significant and positively related to the likelihood of taking part in training in the last 13 weeks. The coefficients of the 16 to 19 year olds are almost double those of 20 to 24 year olds. In around the years 2009 and 2010, the coefficients fall dramatically, indicating that the young are not taking as much training as they proportionately were to other age groups. It is notable that for those over 50 years (especially the 60+ age group), although the coefficients remain negative, they became less so in the years 2009 and 2010, indicating that the recession might be leading to a proportionate rise in older workers receiving training.

Figure 2 shows the variation in coefficients for the 16-19 and 20-24 year old groups over the 15-year period. The fall in 2009 and 2010 is easy to see. Interestingly there is perhaps some suggestion of a hysteresis effect, in that reducing training might be delayed until pressure to

cost cut gets severe, as the coefficients of 2010 are less than 2009 for the 20-24 year group. The coefficients rose dramatically in 2011, as recessionary effects weakened and growth began, and in 2013 to 2014 the coefficients of those aged 16 to 19 years were similar to pre-recession rates.

In respect to the goodness of fit of the logistic regression model, as shown in Table 2, both Cox & Snell R Square and Nagelkerke R Square values are fairly small. These were less than 20%, indicating that the models are quite poor at explaining the likelihood of receiving training. The model's success at predicting outcomes is also fairly low; a rate of less than 30% in all years.

Figure 2: Variation in the age based coefficients for groups 16 to 19 years and 20 to 14 years

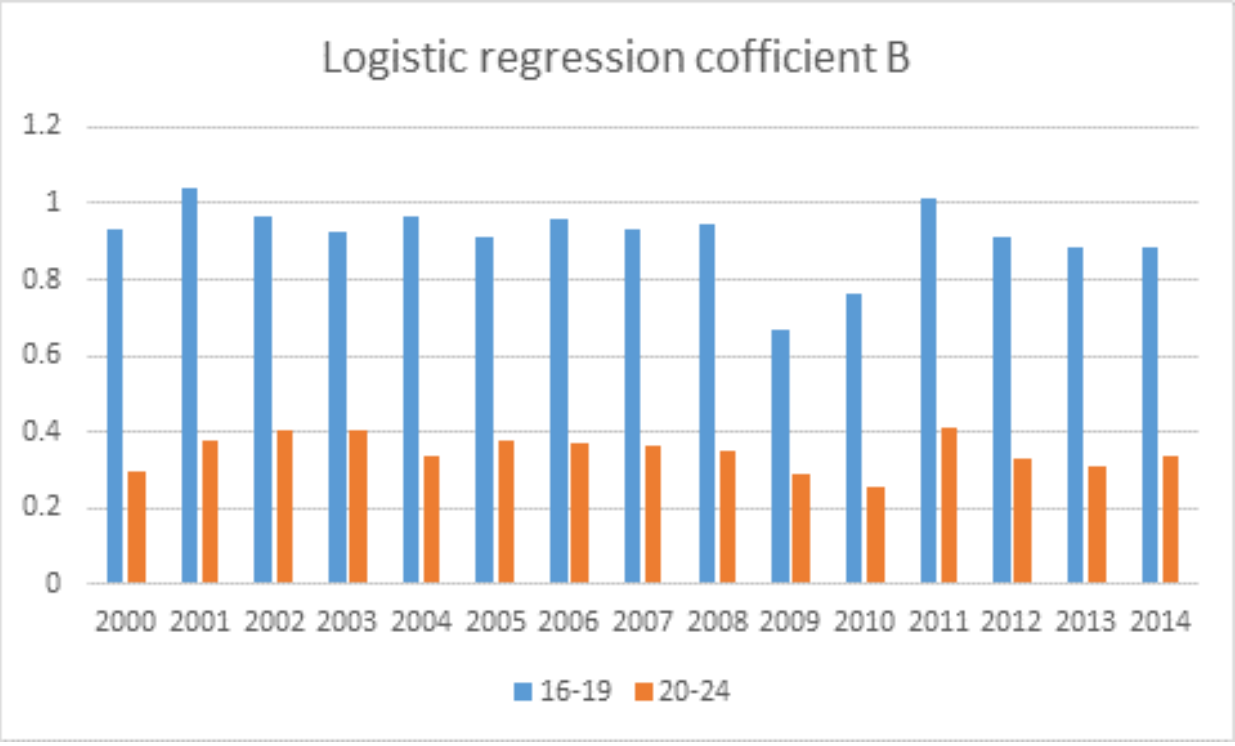


Table 2:Logistic regression models of the likelihood of taking part in training in the last 13 weeks

Variable	B														
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Highest qualification (ref: No qualification)	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
Degree or equivalent	1.047**	0.991**	0.962**	0.996**	0.972**	0.896**	0.795**	1.020**	1.015**	1.108**	0.988**	0.900**	1.206**	1.026**	1.027**
Higher education	1.057**	1.087**	1.025**	1.043**	1.034**	0.925**	0.862**	1.096**	1.074**	1.136**	1.046**	0.994**	1.293**	1.058**	1.136**
GCE A Level or equiv	0.840**	0.793**	0.705**	0.773**	0.791**	0.735**	0.601**	0.816**	0.789**	0.917**	0.812**	0.800**	1.072**	0.908**	0.932**
GCSE grades A-C or equiv	0.751**	0.706**	0.688**	0.693**	0.728**	0.631**	0.545**	0.769**	0.711**	0.789**	0.677**	0.590**	0.883**	0.706**	0.773**
Other qualifications	0.536**	0.583**	0.655**	0.636**	0.621**	0.543**	0.444**	0.597**	0.591**	0.702**	0.687**	0.547**	0.863**	0.551**	0.602**
Full time (ref: Part time)	0.290**	0.224**	0.213**	0.204**	0.209**	0.218**	0.196**	0.261**	0.223**	0.217**	0.195**	0.192**	0.204**	0.188**	0.199**
No. employees at workplace	0.062**	0.064**	0.044**	0.056**	0.046**	0.044**	0.045**	0.042**	0.032**	0.044**	0.038**	0.049**	0.038**	0.040**	0.034**
Region (ref: Northern Ireland)	0.000**	0.000*	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000*	0.000**	0.000**	0.000**	0.000**
North East	0.183*	0.169*	0.225*	0.394**	0.345**	0.474**	0.501**	0.353**	0.466**	0.521**	0.256*	0.439**	0.749**	0.112	0.011
North West	0.246**	0.084	0.136*	0.286**	0.398**	0.360**	0.275**	0.334**	0.375**	0.486**	0.232*	0.382**	0.465**	0.138	0.093
Merseyside	0.102	0.205*	0.066	0.047	0.041	0.191*	0.371**	0.448**	0.426**	0.441**	0.081	0.278*	0.414**	-0.067	-0.151
Yorkshire & Humberside	0.212*	0.147*	0.233**	0.314**	0.338**	0.393**	0.379**	0.282**	0.233*	0.434**	0.216*	0.423**	0.658**	0.138	0.063

Table 2:Logistic regression models of the likelihood of taking part in training in the last 13 weeks (Contd.)

Variable	B														
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
East Midlands	0.202*	0.067	0.229**	0.398**	0.508**	0.367**	0.390**	0.336**	0.325**	0.474**	0.242*	0.467**	0.679**	0.275**	0.147
West Midlands	0.202*	0.117	0.149*	0.340**	0.348**	0.264**	0.422**	0.359**	0.393**	0.412**	0.193*	0.333**	0.540**	0.151*	-0.059
Eastern	0.266**	0.031	0.029	0.213*	0.322**	0.300**	0.311**	0.305**	0.229*	0.428**	0.273**	0.430**	0.554**	0.317**	0.043
London	0.137*	0.053	0.133*	0.241**	0.141*	0.238**	0.203*	0.177*	0.263**	0.409**	0.193*	0.376**	0.573**	0.199*	0.153*
South East	0.180*	0.090	0.172*	0.329**	0.337**	0.344**	0.365**	0.326**	0.388**	0.512**	0.200*	0.499**	0.640**	0.265**	0.155*
South West	0.311**	0.126*	0.169*	0.289**	0.400**	0.336**	0.488**	0.398**	0.400**	0.549**	0.365**	0.530**	0.649**	0.251**	0.184*
Wales	0.031	0.063	0.230*	0.321**	0.341**	0.425**	0.488**	0.432**	0.527**	0.547**	0.273*	0.507**	0.721**	0.352**	0.242*
Scotland	0.071	-0.009	-0.010	0.170*	0.297**	0.261**	0.410**	0.424**	0.317**	0.531**	0.246*	0.582**	0.611**	0.333**	0.085
Industry sector (ref: O-Q: Other services)	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
A-B: Agriculture & fishing	-0.601**	-0.365*	-0.578**	-0.356*	-0.795**	-0.510*	-0.488**	-0.455*	-0.551**	-0.611*	-0.440*	-0.792**	-0.545*	-0.117	-0.398*
C,E: Energy & water	0.154	0.284*	0.483**	0.115	0.320*	0.330*	0.311*	0.249*	0.228*	-0.041	0.341**	0.177	0.220*	0.247*	0.206*
D: Manufacturing	-0.363**	-0.244**	-0.276**	-0.375**	-0.316**	-0.157*	-0.329**	-0.207**	-0.263**	-0.427**	-0.187*	-0.341**	-0.088	-0.294**	-0.155*
F: Construction	-0.291**	-0.126	-0.052	-0.095	0.029	0.042	0.002	0.050	0.039	-0.193*	0.054	-0.084	0.059	-0.071	0.082

Table 2:Logistic regression models of the likelihood of taking part in training in the last 13 weeks (Contd.)

Variable	B														
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
G-H: Distribution, hotels & restaurants	-0.306**	-0.177*	-0.134*	-0.208**	-0.193**	-0.122*	-0.210**	-0.084	-0.271**	-0.345**	-0.156*	-0.243**	-0.043	-0.133*	-0.103
I: Transport & communication	-0.025	-0.037	0.000	-0.060	-0.016	0.030	-0.081	0.010	-0.066	-0.391**	-0.127	-0.245**	-0.065	-0.142	-0.118
J-K: Banking, finance & insurance etc.	-0.059	0.094	0.093	0.041	0.168*	0.194**	0.083	0.194**	0.053	-0.083	0.115	0.013	0.124	0.100	0.213*
L-N: Public admin, educ. & health	0.485**	0.581**	0.658**	0.608**	0.678**	0.754**	0.645**	0.702**	0.686**	0.481**	0.663**	0.543**	0.761**	0.603**	0.689**
Occupation (ref: 'Elementary Occupations')	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
Managers and Senior Officials	0.677**	0.689**	0.693**	0.603**	0.602**	0.618**	0.624**	0.528**	0.543**	0.407**	0.372**	0.470**	0.365**	0.250**	0.355**
Professional occupations	1.117**	1.086**	0.979**	0.861**	0.875**	0.956**	0.913**	0.889**	0.801**	0.700**	0.761**	0.806**	0.806**	0.788**	0.786**

Table 2:Logistic regression models of the likelihood of taking part in training in the last 13 weeks (Contd.)

Variable	B														
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Associate Professional and Technical	0.976**	0.926**	0.929**	0.834**	0.894**	0.922**	0.905**	0.786**	0.802**	0.739**	0.674**	0.658**	0.534**	0.481**	0.491**
Administrative and Secretarial	0.486**	0.452**	0.375**	0.305**	0.300**	0.314**	0.287**	0.235**	0.255**	0.176*	0.128*	0.214**	0.158*	0.158*	0.133*
Skilled Trades Occupations	0.464**	0.479**	0.452**	0.360**	0.390**	0.433**	0.422**	0.483**	0.434**	0.386**	0.291**	0.434**	0.308**	0.293**	0.362**
Personal Service Occupations	0.635**	0.854**	0.821**	0.799**	0.786**	0.901**	0.869**	0.867**	0.751**	0.795**	0.706**	0.820**	0.746**	0.803**	0.704**
Sales and Customer Service Occupations	0.635**	0.632**	0.528**	0.385**	0.422**	0.366**	0.425**	0.395**	0.424**	0.288**	0.299**	0.371**	0.358**	0.274**	0.235**
Process, Plant and Machine Operatives	0.161*	0.166*	0.142*	0.086	0.052	0.158*	0.221**	0.167*	0.220*	0.345**	0.306**	0.375**	0.404**	0.427**	0.256**
Age when compltd cont. FT education	0.006**	0.007**	0.009**	0.006**	0.007**	0.008**	0.007**	0.007**	0.006**	0.007**	0.009**	0.005**	0.004**	0.004**	0.002*
Ethnic origin (ref: Mixed/other origins)	0.000**	0.000*	0.000**	0.000*	0.000*	0.000*	0.000	0.000**	0.000*	0.000*	0.000**	0.000*	0.000**	0.000	0.000*

Table 2:Logistic regression models of the likelihood of taking part in training in the last 13 weeks (Contd.)

Variable	B														
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
White	0.159*	0.073	0.227**	0.079	0.003	0.037	0.084	0.102*	0.018	-0.060	0.079	0.057	0.123*	0.067	0.108*
Black	0.492**	0.292*	0.293*	0.248*	0.261*	0.237*	0.206*	0.441**	0.274*	0.121	0.370**	0.307**	0.481**	0.218*	0.195*
Unadjusted DDA disabled (ref: Not DDA disabled)	0.000**	0.000**	0.000**	0.000*	0.000**	0.000**	0.000**	0.000**	0.000*	0.000*	0.000*	0.000**	0.000*	0.000**	0.000**
Current disability only	0.039	0.009	-0.008	-0.001	0.021	0.070*	0.044	0.020	0.053	0.130**	0.079*	0.123**	0.040	0.131**	0.113*
Current and past disabled	0.172	0.098	0.517	0.279	0.783**	-0.129	0.562*	0.174	0.174	-0.050	-0.213	0.610*	0.217	0.710*	0.517*
Past disability only	0.272**	0.269**	0.512**	0.430**	0.478**	0.670**	0.668**	0.625**	0.412*	0.134	0.322*	0.731**	0.538**	0.283	0.358*
Num of dep children in fam under 19	-0.011	-0.009	-0.003	-0.017	-0.020	-0.018	-0.026*	-0.034*	-0.011	0.001	-0.012	-0.045**	-0.033*	-0.025	-0.023
Single/separated/divorced/widowed (ref: Married, living with husband/wife)	0.061*	0.053*	0.048*	0.053*	0.130**	0.112**	0.130**	0.027	0.110**	0.120**	0.058*	0.037	0.078*	0.047	0.099**

Table 2:Logistic regression models of the likelihood of taking part in training in the last 13 weeks (Contd.)

Variable	B														
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Age band (ref: 25-49)	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
16-19	0.932**	1.042**	0.969**	0.926**	0.966**	0.911**	0.957**	0.931**	0.945**	0.668**	0.762**	1.012**	0.910**	0.883**	0.885**
20-24	0.294**	0.379**	0.405**	0.406**	0.338**	0.379**	0.369**	0.366**	0.350**	0.286**	0.254**	0.409**	0.332**	0.311**	0.336**
50-59	-0.278**	-0.310**	-0.342**	-0.242**	-0.194**	-0.177**	-0.154**	-0.209**	-0.131**	-0.107**	-0.148**	-0.150**	-0.078*	-0.078*	-0.024
60+	-1.022**	-0.930**	-0.868**	-0.835**	-0.741**	-0.681**	-0.716**	-0.553**	-0.559**	-0.518**	-0.540**	-0.609**	-0.450**	-0.390**	-0.391**
Constant	-3.251**	-3.127**	-3.199**	-3.148**	-3.233**	-3.351**	-3.260**	-3.480**	-3.313**	-3.355**	-3.276**	-3.288**	-3.939**	-3.162**	-3.188**
Predicted correct percentage -yes	25.7	27.6	28.5	26.7	27.3	25	22.2	18.7	18.9	15.4	13.4	15.6	17.2	16	12.5
Predicted correct percentage -no	91.3	90.5	90.3	91.1	90.5	91.3	92.8	93.3	93.7	94.3	94.9	94.5	94.1	94.2	95.5
Predicted correct percentage -overall	71.2	71.2	71	71.5	71.2	71.4	72.3	71.9	72.5	72.2	72.3	72	72.5	71.8	72.3
Cox & Snell R Square	0.112	0.119	0.118	0.114	0.116	0.112	0.106	0.102	0.1	0.093	0.088	0.092	0.094	0.087	0.084
Nagelkerke R Square	0.158	0.168	0.165	0.161	0.163	0.159	0.151	0.145	0.144	0.134	0.127	0.133	0.135	0.125	0.121

** - significant at 0.001 level * - significant at 0.01 level

The fall in the age coefficient for the 16-19 year olds in 2009 was found to be significant at the 5% level. The coefficient of the 20 to 24 age group, although considerably lower, was not found to be significantly different from previous years. The coefficients and 95% confidence intervals for age 16-19 years and 20-24 years are presented in Table 3.

Table 3: Coefficients, standard errors and 95% confidence limits of young age

	16-19 years		20-24 years		16-19 years		20-24 years	
Year	Coefficient	Std.Error	Coefficient	Std.Error	Lower limit	Upper limit	lower limit	Upper limit
2006	0.96	0.06	0.37	0.04	0.84	1.07	0.29	0.45
2007	0.93	0.06	0.37	0.04	0.82	1.05	0.28	0.45
2008	0.94	0.06	0.35	0.04	0.82	1.07	0.27	0.43
2009	0.67	0.07	0.29	0.05	0.53	0.81	0.20	0.38
2010	0.76	0.07	0.25	0.05	0.62	0.91	0.16	0.35
2011	1.01	0.08	0.41	0.05	0.86	1.16	0.32	0.50

The lower rates of training during the recession could be a result of an increase in precarious employment. Changes in the type of contract over the period 2006 to 2011 for the two young age groups is documented in Table 4 which gives the percentages of those employed who are on permanent contracts.

Table 4: Percentage of employed young age groups who are on permanent contracts

Year	16-19 years	20 -24 years
2006	81.0%	88.5%
2007	81.8%	88.2%
2008	83.7%	89.2%
2009	82.2%	89.3%
2010	81.8%	87.6%
2011	79.3%	88.1%
2012	77.7%	86.0%
2013	78.1%	87.1%
2014	75.5%	86.2%

There is not much variation over time in the proportions with a permanent contract. However, ominously for the 16 to 19 year old age group, since the recession the proportion on permanent contracts might be trending downwards, suggesting that employers may have used the recession to introduce new less secure contracts. For the 20 to 24 year olds the proportion on permanent contracts did not fall in 2009 but fell by 1.6 percentage points in 2010, suggesting perhaps a delayed effect. Unfortunately, by 2014 the proportions on permanent contract had not been recovering with the level much below 2008 especially for the 16-19 years old group (dropped 8.2 percentage points).

6. Discussion and Conclusions

From this exploratory study there is evidence that the proportion of young being trained has reduced during the Great Recession a d the group 16 to 19 is most affected. There is also some evidence that older workers are getting proportionately more training. The approach taken here has limitations as by only taking into account those in work, bias is possible in the estimates. But we argue that this will not matter much as we are tracking proportionate effects over years. What would matter is if the proportion explained by the control variables change markedly from year to year but we find little evidence of this.

Thus, we conclude that there is evidence that the young are proportionately more disadvantaged than other groups regarding the likelihood of taking training. This does not seem to be explainable due to changes in contracts.

7. Appendix

Table A1: Percentage taking part in training in the last 13 weeks by age group, 2000 to 2014

Year	16-19	20-24	25-49	50-59	60+
2000	43.7%	35.7%	30.4%	22.8%	10.9%
2001	45.9%	37.5%	30.3%	22.5%	10.8%
2002	46.3%	37.9%	31.2%	22.7%	12.0%
2003	42.8%	36.5%	30.1%	23.3%	11.8%
2004	44.3%	35.5%	29.9%	24.2%	12.8%
2005	41.2%	35.1%	29.5%	24.3%	13.3%
2006	41.8%	33.7%	28.2%	24.5%	12.6%
2007	39.9%	32.7%	28.4%	23.6%	14.2%
2008	39.5%	32.0%	27.8%	24.3%	13.6%
2009	35.8%	31.1%	27.6%	24.0%	14.0%
2010	37.8%	30.3%	27.4%	23.6%	14.0%
2011	40.4%	32.7%	27.7%	24.7%	14.3%
2012	37.8%	30.0%	27.2%	24.8%	15.7%
2013	37.8%	30.5%	27.5%	24.9%	16.9%
2014	37.2%	31.8%	26.8%	24.8%	16.5%

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WORK PACKAGE 5: PARTICIPATORY RESEARCH

SocIEtY: SOCIAL INNOVATION - EMPOWERING THE YOUNG FOR THE COMMON GOOD

CHAPTER 5

DETERMINANTS OF LABOUR MARKET EXCLUSION IN THE UK

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Determinants of Labour Market Exclusion in the UK

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1. Executive Summary

Young people face particular challenges to finding work, and continue to be disproportionately affected since the onset of the global economic crisis in 2008 (ILO, 2015). Youth itself has historically been a disadvantage in the labour market, due to young people's relatively lower human capital compared to other age groups (Bell and Blanchflower, 2011). Their concentration in industries vulnerable to economic fluctuations may also make them more susceptible to the negative effect of a recession (OECD, 2010). However, some groups of young people are particularly disadvantaged in the labour market, particularly those from challenging backgrounds, with complex needs and low skills (Egdell et al., 2014).

This chapter uses the Capability Approach as a framework to examine the multi-layered nature of youth labour market disadvantage. A capability focused approach to youth labour market disadvantage highlights the need to look beyond whether a young person is in or out of work, and to consider indicators of job quality. This chapter examines the individual and collective impact of different dimensions of disadvantage on youth labour market exclusion. Following the methodology employed by Chiappero-Martinetti et al. (2015 *in this volume*), a measure of labour market exclusion is constructed that incorporates information about both job quantity and quality. This is then used to examine exclusion both at the level of the individual young person, and then among and between groups of young people who share similar characteristics.

Data and methods

The data used in this case study is the UK data from the EU Labour Force Survey (EU-LFS), in conjunction with information on regional economic and labour market conditions from

Eurostat. The analysis considers the labour market outcomes of 20-24 year olds in the UK over the time period between 2000 and 2012.

The analysis employs a multidimensional dependent variable that incorporates several pieces of information about the stability of a person's labour market position: whether they are in employment; whether, if they are in work, they work part-time, and whether they are an employee or self-employed; whether they are on a permanent or temporary contract (and the length of this contract if temporary); and if they are unemployed, the duration of their unemployment. These variables are used to create a 'scale' of exclusion, from the least excluded (i.e. employees in a permanent, full-time job) to the most excluded (those who are long-term unemployed or economically inactive).

This scale is used as a dependent variable to model exclusion at the level of the individual young person, using it as the dependent variable in regression models, with a number of individual and contextual factors as independent variables. Heckman regression models are used in order to attempt to control for the complications of trying to estimate labour market disadvantage when this is unobservable for the section of this age group that are in education. These models predicted first of all the probability of being in the labour market as opposed to education, and then used the results from this stage in a regression model predicting labour market exclusion.

The scale of exclusion is then used to construct a measure of capability deprivation for the analysis at group level. Indicators of disadvantage are used to create groups of young people who share similar characteristics, and a group-level measure of exclusion is calculated for each group. This measure is based on the mean exclusion of the group as a whole – which tells us the extent to which it is disadvantaged relative to others – and the dispersion of exclusion within each group – which indicates the extent to which group members have freedom to choose between outcomes. The group-level indicator is used as the dependent variable in OLS regression models, with the same individual and contextual factors (but this time measured at a group level) as independent variables.

Results

Parental age was found to be a suitable instrument in the Heckman models; it was found to be a significant predictor of being in education, but not of labour market exclusion. Other

significant predictors of whether or not the young person was in education were parental education, having a migrant parent, gender, and parental employment status.

The predictors of labour market exclusion to a large extent conformed to expectations. Labour market exclusion was negatively associated with the young person's own labour market experience, and positively associated with a number of situational factors; having an unemployed or inactive father, a migrant parent, a household with more younger members or a single parent household, and to a lesser extent living in a densely populated area relative to a thinly populated one. No significant effect of gender on labour market exclusion was found.

However, the impact of parental education was more surprising. Having a parent who has obtained lower secondary education (relative to those who have obtained upper secondary education) makes labour market exclusion more likely. However, labour market exclusion is also more likely among those who have a parent with tertiary education, suggesting that having a tertiary-educated parent is not necessarily a protective factor against labour market exclusion.

Investigating further the nature of temporary employment for young people, it was found that young people who have a parent with tertiary education are considerably more likely to be in temporary employment than those who do not. This propensity to be in temporary employment is a key driver of their relatively higher labour market exclusion. However, the scale does not take into account the level of the occupation in which the young person is temporarily employed, and here some differences emerged between those with a tertiary educated parent and those without. Those on temporary contracts who have a tertiary educated parent are more likely to be in professional occupations, and less likely to be in low level elementary jobs.

Interaction effects were tested, to capture the multidimensional and interacting nature of disadvantage. The results suggested that some disadvantages magnified others; the effect of disadvantage is magnified for those living in cities, those with young household members, single parent households, and households with low levels of parental education.

Results from the analysis at the group level confirm the relative labour market disadvantage of those with a tertiary educated parent, relative to those without. The strongest negative

effects on capabilities were found to be from having a tertiary educated parent, an unemployed head of household, and young household members. The impact of population density, single parenthood, and the recession were smaller, although still significant. Those in the North and Midlands of England were found to be disadvantaged relative to those in the South of England, but advantaged relative to those in Scotland, Wales and Northern Ireland. A higher regional GDP, and a larger share of young people in the regional population, were found to be capability enhancing. Interaction effects were also tested at the group level, but were not found to be significant.

Discussion

The ability to use parental age as an instrument in the selection models emphasises the enduring role of social class in selection into higher education in the UK. However it also exposes the way in which class advantages are increasingly less clear cut in the youth labour market, with young people increasingly vulnerable regardless of background and education; the emergence of the so-called 'precariat' (Standing, 2014).

The broadening of the informational basis – to the use of a scale of labour market exclusion incorporating a number of labour market outcomes, rather than a dichotomous participation variable – has exposed some of the nuance in young people's labour market participation. It exposes the way in which even those who are in work may not be in stable, high quality employment, and that their parental and educational background may not help them to secure a secure labour market position. This was borne out in the results, which showed that young people from relatively more advantaged backgrounds were nonetheless highly represented among the temporary workforce. However, although more advantaged young people were more likely to be in short, temporary contracts, those who were in temporary employment were more likely to be employed at a higher occupational level. The use of temporary and zero-hours contracts, and the requirement of many professional occupations for unpaid or poorly remunerated work experience and 'internships' before being eligible for a permanent position, is made possible in the UK's fairly flexible and deregulated labour market. Temporary employment can be a route to permanent employment, and it may be that some of the 20-24 year olds who are currently not in a strong labour market position may in the future manage to secure stable employment. However others, particularly those in lower skilled occupations, may never achieve this stability. Further analysis of this possible segmentation of life chances could help further illuminate disparities in capabilities between young people from different backgrounds.

Most of the effects identified in this analysis were small in absolute terms, and the overall explanatory power of the models was low, particularly in comparison to Italy. This suggests that the parental labour market factors in the model have a less profound impact on selection into education and labour market exclusion in the UK. Perhaps these phenomena are relatively more determined by choice, or by factors not included in this analysis, such as innate ability. In order to investigate this phenomenon, particularly within the capabilities framework, data is needed that can go beyond labour market outcomes to include an understanding of people's preferences and abilities.

2. Abstract

This chapter uses the Capability Approach to explore youth labour market disadvantage in the UK. Young people have traditionally been disadvantaged in the labour market relative to older adults, and have been particularly badly affected by the global economic crisis. However, there is heterogeneity within this age group with respect to labour market disadvantage. In this analysis, data from the EU Labour Force Survey (EU-LFS) is used to examine the impact of dimensions of disadvantage on the labour market exclusion of 20-24 year olds. The use of the Capability Approach highlights the need to move beyond a simple in or out of work dichotomy, to construct a multidimensional indicator of labour market exclusion that incorporates measures of job quality that are also relevant to young people's capabilities and well-being. Labour market exclusion is examined firstly at the level of the individual young person, using Heckman regression models to compensate for the fact that a (non-randomly selected) proportion of this age group will be outside of the labour market due to being in education. Exclusion is then considered at the group level, examining the differences between and within groups of young people who share similar characteristics. An indicator of capability deprivation is constructed, based on each group's relative position (indicating their disadvantage) and the dispersion of outcomes within that group (indicating freedom to choose). Labour market exclusion is found to be positively associated with a number of situational factors, but a complex relationship between a young person's social background and their labour market exclusion is also uncovered. The broadening of the informational basis to include indicators of job quality exposes some of the nuances in young people's labour market participation, and offers a different perspective into youth labour market disadvantage in the UK.

3. Introduction

This chapter uses the Capability Approach to examine youth labour market exclusion in the UK. It follows the methodology employed by Chiappero-Martinetti et al. (2015 *in this volume*) in their analysis of labour market exclusion in the Italian context, and provides a corresponding analysis of the UK, taking the same theoretical and empirical approach.

Young people across Europe face particular challenges to finding work, and continue to be disproportionately affected since the onset of the global economic crisis in 2008 (ILO, 2015). Young people are substantially more likely to be unemployed and looking for work than those in older working age groups. In May 2015 the youth unemployment rate among those

aged 15-24 was 20.6% in the EU-28, compared with a rate of 9.6% for the wider 15-74 age group (Eurostat, 2015). The European Commission is working to increase the youth employment rate as part of its 2020 target of achieving a 75% employment rate for the working-age population (20-64 years).[8]

Youth itself has historically been a disadvantage in the labour market, due to a number of factors: they have less human capital than older workers, both general and firm-specific; they may be less efficient at job search activities; and they are less likely to have the imperative of significant financial commitments (Bell and Blanchflower, 2011). There is also the possibility that the concentration of youth employment in particular sectors that are potentially more vulnerable to economic fluctuations makes young people particularly likely to be affected by economic crises (OECD, 2010). However, some groups of young people are more adversely affected than others. Those with a higher propensity towards youth unemployment in the UK include care leavers, young offenders, disabled young people, young parents, migrant youth, and those with complex needs and low levels of qualifications and skills (Egdell et al., 2014).

This chapter uses the Capability Approach as an analytical framework to explore the multi-dimensional nature of labour market disadvantage. The Capability Approach, developed by Sen (1985, 1992, 1998, 2009), is centred on the freedom and opportunity individuals have to make choices that they value. It focuses upon the potential ability of the individual to achieve a functioning (e.g. a job) that they value, in the context of the wider environment in which they are embedded (Walker and Unterhalter, 2007). The Capability Approach recognises the constraints faced by individuals in achieving valued functionings, as conversion factors (personal, environmental and social conditions) shape the transformation of resources into valued functionings (Hollywood et al., 2012; Robeyns, 2005). As such the Capability Approach provides a useful lens to explore youth labour market participation, as it recognises the importance of job quality, whereas policy tends to focus exclusively upon the headline employment rate indicator (Egdell et al., 2014). The transition to work is not always positive if one takes into account young people's aspirations, and the values they attach to outcomes (Bartelheimer et al., 2012; Vero et al., 2012). A capability focused approach to youth labour market disadvantage highlights the need to look beyond whether a young person is in or out of work. Analysis of EU-LFS data undertaken by Goffette and Vero (2014) suggests that in Europe between 2006 and 2012 there has been an increase in 'capability unfriendly' job characteristics; involuntary temporary contracts, involuntary part-time working and working time, unpaid overtime working hours and looking for another job.

[8] Overview Of Europe 2020 Targets, http://ec.europa.eu/europe2020/pdf/targets_en.pdf (Accessed 22 June 2015)

In this analysis, a measure of labour market exclusion is constructed that incorporates information about both job quantity and quality. This is then used to examine exclusion both at the level of the individual young person, and then among and between groups of young people who share similar characteristics. The remainder of the chapter is structured as follows. Section 4 presents the data used in the analysis and the methods employed; Section 5 presents the results at the individual and group level, followed by a brief comparison with the results obtained by Chiappero-Martinetti et al.; and Section 6 concludes the chapter with a discussion of the results and their implications for policy and for the capability approach.

4. Data and Methods

The data used in this case study is the UK data from the EU Labour Force Survey (EU-LFS), alongside contextual variables gathered from Eurostat. The EU-LFS is a household survey that collects information on labour market status from all adults in the household. This is used in conjunction with information on regional economic and labour market conditions that has been collected and harmonised by Eurostat. The analysis considers the time period between 2000 and 2012; this is as far back, and as recent, as data availability, comparability and quality will permit. Looking across this period allows for the impact of the economic crisis to be incorporated in our analysis of youth disadvantage.

The full UK EU-LFS sample for this timespan has around 1.5 million individuals in 677,000 households. However, this analysis is based on a sub-sample; those aged 20-24 who are living in a household with their parents. This is the age group of interest, and it is necessary that their parents are living with them for data to have been collected on the family background characteristics that are essential for modelling life chances.[9] Table 1 shows the resulting analytical sample size for each year.

[9] The 'selection bias' introduced by omitting those who do not live with their parents is in fact unlikely to be large, as the two groups were found to have similar characteristics; see Section 5.3 for analysis on this point.

Table 1: Sample size by year

Year	Individuals	Households	Young people
2000	10,340	2,802	3,181
2001	10,150	2,731	3,140
2002	10,518	2,822	3,253
2003	9,721	2,641	3,077
2004	9,630	2,643	3,067
2005	9,453	2,560	2,953
2006	10,154	2,707	3,164
2007	9,628	2,609	2,983
2008	13,909	3,746	4,342
2009	8,293	2,218	2,592
2010	7,974	2,124	2,508
2011	7,331	1,989	2,313
2012	7,334	1,966	2,271
Total	124,435	33,558	38,844

Source: EU-LFS, UK survey, 2000-2012.

4.1. Constructing the dependent variable: labour market exclusion

The dependent variable is a measure of labour market exclusion that attempts to move beyond a simple in/out of work dichotomy to incorporate other information available in the dataset about the type and quality of employment. Labour market position is taken to be a function not only of employment status, but also of other features such as contract length and hours worked. As shown in Table 2, 11% of the sample were in temporary jobs, of which over 70% were employed in contracts shorter than one year. A fifth of the sample were also in part-time work.

Table 2: Summary statistics on labour market outcomes (individuals aged 20-24)

Variable	N	%	Variable	N	%
Labour market status			Job contract (if employee)		
Employed	28,612	73.7	*Temporary*	2,990	11.1
Unemployed	3,523	9.1	*Permanent*	24,004	88.9
Student	5,087	13.1	*Missing*	219	
Other	1,622	4.1	*Total*	27,213	100.0
Total	38,844	100.0	Job duration (if temporary)		
Employment status (if employed)			*Less than 3 months*	329	21.0
Employee	27,213	95.4	*3-12 months*	797	50.8
Self-employed	1,255	4.4	*12-24 months*	284	18.1
Family worker	50	0.2	*More than 24 months*	158	10.1
Missing	94		*Missing*	1,422	
Total	38,844	100.0	*Total*	2,990	100.0
Hours worked (if employed)			Unemployment duration (if unemployed)		
Part-time	5,949	20.9	*Less than 6 months*	2,131	60.7
Full-time	22,578	79.1	*6-12 months*	575	16.4
Missing	85		*More than 12 months*	803	22.9
Total	28,612	100.0	*Missing*	14	
			Total	3,523	100.0

Source: EU-LFS, UK survey, 2000-2012.

The variables summarised in Table 2 are used here to create a 'scale' of exclusion, from the least excluded (i.e. employees in a permanent, full-time job) to the most excluded (those who are long-term unemployed or economically inactive). Two such scales, with slightly different specifications, were generated from the data, alongside a cumulative measure constructed according to the 'fuzzy data' approach.[10] These were then normalised on a 0-100 scale to aid comparability and interpretation. The three measures were found to have very similar properties (Table 3), and followed a similar time trend (Figure 1) and regional

[10] The construction of this variable is only summarised briefly here – for a fuller explanation see Chiappero-Martinetti et al. (2015 *in this volume*).

pattern (Figure A1 in the Appendix). The following analysis will use what is referred to in Table 3 as the 'preferred' measure.

Table 3: Summary statistics on exclusion from the labour market

Variable	N	Mean	St. Dev.	Min	Max
Exclusion (preferred scale)	31,156	20.52	32.08	0	100
Exclusion (alternative scale)	31,156	20.26	31.80	0	100
Exclusion (fuzzy data scale)	31,156	23.25	33.67	0	100

Source: EU-LFS, UK survey, 2000-2012.

As Figure 1 below shows, labour market exclusion was relatively consistent until the financial crisis; it rose sharply after 2007, and was still increasing by 2012, albeit at a slightly slower rate. Figure A1 (see Appendix) shows that labour market exclusion is most prevalent in London, Wales and the North East of England. It is lowest in Northern Ireland and the South of England, with Scotland and the Midlands and North West of England sitting somewhere between.

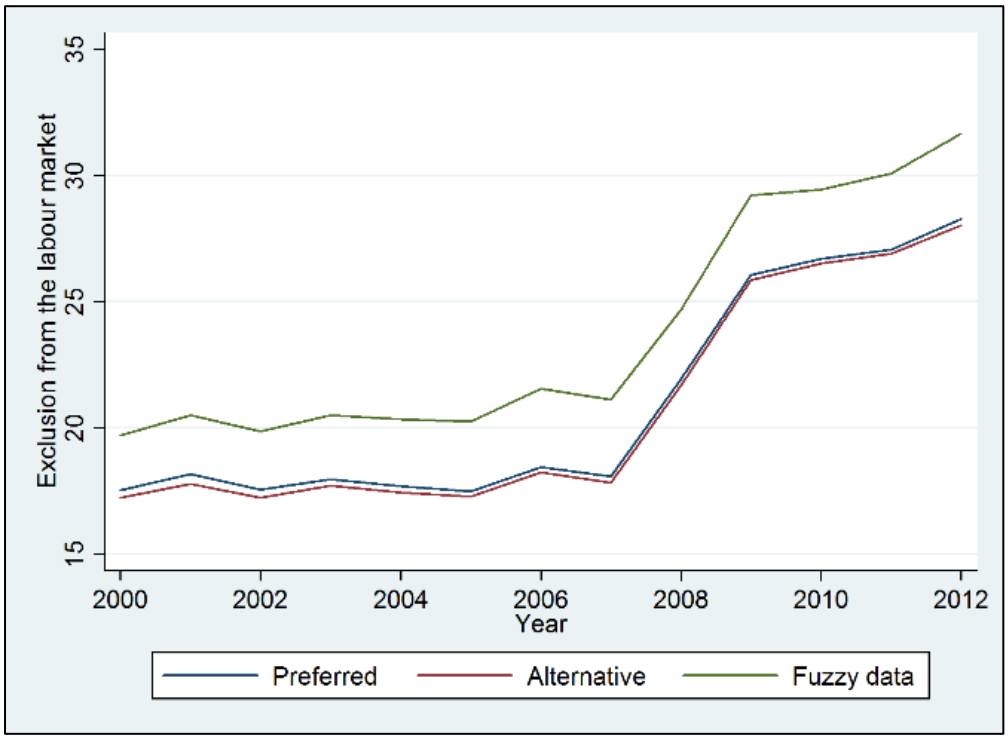


Figure 1: Exclusion from the labour market over time

Source: EU-LFS, UK survey, 2000-2012.

This dependent variable measures labour market exclusion at the individual level, but is also used to construct a measure of capability deprivation for the analysis at the group level. The rationale for doing so is twofold.

(1) Firstly, it helps to get to the heart of the intersectional nature of disadvantage, by attempting to illuminate the way in which some factors disadvantage some young people more than others.

(2) Secondly, by conducting analysis at the group level, it facilitates the construction of an indicator of disadvantage that takes into account both a young person's absolute and relative position. It sets the overall level of disadvantage they face as a person with a particular set of characteristics, against the variability of the disadvantage within the group of those sharing those characteristics. By comparing groups, and individuals within groups, we can observe both the extent to which particular groups are constrained relative to others, and the extent to which those within each group have freedom to choose between outcomes. This allows us to operationalise to some extent the principle of constrained choice that underpins the Capability Approach.

Seven indicators of disadvantage (selected on the basis of their salience in the individual-level analysis) were used to create groups of young people, categorising them according to which combination of disadvantages they experienced. This resulted in a total of 288 possible groups, of which there were 235 with more than 10 members in this dataset. Measures of average exclusion for both indicators are shown in Table 4 below.

Table 4: Exclusion and capability deprivation

Variable	N	Mean	St. Dev.	Min	Max
Full sample					
Mean of exclusion x 100	286	27.39	12.93	0	75
St. dev. of exclusion x 100	281	34.37	7.86	0	57.74
D_1 (0-100)	281	59.72	11.59	0	100
D_2 (0-100)	281	53.69	11.27	0	100
N > 10					
Mean of exclusion x 100	235	26.37	10.93	6.67	60.16
St. dev. of exclusion x 100	235	34.01	6.48	12.55	48.62
D_1 (0-100)	235	58.80	10.83	0	80.32
D_2 (0-100)	235	53.20	8.60	0	79.38
N > 20					
Mean of exclusion x 100	199	25.58	10.47	9.43	60.16
St. dev. of exclusion x 100	199	33.52	5.61	20.48	45.08
D_1 (0-100)	199	58.32	10.24	30.20	80.32
D_2 (0-100)	199	53.24	6.71	34.40	72.04

Source: EU-LFS, UK survey, 2000-2012.

A group-level measure of exclusion was calculated for each group, based on the mean and standard deviation. The mean represents the average exclusion facing each group, while the dispersion, as measured by the standard deviation, is taken to represent 'freedom of choice' within the group. Two measures of deprivation were then calculated, one weighting the (negative of) the standard deviation by the mean – the 'coefficient of variation' – and the other weighting it by the standard error – the 'Krtscha index' (Krtscha, 1994).

4.2. Explanatory variables

The analysis uses a number of explanatory variables at the individual and household level; these are summarised in Table 5. These variables represent a number of characteristics that may be relevant predictors of disadvantage. Around a quarter of the sample live with only one parent. Just under 13% live in what is classified here as a 'low work intensity' household; one that is working 20% or less of the potential hours that could be worked by all adults in the household. 5% of the sample was born outside of the UK, and just under 8% failed to obtain at least upper secondary level[11] education.

[11] 'Upper secondary education' represents categories 3 and 4 of the International Standard Classification of Education (ISCED), which includes post-secondary non-tertiary education as well as A-level or equivalent qualifications.

Table 5: Summary statistics on individual and household circumstances

Variable	N	%	Variable	N	%
Gender			Migration status		
Male	16,608	42.8	*Born outside UK*	1,261	4.9
Female	22,236	57.2	*Born in UK*	24,676	95.1
Total	38,844		*Missing*	12,907	
Family composition			*Total*	38,844	100.0
Single father	1,694	4.4	Education		
Single mother	7,479	19.3	*Lower secondary or less*	8,251	21.6
Non-cohabiting parents	531	1.4	*Upper secondary*	21,777	57.1
Two-parent households	29,140	75.0	*Tertiary or above*	8,138	21.3
Total	38,844	100.0	*Missing*	678	
Household work intensity			*Total*	38,844	100.0
Low work intensity	33,903	87.3	Region		
Not low work intensity	4,941	12.7	*North East*	1,816	4.7
Total	38,844	100	*North West*	4,620	11.9
			Yorks. and the Humber	3,288	8.5
Work intensity (mean)	38,614	0.632	*East Midlands*	2,672	6.9
Household composition			*West Midlands*	3,581	9.2
Household size (mean)	38,844	3.8	*East of England*	3,469	8.9
Members aged over 65 (mean)	38,844	0.05	*London*	4,291	11.0
Members aged under 14 (mean)	38,844	0.25	*South East*	4,905	12.6
Degree of urbanisation			*South West*	2,738	7.0
Densely populated area	24,416	66.2	*Wales*	1,680	4.3
Intermediate area	6,770	18.4	*Scotland*	3,522	9.1
Thinly populated area	5,692	15.4	*Northern Ireland*	2,262	5.8
Missing	1,966		*Total*	38,844	100.0
Total	38,844	100.0			

Source: EU-LFS, UK survey, 2000-2012.

A key advantage of using a household level dataset such as the EU-LFS is that it contains information about all members of the household, allowing the models of young people's outcomes to include how their parents' characteristics shape these outcomes. Table 6 summarises the variables used in the analysis, which focus on the parental labour market status, education, age and work hours. Around 15% of the sample has at least one parent in the household who was born outside of the UK. The proportion of fathers and mothers without at least upper secondary education is roughly a fifth and a quarter respectively. 83% of fathers and 73% of mothers are employed, and the majority are employed full-time, with average weekly hours of 43 and 31 respectively.

Table 6: Summary statistics on parental characteristics

Variable	N	%	Variable	N	%
Father's labour market status			Father's education		
Employed	25,816	83.3	*Lower secondary or less*	7,830	27.3
Unemployed	869	2.8	*Upper secondary*	13,851	48.2
Other	4,294	13.9	*Tertiary or above*	7,031	24.5
Missing	7,865		*Missing*	10,132	
Total	38,844	100.0	*Total*	38,844	100.0
Mother's labour market status			Mother's education		
Employed	27,119	73.3	*Lower secondary or less*	15,108	43.3
Unemployed	829	2.2	*Upper secondary*	11,836	33.9
Other	9,052	24.5	*Tertiary or above*	7,949	22.8
Missing	1,844		*Missing*	3,951	
Total	38,844	100.0	*Total*	38,844	100.0
Migration status			Parents' age	37,000	51.7
Only mother migrant	1,237	4.7	*Father's age*	30,979	51.9
Only father migrant	589	2.2	*Mother's age*	38,844	49.3
Both parents migrant	1,956	7.5	Parents' hours worked		
Both parents native	22,411	85.6	*Hours worked by mother*	26,986	31.0
Missing	12,651		*Hours worked by father*	25,648	43.3
Total	38,844	100.0			

Source: EU-LFS, UK survey, 2000-2012.

The analysis also includes a number of socio-economic contextual variables, at the regional level, obtained from Eurostat. Figure A2 (in the Appendix) shows the regional dispersion in these characteristics. The lowest per capita GDP and highest poverty rates[12] are found in the North and Midlands of England, and Northern Ireland. However, there is no straightforward correlation between GDP and poverty on the one hand, and unemployment on the other.

[12] Poverty is defined by Eurostat as having an equivalised disposable income (after social transfer) below 60% of the national median.

The North East of England seems to be disadvantaged across all measures. However, Northern Ireland, despite relatively lower GDP and higher poverty levels, has among the lowest rates of youth unemployment. London has both high per capita GDP and high unemployment.

It is worth noting that intra-regional migration may contribute to some of these patterns and anomalies. For example, if young people in Northern Ireland were more likely to migrate to find work[13] than those in the North East of England, this would be reflected in higher youth unemployment figures in the latter. Similarly, low unemployment in the South of England may be because the unemployed in these regions are drawn to the strong economy of London to find work. Further investigation of these phenomena are beyond the scope of this paper, but could be a valuable contribution to understanding the opportunities open to unemployed young people, and the role of differential uptake of these opportunities in explaining differences in labour market exclusion and vulnerability.

4.3. Methods

Following the precedent of Chiappero-Martinetti et al. (2015 *in this volume*) Heckman selection models are used to estimate the probability of labour market exclusion at the individual level. In this analysis, the aim is to estimate the extent to which a young person experiences labour market exclusion. However, labour market exclusion can only be observed in the data among those who have not excluded themselves from the labour market to pursue full-time education. Those not in work because they are studying constitute 13% of the sample in this case, of whom 70% are studying at degree level. They are unlikely to constitute a random selection of the overall age group because entry into education, especially higher education, is not random; the characteristics that make someone more likely to be in education are likely to be similar to those that determine whether or not a person is in work. Therefore the coefficient estimates are likely to be biased, because the estimation sample is not representative of the wider age group.

[13] Indeed, research on educational migration and non-return in Northern Ireland shows that around two thirds of students from Northern Ireland who went to university in Great Britain did not return to Northern Ireland in the short-to-medium term. Reasons for this included where students think employment opportunities are (McQuaid and Hollywood, 2008).

The Heckman model attempts to correct for these unequal selection probabilities, by first of all estimating the probability of being in education – the 'selection equation' – and then using these results in a model predicting employment. In order to do this, there must be at least one predictor that appears in the selection equation, but not the main equation of interest (the so-called 'exclusion restriction'). In this case, this means there must be a variable that predicts selection into education but not into work. Once this variable is found (in this case it was parental age – see Section 5.1 below), unbiased coefficient estimates may be obtained in a model predicting labour market exclusion.

For the models predicting capability deprivation at the group level, Ordinary Least Squares regression was used, as the above logic does not necessarily extend to the situation where each 'case' represents a group of people. Because the sizes of the groups varied considerably, the regression models were weighted by group size. The model specification was the same as for the models at the individual level, employing the same independent variables, but measured at the group level.

5. Results

This section presents the results from the analysis of labour market exclusion. Results are presented firstly at the level of the individual young person, and then at the group level, investigating capability deprivation among and between those who share similar characteristics. Some comparison is also offered between the results and those obtained in a similar analysis of Italian data by Chiappero-Martinetti et al. (2015 *in this volume*).

5.1. Predicting labour market exclusion in the UK

The first step in the analysis was to model labour market exclusion at the individual level, using Heckman regression models. Parental age was found to be a suitable instrument in the Heckman models; it was found to be a significant predictor of being in education, but not of labour market exclusion. It is likely that this variable is acting as a proxy variable for social class, which is strongly correlated in the UK with both age of childbearing (Hawkes and Joshi, 2012) and enrolment in higher education (Boliver, 2011). Thus, socioeconomic background, as proxied by parental age, plays a key role in determining whether a young person is in education aged 20-24. However, for those in this group who are not in education, there did not appear to be a predictive effect of parental age.

Table A1 (in the Appendix) shows the results from the selection model, which predicts whether the young person is in the labour market (employed or not), or in education. Three specifications were estimated[14], but there is little difference between them in the resulting coefficients or measures of model fit. The impact of parental age is highly significant, and having older parents increases the probability of being in education, although the magnitude of this impact is very modest, at around 2%. Having at least one parent who has been in tertiary education (relative to those with upper secondary education), and having at least one migrant parent, both increase the probability of being in education by around 12%, but being female increases it by 3%. Those with an unemployed father have a 5% lower probability of being in education relative to those with an employed father, while having an economically inactive (but not retired) father also has a negative impact, but of around half this magnitude.

Having established the selection model, the Heckman models were estimated, using the scale of labour market exclusion outlined in the previous section as the dependent variable, and a number of individual, parental and household characteristics as explanatory variables. The results from the second step of the Heckman model are shown in Table 7 below, for the same three specifications outlined above. As before, the results are largely consistent across specifications, and across estimation methods (analogous OLS models were also estimated alongside the Heckman models), suggesting that the results are robust and not sensitive to the specification or method used. The choice of parental age as an instrument was also found to be valid; when the analysis was repeated with the inclusion of this variable (Table

[14] The only difference between the specification relates to the use of the migration status variable. Data on this variable is only available as far back as 2004, therefore the model can only be estimated for the period 2004-2012, leading to a loss of cases. Model 1 incorporates this variable; Model 3 does not but estimates the model only on post-2004 data; and Model 2 is estimated without the migration variable, on the full sample.

A4 in the Appendix), it was found not to be a significant predictor of labour market exclusion, and the other coefficient estimates were almost identical.

The results are to a great extent as might be expected. Labour market exclusion is negatively associated with the young person's own labour market experience, and positively associated with a number of situational factors; having an unemployed or inactive father (increases exclusion by 4 to 5 percentage points (p.p.)), a migrant parent (around 7 p.p.), a household with more younger members or a single parent household (both around 4 p.p.), and to a lesser extent living in a densely populated area relative to a thinly populated one (1 p.p.). No significant effect of gender on labour market exclusion was found.

The results for parental education are perhaps slightly counter-intuitive. As might be expected, having a parent who has obtained lower secondary education (relative to those who have obtained upper secondary education) makes exclusion more likely (by around 2 p.p.). However, exclusion is also more likely among those who have a parent with tertiary education, suggesting that having a tertiary-educated parent is not a protective factor against labour market exclusion.[15] This finding on the impact of parental education is interesting, and reflects the inclusion of job quality dimensions in the dependent variable. Young workers are more likely than older workers to be employed on temporary contracts; this is true even those with tertiary education, although the more educated the young person is, the more likely it is that they will progress from a temporary to a permanent contract (Scarpetta et al., 2010).

Table 8 below shows the nature of temporary employment for young people across the different levels of parental education. It shows that young people who have a parent with tertiary education are considerably more likely to be in temporary employment than those who do not. They are also in shorter contracts on average, with almost a quarter in contracts lasting less than three months. This will be reflected in the measure of labour market exclusion used in this analysis, which ranks those who are on short, temporary contracts as more excluded than those who are on longer or permanent contracts. However, the scale does not take into account the level of the occupation in which the young person is temporarily employed. Table 8 also shows that those on temporary contracts who have a tertiary educated parent are more likely to be in professional occupations, and less likely to

[15] Parental education has been used here, both in modelling and interpretation, as a proxy for the extent to which the young person could be said to come from an advantaged background. Another possible way to represent this would be parental occupational status (it is not possible to use both due to multicollinearity). However, repeating the analysis replacing parental education with parental occupation did not yield substantively different results, suggesting that the use of parental education as a proxy is a reasonable one.

be in low level elementary jobs. Over a fifth of those whose parents have lower secondary education, and who are in temporary employment, are in elementary occupations, compared to just 12% of those whose parents have tertiary education. There is a degree of equality around the middle of the occupational distribution, with a similar proportion of young people on temporary contracts employed in sales or clerical occupations regardless of parental educational background. These occupations account for around half of young people in temporary employment.

Table 7: Predictors of labour market exclusion - Second step

	Model 1		Model 2		Model 3	
Estim. method	Heckman	OLS	Heckman	OLS	Heckman	OLS
	β	β	β	β	β	β
Parental education						
Upper secondary	ref.	ref.	ref.	ref.	ref.	ref.
Lower secondary or less	0.747	0.595	0.695	0.644	0.997	0.900
Tertiary or above	2.964*	3.838***	4.001***	4.406***	2.755*	3.883***
Labour market experience	-0.623***	-0.623***	-0.748***	-0.748***	-0.666***	-0.664***
Parental employment						
Employed	ref.	ref.	ref.	ref.	ref.	ref.
Unemployed	5.265***	4.974***	4.796***	4.754***	5.589***	5.236***
Retired	0.990	0.825	0.848	0.767	1.489	1.394
Other	4.504***	4.463***	4.081***	4.123***	4.866***	4.850***
Gender (1=Male)	0.879	0.635	0.290	0.170	0.932	0.604
At least one parent migrant	6.398***	7.628***				
Urbanisation						
Densely populated area	ref.	ref.	ref.	ref.	ref.	ref.
Intermediate area	-0.656	-0.668	-0.663	-0.702	-0.978	-1.114*
Thinly populated area	-1.215*	-1.189*	-1.186*	-1.228**	-1.573**	-1.663**
Work intensity	-7.670***	-8.728***	-8.860***	-9.343***	-7.758***	-9.220***

Household size	-0.516*	-0.431	-0.002	0.081	-0.214	-0.017
Members aged under 14	4.066***	4.084***	4.522***	4.500***	3.948***	3.950***
Single parent household	3.743***	4.097***	4.090***	4.295***	3.841***	4.303***
Constant	24.372***	25.375***	24.754***	25.086***	23.269***	24.329***
lambda	5.036		2.290		6.294	
Region fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
R^2		0.059		0.057		0.054
F test		27.5***		33.5***		26.0***
Chi^2	643.5***		802.6***		640.6***	
N	21256	17530	28130	23427	21256	17530

Source: EU-LFS, UK survey, 2000-2012. Significance of coefficients: *** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$.

Dependent variable: Exclusion from the labour market.

Table 8: Characteristics of temporary employment by level of parental education

	Parental education		
	Lower secondary or less	Upper secondary	Tertiary
	%	%	%
In temporary employment	8.1	9.1	16.8
of which…			
Contract duration			
Less than 3 months	15.8	20.1	23.5
3-12 months	54.3	50.4	50.1
12-24 months	19.8	18.6	16.8
More than 24 months	10.1	11.0	9.5
Total	100.0	100.0	100.0
Occupational level			
Managers	1.6	1.5	1.5
Professionals	7.2	9.0	12.3
Technicians and associate professionals	7.4	10.9	12.4
Clerks	27.1	23.8	27.6
Service and sales workers	24.1	25.7	27.0
Skilled agricultural and fishery worker	1.0	1.2	0.6
Craft and related trade workers	3.0	4.1	2.3
Plant and machine operators and assembly workers	7.0	5.6	3.9
Elementary occupations	21.7	18.2	12.3

Total	100.0	100.0	100.0

Source: EU-LFS, UK survey, 2000-2012.

As disadvantages rarely occur in isolation, it is interesting to consider interaction effects, to see how the impact of one disadvantage may be magnified or mediated when present in conjunction with another. For reasons of parsimony, rather than consider all possible interactions, a number of variables that had been identified as pertinent in the previous model were selected; parental employment, population density, single parenthood, the presence of young household members, having a migrant parent, and region. These were converted into binary variables (disadvantaged versus not disadvantaged), with the exception of region, which took three categories: the more affluent South of England; the more disadvantaged North/Midlands of England; and the devolved administrations of Scotland, Wales and Northern Ireland. The Heckman and OLS models were estimated using these dimensions of disadvantage; the results are shown in Table A2 in the Appendix. All of the dimensions were found to be statistically significant, confirming the salience of the key disadvantages selected. Table A2 also reports coefficients for regional effects, which suggest that those in the North and Midlands of England are disadvantaged relative to those in the South of England. The Heckman models suggest that those in Scotland, Wales and Northern Ireland are also disadvantaged relative to those in the South of England.

What is of more interest, however, are the interaction effects between these variables. Table A3 in the Appendix shows interactions between having an unemployed father (or mother if the father is absent) and the other explanatory variables. The joint impact of having an unemployed parent and living in a city is 14 p.p., which is around 4 p.p. greater than the sum of the individual impacts of these variables; this suggests that the impact of having an unemployed parent will be greater for those living in cities. The impact of having an unemployed parent is also found to be greater for those in households with more young members, in single parent households, in households with low levels of parental education, and in the North of England and Midlands.

All possible interactions between these variables were tested. The results tables are not all reproduced here, but similar effects were found. In general, disadvantages were magnified in the same way as the impact of parental unemployment. For example, the impact of living in a single parent household is magnified by the presence of young household members, with the joint effect (15 p.p.) larger than the sum of its constituent parts (11 p.p.), and also in

households without a parent in work (a joint effect of 19 p.p. compared with a combined effect of 11 p.p.).

5.2. Modelling group disadvantage

Having analysed labour market exclusion at the individual level in the previous section, this section will consider the way in which capability deprivation is experienced by groups of young people who share a common set of disadvantages. This part of the analysis used the group-level capability deprivation indicators outlined in Section 4.1 as dependent variables in OLS regression models. The groups were constructed using four binary variables (parent not in work; living in a densely populated area; presence of young children in the household; single parent family) and two variables with three categories (parental education and area of the UK). An additional binary variable representing pre- and post-recession periods (before and after 2008 respectively) was also used to capture the impact of the economic crisis. These dimensions of disadvantage were also included in the model of as independent variables, alongside as some additional contextual information. The results of these models are shown in Table 9 below.

Table 9: Effects of disadvantages on capability deprivation

	(1)	(2)	(3)	(4)
	D_1	D_2	D_2	D_2
	β	β	β	β
Disadv.: parent not in work	9.524***	2.350***	2.390***	2.381***
Disadv: parent upper secondary education	ref.	ref.	ref.	ref.
Disadv: parent lower secondary education	1.015	-1.016	-0.989	-1.013
Disadv: parent tertiary education	9.249***	5.304***	5.331***	5.313***
Disadv.: densely populated area	3.733***	1.269**	0.870	1.190*
Disadv.: young members	8.677***	3.237***	3.265***	3.255***
Disadv.: single parent	5.892***	1.696**	1.690**	1.691**
Disadv.: Period (1=after 2007)	8.324***	1.288**	1.555***	
Disadv.: North and Midlands	ref.	ref.		
Disadv.: South of England	-1.524**	-1.741***		
Disadv.: Wales/Scotland/NI	1.392	2.223**		
GDP (/1000 euro - ppp)			-0.239***	-0.348***
GDP growth (x 100)				-0.276
Share of young people in population (0-25) (x 100)				-2.024**
Constant	40.522***	48.094***	54.237***	120.604***

R^2	0.757	0.386	0.368	0.383
F test	79.454***	16.094***	16.848***	15.849***
N	240	240	240	240

Source: EU-LFS, UK survey, 2000-2012. Significance of coefficients: *** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$.

Dependent variable: Capability deprivation

Estimation method: OLS

The two indicators produce results of the same significance and direction, but of somewhat different magnitudes; this is probably due to the lower variability of D_2. The analysis confirms the salience of the dimensions of disadvantage selected. Having a tertiary educated parent, a parent not in work, and young household members emerged as having the strongest negative effects. The impact of population density, single parenthood, and the recession were smaller, although still significant. Those in the North and Midlands of England were found to be disadvantaged relative to those in the South of England, but advantaged relative to those in Scotland, Wales and Northern Ireland. A higher regional GDP, and a larger share of young people in the regional population, were found to be capability enhancing.

As with the analysis at the individual level, interactions were also tested to establish whether the impact of any dimensions of disadvantage are magnified or moderated in the presence of others. However, these were not found to be significant.

5.3. UK versus Italy: a comparison

The modelling in this paper has attempted to replicate the analysis of Italian EU-LFS data in Chiappero-Martinetti et al., (2015 *in this volume*) and this section will explore the similarities and differences between the results obtained. It will not attempt an analysis of the substantive differences between the political, social and cultural context of the two countries, which might explain differences in the results obtained. However, it will comment on departures in method and data, which may have had an impact on the results.

In the selection model, the probability of being in education is higher for those with employed and more highly educated parents in both countries, although the magnitude of these effects is smaller in the UK. However, some factors that appear to make young people

in the UK more likely to be in education – having a single or migrant parent, or living in a larger household – act in the opposite direction in Italy.

Predictors of labour market exclusion all run broadly in the same direction; labour market exclusion is associated with having an unemployed, single or migrant parent, living in a densely populated area, and the presence of younger household members. However there are a few interesting differences. In the UK model, having an economically inactive parent is associated with higher labour market exclusion, but it is not significant in the Italian model. There is also no significant effect of gender in the UK, but this was found to be a significant and fairly large coefficient in the Italian model. The coefficients obtained were in general considerably larger in the Italian models, and the models' R-squared values were higher, suggesting that this set of predictors is more appropriate to the Italian context than the UK.

Finally, there is a notable difference between the two countries in the size of the impact of region on labour market exclusion. The analysis has attempted to include a sub-national dimension through the incorporation of region into the modelling. Although the UK analysis found some evidence that young people in the South of England are relatively less excluded from the labour market, the inter-regional differences are small compared to the differences between those in Italy.

Despite drawing data from the same, ostensibly harmonised, dataset, there are some differences between the UK and Italian data used in the analysis. In the Italian analysis, the dependent variable was created from a measure of self-reported main labour market status. However, this variable is not available for the UK, and therefore had to be constructed from other variables. This is likely to result in some underestimation of unemployment in the UK, as it only includes those who are unemployed under the ILO definition (i.e. actively seeking work), rather than all those who declare themselves to be unemployed. It also categorises as students only those who report that this is the reason they cannot work, thus omitting those who would describe themselves mainly as students even though they may work as well.

The other main difference is in the educational variables, which are recoded in a different way to best fit the UK context. The time period is also slightly shorter, for reasons of data availability, and split only into two sub-periods (pre- and post-recession), as there is no important labour market reform to consider in the UK case.

The sample size for the UK is considerably smaller, which may have implications for the significance of results. This difference is partly because the total sample size is smaller –

124,000 compared to 724,000 in the Italian data. It is further exacerbated by the fact that the restriction to young people living with their parents only excludes less than 10% of the Italian sample, but almost half of the UK sample. Fortunately, the characteristics of those not living with their parents are fairly similar to those who are living with their parents. As shown in Table A5 (in the Appendix), they are educated to a similar level. Those not living with their parents are more likely to be students, and slightly more likely to be studying at a degree level if they are. Mean labour market exclusion is higher for those who are not students but have left home. 20% of those who had left the parental home were neither in work nor studying, compared to 13% living with parents. However, much of this difference is explained by the relatively higher proportion of those who have left the parental home who are 'fulfilling domestic tasks' (9.1%, compared with 0.8% of those living with their parents). Those living with their parents have a higher rate of unemployment or other inactivity than those who are not. Therefore it is not clear that any significant bias is being generated by the exclusion of those not living with their parents from the analysis. In any case, it would not be possible to carry out the analysis without the relevant information about the young respondents' parents.

The OLS and Heckman models were implemented in almost exactly the same way as the Italian analysis. One difference is that the UK Heckman models were estimated using a two-step procedure rather than maximum likelihood as per the Italian models; this was by necessity as the UK models would not converge using maximum likelihood. The model specification used was almost identical. The key difference for the Heckman models was the choice of exclusion restriction; the Italian analysis used parental education as an instrument, but this was found not to be suitable in the UK case, and parental age was used instead. Subsequent modelling was also based on a binary variable of father in work versus not in work (rather than unemployed versus. in work or otherwise inactive), as this was found to be a more relevant distinction for the UK case.

6. Discussion and Conclusions

This analysis has tried to conceptualise labour market disadvantage as more than whether a young person is 'NEET' (not in employment, education or training) or not. In doing so, it has taken a capability focused approach to youth labour market disadvantage, by recognising that the transition to work is not always positive, with many jobs having 'capability unfriendly' job characteristics, such as involuntary temporary contracts and part-time working (Goffette and Vero, 2014). The analysis was based on a multidimensional dependent

variable that incorporates several pieces of information about the stability of a person's labour market position, in order to create a scale of labour market exclusion. It has also tried to control for the complications of trying to estimate labour market disadvantage when this is unobservable for the section of this age group that are in education, through the use of selection models.

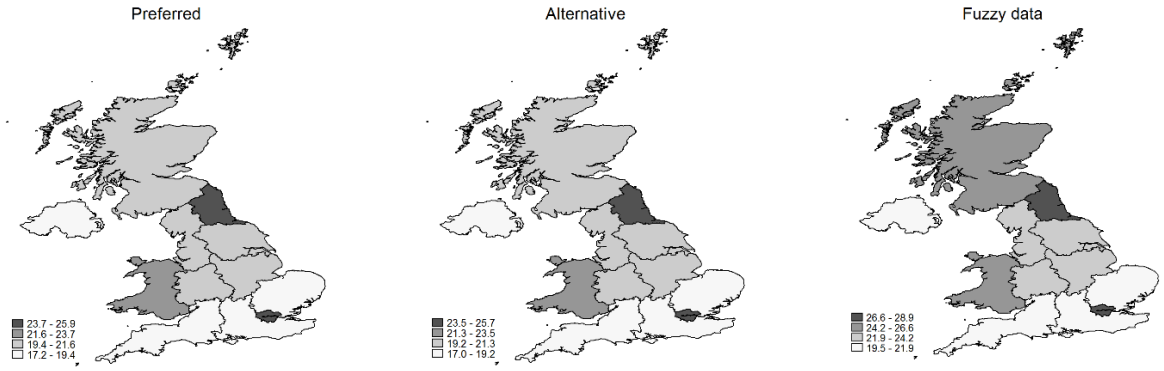
The ability to use parental age as an instrument in the selection models emphasises the enduring role of social class in selection into higher education in the UK, and by extension perhaps the more prestigious and well-paid professions. The UK is characterised by wide and enduring social class-linked inequalities in opportunities for social mobility (Bukodi et al., 2015), and it might be impossible to understand young people's capabilities in the UK without incorporating this into the model. However, the social class system itself is in flux, and young people are increasingly vulnerable regardless of background and education (Standing, 2014). This analysis did indeed find that having a tertiary-educated parent does not necessarily decrease labour market exclusion for those who do not follow the higher education route. Those from more advantaged backgrounds who do not follow this route are not necessarily in a stronger labour market position than those from less advantaged backgrounds.

The broadening of the informational basis – to the use of a scale of labour market exclusion incorporating a number of labour market outcomes, rather than a dichotomous participation variable – has exposed some of the nuance in young people's labour market participation. It exposes the way in which even those who are in work may not be in stable, high quality employment, and that their parental and educational background may not help them to secure a stable labour market position. This was borne out in the results, which showed that young people from relatively more advantaged backgrounds were nonetheless highly represented among the temporary workforce. However, although more advantaged young people were more likely to be in short, temporary contracts, those who were in temporary employment were more likely to be employed at a higher occupational level. The use of temporary and zero-hours contracts, and the requirement of many professional occupations for unpaid or poorly remunerated work experience and 'internships' before being eligible for a permanent position, is made possible in the UK's fairly flexible and deregulated labour market. Temporary employment can be a route to permanent employment, and it may be that some of the 20-24 year olds who are currently not in a strong labour market position may in the future manage to secure stable employment. However others, particularly those in lower skilled occupations, may never achieve this stability. Further analysis of this possible segmentation of life chances could help further illuminate disparities in capabilities between young people from different backgrounds.

Most of the effects identified in this analysis were small in absolute terms, and the overall explanatory power of the models was low, particularly in comparison to Italy. This suggests that the parental labour market factors in the model have a less profound impact on selection into education and labour market exclusion in the UK. Perhaps these phenomena are relatively more determined by choice, or by factors not included in this analysis, such as innate ability. In order to investigate this phenomenon, particularly within the capabilities framework, data is needed that can go beyond labour market outcomes to include an understanding of people's preferences and abilities.

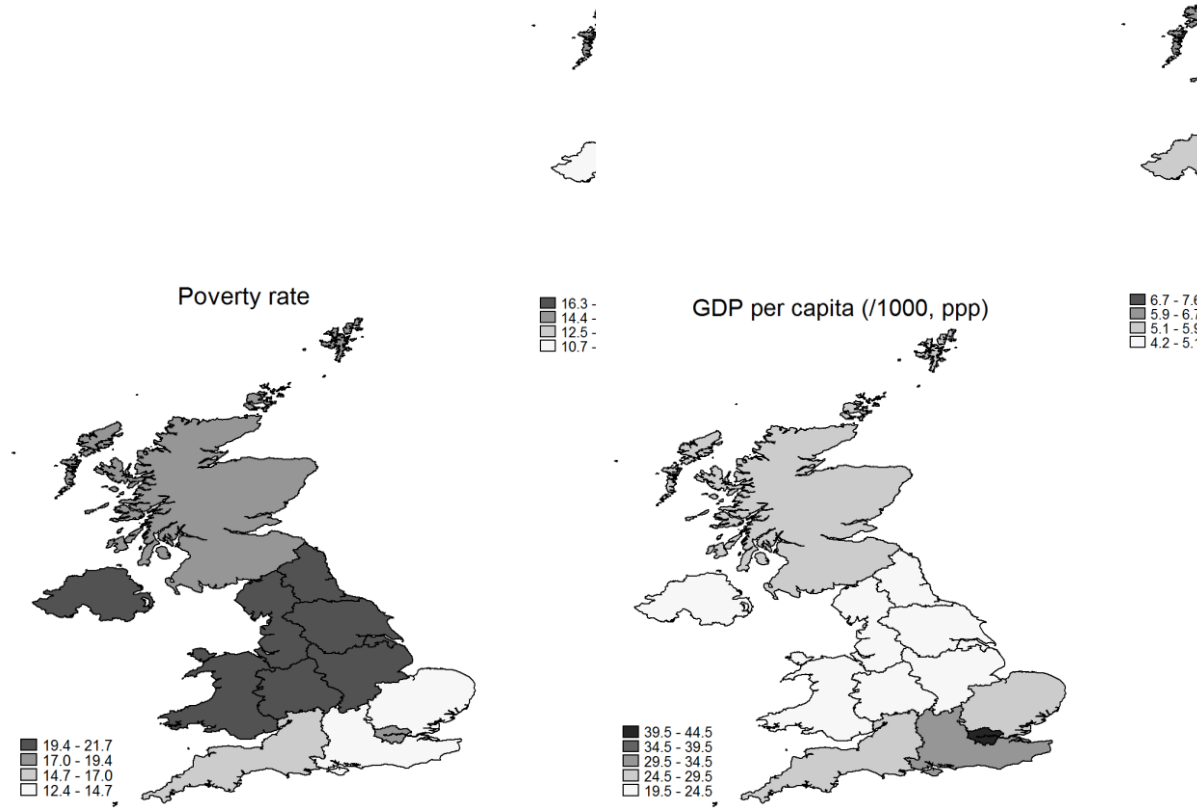
7. Appendix

Figure A1: Exclusion from the labour market by region



Source: EU-LFS, UK Survey, 2000-2012

Figure A2: Eurostat regional indicators



Source: Eurostat

Table A1: Predictors of labour market exclusion - First step (selection)

	Model 1		Model 2		Model 3	
Reported beta	Coeff.	Margin	Coeff.	Margin	Coeff.	Margin
Elder parent's age						
35-49	ref.	ref.	ref.	ref.	ref.	ref.
50-54	-0.083***	-0.018***	-0.103***	-0.020***	-0.095***	-0.021***
55+	-0.057**	-0.012**	-0.101***	-0.020***	-0.078***	-0.017***
Parental education						
Upper secondary	ref.	ref.	ref.	ref.	ref.	ref.
Lower secondary or less	0.079***	0.014***	0.035	0.006	0.047	0.009
Tertiary or above	-0.467***	-0.110***	-0.480***	-0.107***	-0.468***	-0.112***
Parental employment						
Employed	ref.	ref.	ref.	ref.	ref.	ref.
Unemployed	0.275***	0.053***	0.204***	0.038***	0.248***	0.049***
Retired	0.079	0.017	0.080	0.016	0.052	0.011
Other	0.129***	0.027***	0.091***	0.018***	0.108***	0.023***
Gender (1=Male)	0.150***	0.032***	0.154***	0.031***	0.156***	0.034***
At least one parent migrant	-0.574***	-0.124***				
Urbanisation						
Densely populated area	ref.	ref.	ref.	ref.	ref.	ref.
Intermediate area	-0.002	-0.000	0.034	0.007	0.057*	0.012**
Thinly populated area	-0.020	-0.004	0.051*	0.010*	0.041	0.009

Work intensity	0.609***	0.131***	0.631***	0.128***	0.650***	0.143***
Household size	-0.023*	-0.005*	-0.066***	-0.013***	-0.067***	-0.015***
Members aged under 14	-0.024	-0.005	-0.003	-0.001	-0.012	-0.003
Single parent household	-0.122***	-0.026***	-0.133***	-0.027***	-0.138***	-0.030***
Constant	1.287***		1.421***		1.400***	
Region fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	0.085		0.073		0.066	
Chi^2	1576.7***		1763.9***		1218.4***	
N	24672	24672	34954	34954	24672	24672

Source: EU-LFS, UK survey, 2000-2012. Significance of coefficients: *** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$.

Dependent variable: 0 = Being in education, 1= Being in the labour market (employed or NEET).

Estimation method: probit.

Table A2: Effects of disadvantage dimensions on exclusion from the labour market - Second step

	Model 1		Model 2		Model 3	
Estim. method	Heckman	OLS	Heckman	OLS	Heckman	OLS
	β	β	β	β	β	β
Disadv.: parent not in work	9.199***	10.617***	8.217***	10.618***	9.210***	11.359***
Disadv: parent upper secondary education	ref.	ref.	ref.	ref.	ref.	ref.
Disadv: parent lower secondary education	1.829***	1.543**	1.703***	1.859***	1.914***	1.961***
Disadv: parent tertiary education	0.338	3.693***	0.194	4.519***	0.009	3.783***
Disadv.: densely populated area	1.550***	1.736***	1.456***	2.508***	1.608***	2.602***
Disadv.: young members	4.971***	5.792***	6.399***	7.755***	5.018***	6.420***
Disadv.: single parent	5.185***	5.748***	5.130***	5.427***	5.101***	5.436***
Disadv.: North and Midlands	ref.	ref.	ref.	ref.	ref.	ref.
Disadv.: South of England	-1.751***	-1.715***	-1.345***	-0.869**	-1.604***	-1.038**
Disadv.: Wales/ Scotland/NI	-1.364*	-0.224	-1.367**	-0.314	-1.455**	-0.485
Disadv.: migrant parent	2.455**	8.134***				
Constant	9.140***	10.662***	8.135***	10.043***	8.907***	10.331***

lambda	20.096***		25.488***		21.842***	
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
R^2		0.059		0.055		0.053
F test		60.4***		66.1***		56.7***
Chi^2	799.6***		979.6***		777.0***	
N	23546	19893	33306	28695	23546	19893

Source: EU-LFS, UK survey, 2000-2012. Significance of coefficients: *** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$.

Dependent variable: Exclusion from the labour market.

Table A3: Effects of disadvantage dimensions on exclusion from the labour market - Interactions - Father unemployed

	(1)	(2)	(3)	(4)	(5)
	β	β	β	β	β
In work X Non densely populated area	ref.				
In work X Densely populated area	1.832***				
Not in work X Non densely populated area	7.445***				
Not in work X Densely populated area	13.770***				
In work X Upper secondary		ref.			
In work X Lower secondary or less		0.076			
In work X Tertiary		4.891***			
Not in work X Upper secondary		8.627***			
Not in work X Lower secondary or less		15.597***			
Not in work X Tertiary		9.866***			
In work X No members <= 14			ref.		
In work X At least one member <= 14			6.247***		
Not in work X No members <= 14			9.078***		
Not in work X At least one member <= 14			22.421***		
In work X Two parent household				ref.	
In work X Single parent household				3.767***	
Not in work X Two parent household				8.198***	
Not in work X Single parent household				19.580***	
In work X North and Midlands					ref.

In work X South					-0.785*
In work X Wales/Sco/NI					0.182
Not in work X North and Midlands					11.194***
Not in work X South					9.975***
Not in work X Wales/Sco/NI					8.843***
Constant	10.524***	10.338***	10.275***	10.486***	9.943***
Year fixed effect	Yes	Yes	Yes	Yes	Yes
Disadv.: density of population	No	Yes	Yes	Yes	Yes
Disadv.: parental education	Yes	No	Yes	Yes	Yes
Disadv.: young members	Yes	Yes	No	Yes	Yes
Disadv.: single parent	Yes	Yes	Yes	No	Yes
Disadv.: area	Yes	Yes	Yes	Yes	No
R^2	0.055	0.057	0.056	0.057	0.055
F test	63.2***	62.1***	63.4***	63.3***	60.2***
N	28695	28695	28695	28695	28695

Source: EU-LFS, UK survey, 2000-2012. Significance of coefficients: *** p ≤ 0.01, ** p ≤ 0.05, * p ≤ 0.1.

Dependent variable: Exclusion from the labour market.

Estimation method: OLS

Table A4: Predictors of labour market exclusion - Second step, alternative model (including parental age)

	Model 1		Model 2		Model 3	
Estim. method	Heckman	OLS	Heckman	OLS	Heckman	OLS
	β	β	β	β	β	β
Elder parent's age						
35-49	ref.	ref.	ref.	ref.	ref.	ref.
50-54	-0.066	-0.037	0.623	0.550	0.086	0.113
55+	0.453	0.520	1.239**	1.085**	0.725	0.783
Parental education						
Upper secondary	ref.	ref.	ref.	ref.	ref.	ref.
Lower secondary or less	0.727	0.688	0.747	0.708	0.996	0.995
Tertiary or above	3.224**	3.784***	5.103***	4.306***	3.450*	3.797***
Labour market experience	-0.624***	-0.624***	-0.750***	-0.751***	-0.666***	-0.666***
Parental employment						
Employed	ref.	ref.	ref.	ref.	ref.	ref.
Unemployed	5.103***	4.815***	4.332***	4.634***	5.242***	5.086***
Retired	0.662	0.537	0.224	0.332	1.055	1.011
Other	4.375***	4.260***	3.817***	3.904***	4.671***	4.624***
Gender (1=Male)	0.803	0.650	-0.016	0.196	0.725	0.626
At least one parent migrant	6.824***	7.681***				
Urbanisation						
Densely populated area	ref.	ref.	ref.	ref.	ref.	ref.

Intermediate area	-0.664	-0.664	-0.786	-0.722	-1.079	-1.120*
Thinly populated area	-1.217*	-1.188*	-1.328**	-1.256**	-1.651**	-1.677**
Work intensity	-8.025***	-8.758***	-10.417***	-9.352***	-8.759***	-9.242***
Household size	-0.475	-0.445	0.215	0.099	-0.070	-0.017
Members aged under 14	4.109***	4.155***	4.684***	4.643***	4.030***	4.050***
Single parent household	3.908***	4.068***	4.661***	4.425***	4.209***	4.325***
Constant	24.593***	25.349***	25.392***	24.554***	23.762***	24.125***
lambda	3.312		-4.686		2.008	
Region fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
R^2		0.059		0.057		0.054
F test		25.8***		31.6***		24.4***
Chi^2	646.3***		804.6***		647.1***	
N	21256	17503	28130	23392	21256	17503

Source: EU-LFS, UK survey, 2000-2012. Significance of coefficients: *** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$.

Dependent variable: Exclusion from the labour market.

Table A5: Comparison of young people in UK and Italy samples

	UK		Italy	
	Living with parents	Reference person or spouse	Living with parents	Reference person or spouse

	%	%	%	%
Highest education				
Lower secondary or less	21.6	22.0	23.3	51.7
Upper secondary	57.1	56.0	71.9	45.4
Tertiary	21.3	22.0	4.8	2.9
Total	*100.0*	*100.0*	*100.0*	*100.0*
Current level of study (if full-time student)				
ISCED 1-2	0.6	0.5	0.5	0.9
ISCED 3-4	8.0	4.3	5.6	2.8
ISCED 5-6	91.5	95.2	93.9	96.3
Total	*100.0*	*100.0*	*100.0*	*100.0*
Economic status				
In work	73.7	60.7	34.9	44.0
Studying	13.1	20.3	40.4	11.5
Unemployed	9.1	7.2	20.8	16.4
Fulfilling domestic tasks	0.8	9.1	1.5	26.7
Other inactive	3.3	2.7	2.4	1.4
Total	*100.0*	*100.0*	*100.0*	*100.0*
Employment status (if employed)				
Permanent employee	83.9	85.0	54.3	59.8
Temporary employee	10.5	9.8	32.0	24.4
Self-employed	4.4	4.4	9.4	12.9
Other	1.3	0.8	4.3	2.9
Total	*100.0*	*100.0*	*100.0*	*100.0*
Hours of employment (if employee)				
Full-time	79.2	74.7	83.8	81.5
Part-time	20.9	25.3	16.2	18.5
Total	*100.0*	*100.0*	*100.0*	*100.0*
Duration of contract (if temporary)				

Less than 3 months	21.0	20.2	16.4	16.1
3-12 months	50.8	45.7	38.9	45.3
12-24 months	18.1	20.3	14.9	10.5
More than 24 months	10.1	13.9	29.8	28.0
Total	*100.0*	*100.0*	*100.0*	*100.0*
Mean labour market exclusion (if not a student)	20.5	30.0	40.5	54.3
Total	38,844 (49.1%)	40,275 (50.9%)	213,841 (92.5%)	17,462 (7.5%)

Source: EU-LFS, UK Survey 2000-2012, Italy Survey 1998-2012

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WORK PACKAGE 5: PARTICIPATORY RESEARCH

SocIEtY: SOCIAL INNOVATION - EMPOWERING THE YOUNG FOR THE COMMON GOOD

CHAPTER 6
TRENDS AND DETERMINANTS OF INEQUALITY OF CAPABILITIES IN THE LABOUR MARKET IN ITALY

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Trends and determinants of inequality of capabilities in the labour market in Italy

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Executive summary

The impact of the recent economic crisis in terms of losses of opportunities shows that people have different risk exposure and several groups are more vulnerable than others in the opportunity dimension; this exclusion can derive by a combination of causes and circumstances.

The capability approach acknowledges that people's available opportunities are determined by individual endowments, personal traits and influential contingencies that can affect the conversion process of resources into relevant opportunities and outcomes. Accounting for these sources of variations – particularly in terms of human diversity and differences in contexts – and for how they interrelate in determining the real freedom to achieve "what people has reason to value" is crucial in understanding persistent and plural disadvantages in both (capabilities and achievement) spaces and should be taken into account when analysing it and designing public policy.

Correspondingly, in his book "Equality of Opportunity", Roemer (1998) defined outcomes or achievements interest as "advantages" and differentiated the sources of inequality between factors for which individuals could be hold responsible for - as effort and choices - and circumstances that lie beyond the individuals' control - such as gender, ethnicity, place of birth or family background. While the former are somewhat acceptable sources of inequality, the latter are generally considered unfair. Thus, inequality in terms of outcomes is somewhat

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justified as long as it is independent of individuals' exogenous circumstances.

The two theoretical frameworks are remarkably different in several respects, but they also show some germane similarities as both recognize the importance of equalizing opportunities, while allowing for different (chosen or "deserved") outcomes and acknowledge the multi-dimensionality of relevant outcomes and sources of inequality. Moreover, they both acknowledge that multiple individual characteristics interrelate in generating advantages or disadvantages. The idea of intersectionality is implicitly captured by Roemer's notion of circumstances and Sen's definition of conversion rates. In both cases, it is not a single factor or a set of separate factors that determine individual (dis)advantage, but the combination and interrelation between personal characteristics and a plurality of contextual factors that affect individuals' positions and may determine individual differences in terms of opportunities/capabilities.

This paper aims at analysing trends and determinants of youth inequality of capabilities in education sphere and in the labour market space by integrating Amartya Sen's concept of capability and John Roemer's notion of (unfair) circumstances.

The analysis innovates the existing literature towards two directions: first, it suggests a methodological approach for measuring (a proxy of) capabilities, by looking at the different functionings of individuals sharing the same circumstances. Second, it estimates whether and to what extent capabilities and achievements in these two dimensions are affected by specific conditions beyond individuals control.

The empirical analysis is conducted on education and labour market outcomes, featuring Italian data from the Labour Force Survey in 1998-2012 and referring to youth in the age of 20-24 as target group.

1 Literature review

The detrimental effect of the current socio-economic crisis has been pervasive around Europe and spread over multiple dimensions and groups. However, it has been widely recognized (Scarpetta, Sonnet, and Manfredi, 2010; International Labour Office, 2013) that young people represent one of the categories which has paid the highest price, especially in and of itself difficult transition from school to work. Several explanations have been provided for this phenomenon. Traditionally, young people, compared to other age groups, face several challenges in entering the labour market due to their lack of work experience and the mismatch between the skills they acquire through formal education and those required by employers (Christopoulou, 2008).

These difficulties are exacerbated by the fact that youngsters tend to be highly concentrated in sectors and industries particularly sensitive to business cycle fluctuations and are disproportionately present among those holding part-time jobs and temporary and precarious contracts (OECD, 2010), whose incidence over the total number of job contracts has increased during the last decades.[1] These factors jointly result in young people being overwhelmingly affected by the consequences of the current economic crisis and contribute explaining the strong deterioration in the labour market situation for young people during the last few years, as captured by the adverse trends of youth unemployment rate (Bell and Blanchflower, 2011; International Labour Office, 2013) occurring alongside a decline in the youth labour force participation rate (Eurofound, 2012).[2]

However, the overall figures on youth disengagement from the labour market mask significant internal differences, being certain groups more adversely affected than others. Indeed, according to a well-established literature (see for instance Blanden and Gregg, 2004; Ermisch and Francesconi, 2001; Golsch, 2008; Gregg and Machin, 1999), youth with deprived socio-economic background, regionally segregated youth, ethnic minorities and young women are more vulnerable than their peers and tend to perform worse in the labour market. Indeed, on the one hand those circumstances affect the level of opportunities and achievements in education (Ferreira and Gignoux, 2014; Woessmann, 2004), which is, according to the Human Capital theory (Becker, 1964; Mincer, 1974), the main determinant of labour market outcomes. On the other hand, even after controlling for the level of education achieved, these circumstances have been found to still play a substantial role in labor market outcomes, thus suggesting that inequality of opportunity persists beyond human capital (see for instance Bjorklund and Jäntti, 2009; Blanden,

[1]Indeed, starting from the 1980s a number of countries characterized by high employment protection levels (Spain, Portugal, Sweden and Italy amongst others) adopted significant labour market reforms as a way to enhance labour market efficiency and reduce unemployment levels. These reforms were implemented as gradual and/or partial changes of the institutional framework of the labour market and consisted mainly of policies "at the margin" which allow for reduced protection for some new contractual forms (atypical contracts), thus affecting only the new entrants in the labour market and those moving to new jobs. Italy, more specifically, introduced a degree of flexibility at the margins of the labour market with its introduction of non-standard contracts in 1997 (Treu Law), followed up by a 2000 law relaxing regulation of part-time employment, and by 2003 deregulation of fixed-term contracts (Biagi Law).

[2]This decline is usually explained through discouragement and rising numbers of youngsters neither in education, employment or training, the so-called NEET rate. Throughout the paper, we refer to NEET in a more restrictive meaning than the usual: those young who are neither employed nor unemployed, nor in education, following the argument that young who do not actively search for a job are 'more excluded' than unemployed.

2013; Guell, Rodriguez-Mora, and Telmer, 2015; Pellizzari, 2010).

Digging deeper into the overall youth unemployment statistics and assessing the relative and cumulative effects of different circumstances is especially of interest in the case of Italy, where youth labour market disengagement is steadily becoming a persistent trait of its economy (Bruno et al., 2014) and, as recently acknowledged, the opportunities for young Italians to participate in the labour market have become even more unequally distributed across different regions (Ballarino et al., 2014; Spreafico, Peruzzi, and Chiappero-Martinetti, 2014). Moreover, Italy experiences very low intergenerational earnings mobility (Checchi and Dardanoni, 2002; Checchi and Flabbi, 2013) and access to occupations is strongly related to family connection and to membership to social networks (Luongo, 2010), being also strongly segmented along gender lines. The varied disadvantages that young people face in accessing labour market highlight the complex interrelatedness between personal, familiar and contextual circumstances, along with the multidimensional nature of labour market inequalities.

The bulk of the academic literature aimed at explaining young people's disengagement from the labour market,[3] even when controlling for multiple factors, focuses on the role of specific disadvantages. However, as growingly recognized, it is not a single factor or a set of separate factors, but the combination between different and multi-layered circumstances that affect individuals' positions and may determine individual differences in terms of opportunities. Moreover, despite the increasing policy focus on youth unemployment is certainly needed, the quality of employment available for young people has been largely overlooked: even when they find a job, young people are more likely to be concentrated in low-quality and precarious works.[4] Not only the lack of stability for youth points to a widening inequality between generations, but temporary contracts often go hand-in-hand with minimal job security and limited or no access to social benefits, which further heighten the risk of social disengagement among young people.

This analysis stems from this debate and contributes to the existing literature towards two directions: first, in line with the concept of cumulative disadvantage (Wolff and de-Shalit, 2013), we examine how the combination and interplays between personal characteristics and a plurality of household and contextual factors affect young people's opportunities in the labour market. To this purpose, we first focus on the final outcome (namely, the labour

[3]This phenomenon is usually measured either in terms of unemployment rate or, more recently, in terms of NEET rate.

[4]According to Eurostat Labour Force Statistics, in 2012 42% of young workers in Europe were on temporary contract, which compares with 13% among adult workers, while 32% were on a part-time contract (nearly twice the adult rate).

market exclusion), and identify its main determinants at the individual level. Then, in order to estimate the set of potential opportunities available to individuals, relying on the first-step results, we create clusters of individuals sharing similar set of circumstances, in order to analyse at group level how the capability deprivation is affected by different combinations of disadvantages. Second, we define a measure of youth disengagement from the labour market which goes beyond the mere employment/unemployment dichotomy, allowing us to to take into consideration also two other important aspects of the quality of employment, namely its security (whether it is permanent or temporary) and the working-time arrangements (whether it is part-time or full-time).

2 Definitions, data and measures

In order to analyse the labour market outcomes of young individuals, we need to exploit the outcome variability both in terms of labour market itself and in terms of educational achievement, that represent the main source of selection *outside* the labour market for young individuals. To these goals, we define as the target group those individuals aged 20-24. Indeed, even if they are still at the early stage of their adult life, they are old enough to show different outcomes in the education achievement and labour market status: on the one side, students in this age bracket might have achieved any kind of upper secondary grade and could be enrolled in tertiary education; on the other side, young workers can experience all the range of possible job types and show some variability also in terms of seniority.

For our purposes, the best source of data to identify such individual characteristics is the European Union Labour Force Survey (LFS from now on), a large household sample survey providing detailed information on individual labour market outcomes. Together with labour market, LFS includes several information on the educational achievements, either in the institutional framework or in on-the-job training, and other information on socio-demographic background. The first wave of LFS dates back to 1983. However, since variables and definitions changed over time, we decide to focus only on the period 1998-2012. This interval is sufficiently long to analyse the trends over time (and also to capture the effect of the recent economic crisis), but it minimizes the consistency issues arising from the change of variable definitions and classifications. In particular, there are two variables available only since 1998: one is the main labour status,[5] that standardizes the classification of labour market outcomes; the other is the highest level of education

[5]Variable MAINSTAT in the official LFS documentation.

achieved,[6] that is classified at a much lower level of aggregation before 1998, making comparison virtually impossible.

Each wave of LFS is made up by four quarterly surveys. In case households are surveyed more than once per year, we keep only the most recent observation. Unfortunately, LFS does not allow tracking households over different years, so that it is not possible to exploit the panel dimension of the survey. Overall, the sample includes 4,556,192 individuals in 1,838,597 households. Our working sample, however, includes only households with at least one young individual, as defined above,[7] who is not household head. The choice of excluding household heads is due to the fact that the survey does not provide complete information on household head's parents, therefore we can only include in our sample individuals whose parent(s) are also included in the survey.[8] Table 1 summarizes the sample size over time of both the complete survey and the working sample, after the exclusion of households surveyed more than once per year. The final dataset is organized by youngsters, meaning that each of the 213,841 observations represents one individual aged 20-24 and includes information at individual and household level.

In the empirical analysis we use five sets of variables described hereafter to clarify their definition, sources and meaning. The first is the main interest variable, the *exclusion from the labour market*. It is derived by individual information on labour market status, such as whether the individual is employed, unemployed, or NEET; if employed, whether she has a full-time or a part-time job, and whether she has a permanent or a temporary job; in the latter case, the duration of the temporary job; if unemployed, whether she is long-term (more than 12 months) or short-term unemployed. Table 2 shows the composition of labour market positions of youngsters in Italy between 1998 and 2012.

There are several ways to order the different positions in the labour market in order to measure exclusion from the labour market. We generate three different indicators, two on 'arbitrary' bases, one assigned on the basis of

[6]Variable HATLEVEL in the official LFS documentation.

[7]In principle, we would have preferred to focus on individuals right after the completion of secondary education. However, LFS provides age only in 5 years brackets (from 0-4 to 95-99) for confidentiality issues.

[8]In addition to this conclusive issue, there are three other reasons to exclude young household heads from the analysis: from a theoretical perspective, there is a self-selection issue, since it is very unlikely that children who decide to achieve tertiary education are able to be household heads, in particular in the Italian framework; moreover, young household heads are likely to behave differently from youngsters living in the household of origin, and this may affect the results; finally, from an empirical perspective, the young household heads are a very small fraction of the population.

Table 1: Sample size by year

	Entire sample		Working sample		
Year	Individuals	Households	Individuals	Households	Youngsters
1998	201,835	75,346	41,468	10,613	12,494
1999	200,625	75,173	40,382	10,286	12,034
2000	199,367	75,275	38,564	9,772	11,390
2001	196,236	75,216	36,477	9,231	10,700
2002	194,041	75,202	34,295	8,738	10,002
2003	192,359	75,294	33,794	8,655	9,894
2004	172,264	66,441	28,546	7,254	8,317
2005	422,157	164,597	69,682	17,722	20,302
2006	413,946	164,822	65,380	16,746	19,164
2007	408,695	165,758	62,160	15,965	18,166
2008	404,811	166,219	58,838	15,202	17,308
2009	399,828	167,634	57,024	14,846	16,902
2010	395,085	167,811	54,571	14,283	16,200
2011	391,770	168,383	53,141	13,995	15,836
2012	363,173	155,426	50,450	13,331	15,132
Total	4,556,192	1,838,597	724,772	186,639	213,841

Source: LFS, Italian survey, 1998-2012.

Table 2: Summary statistics on labour market outcomes (individuals, 20-24)

Variable	Obs.	Share	Variable	Obs.	Share
Labour market status			Job contract (if employee)		
Employed	74,632	34.9	Temporary job	23,145	36.2
Unemployed	44,510	20.8	Permanent job	40,869	63.8
Student	86,346	40.4	*Total*	64,014	100
Other	8,353	3.9	Job duration (if temporary job)		
Total	213,841	100	Less than 3 months	3,026	13.1
Employment status (if employed)			3-12 months	7,993	34.5
Employee	64,014	85.8	12-24 months	3,199	13.8
Self-employed	7,291	9.8	More than 24 months	6,455	27.9
Family worker	3,248	4.4	Missing	2,472	10.7
Missing	79	.1	*Total*	23,145	100
Total	74,632	100	Unemployment duration		
Hours worked (if employed)			Less than 6 months	6,921	15.6
Part-time	9,885	13.3	6-12 months	3,623	8.1
Full-time	64,668	86.7	More than 12 months	12,781	28.7
Missing	79	.1	Missing	21,185	47.6
Total	74,632	100	*Total*	44,510	100

Source: LFS, Italian survey, 1998-2012.

the relative frequency in the empirical distribution, following the fuzzy data approach (see Chiappero-Martinetti, 2006), where the only arbitrariness is in the sorting of individuals. Figure A.1 represents graphically the values arbitrarily assigned to the individual positions in the labour market, ranging from the less excluded individuals (with a full-time, permanent job contract) with value 0 to the most excluded (NEET) with value 1.[9] The difference between the two measures is the relative importance given to the length of temporary job contracts and the weekly hours worked in describing the degree of exclusion. Moreover, following the approach of fuzzy data, we can also evaluate "endogenously" the position of individuals in the scale of exclusion, deriving empirically the cumulative distribution function and assigning to every type the corresponding value of the cumulative distribution function. In order to make the three measures more comparable and the results clearer, we normalize them from 0 to 100, where 0 indicates the less excluded individuals and 100 the most excluded ones. A comparison among the three measures shows that the two based on arbitrary scores are virtually identical, while the one based on cumulative distribution function takes lower values, but shares the same time trend and regional pattern (see figures 1 and A.2, respectively). Table 3 summarises the three measures, showing only slight differences among them. In the following analysis we use the first indicator, but results are fully robust to the choice of indicator of exclusion from the labour market.

Table 3: Summary statistics on exclusion from the labour market

Variable	Obs	Mean	Std. Dev.	Min	Max
Exclusion (preferred scale)	122,353	49.15	39.42	0	100
Exclusion (alternative scale)	122,353	48.38	39.31	0	100
Exclusion (fuzzy data scale)	122,353	38.96	36.43	0	100

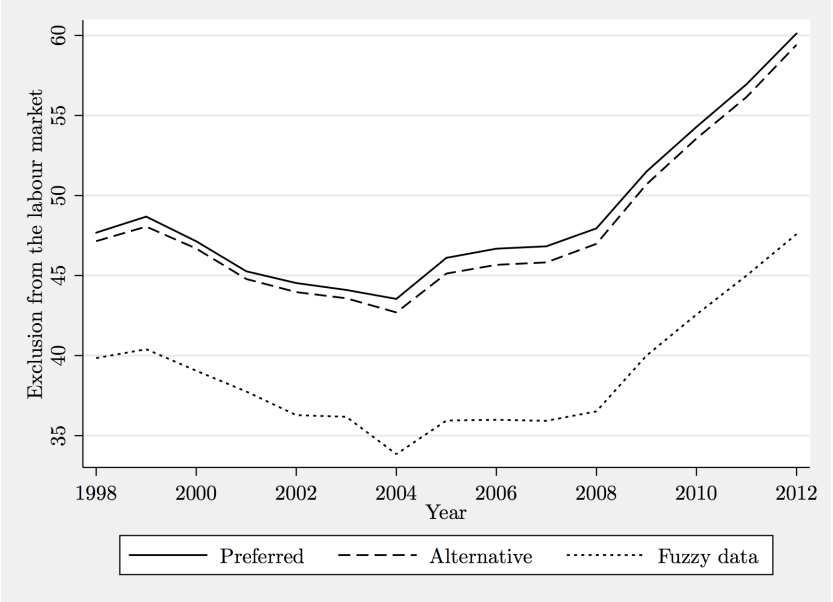
Source: computations on LFS, Italian survey, 1998-2012.

The second set of variables refers to *individual circumstances* and parental background: region of residence, degree of urbanization, gender, highest educational level achieved,[10] migration status (whether native, first generation migrant or second generation migrant). Descriptive statistics (table 4) confirm well-established evidence about education: in Italy, vocational education

[9] In the few cases in which the duration of job contract or of unemployment spells are missing, we assign the average value. Opposite, we do not replace cases where other characteristics of labour market position are missing.

[10] The original variable has been aggregated in six homogeneous levels, very similar to ISCED classification: primary or less (ISCED levels 0 and 1), lower secondary (level 2), upper secondary vocational (up to 3 years, level 3c), upper secondary for college (level 3a-b), post-secondary non-tertiary (level 4), tertiary or above (levels 5 and 6).

Figure 1: Exclusion from the labour market over time - Multiple indicators



Source: LFS, Italian survey, 1998-2012.

is very under-developed both at secondary level (less than 9%) and at tertiary level (about 1% over the entire period). More interestingly for our purpose, a characteristic of Italian education and labour market is worth to discuss here: as it clearly emerges from figure A.3, Southern regions and Islands[11] register a high unemployment rate, a low employment rate, but – surprisingly – also a relatively high share of students in the age 20-24. There is evidence (see for instance Capuano, 2012; Oppedisano, 2011; Oppedisano, 2014) that the expansion of tertiary education that took place in Italy in the 1990s increased the probability that youngsters attend a college - in particular in Southern regions - but did not improve their job market outcomes. Two reasons have been called to explain this puzzling evidence: on the one side, the average quality of students decreases, since the "marginal student" has a lower ability; on the other side, the drop-out rate increased significantly, suggesting that tertiary education is a (cheap) socially more acceptable option to unemployment, that guarantees a better reputation, but not necessarily more competences. Table 4 also shows that immigration is a relatively new phenomenon in Italy, where less than 1% of individuals aged 20-24 are second generation migrant, and that about two thirds of the sample live outside densely populated areas.

[11]In details, Abruzzo, Molise, Campania, Puglia, Basilicata, Calabria, Sicilia, Sardegna.

Table 4: Summary statistics on individual circumstances

Variable	Obs.	Share
Gender		
Male	112,449	52.59
Female	101,392	47.41
Total	213,841	100.00
Migration status		
1st generation migrant	7,659	5.20
2nd generation migrant	329	.22
Native	139,339	94.58
Total	147,327	100.00
Education		
Primary or less	2,994	1.40
Lower secondary	46,748	21.90
Upper secondary - vocational	14,582	6.83
Upper secondary - for college	136,826	64.07
Post-secondary non-tertiary	2,409	1.13
Tertiary or above	9.976	4.67
Total	213,555	100.00
Degree of urbanization		
Densely populated area	74,385	34.79
Intermediate area	87,267	40.81
Thinly populated area	52,189	24.40
Total	213,841	100.00

Variable	Obs.	Share
Region of residence		
Piemonte	14,311	6.69
Valle d'Aosta	2,594	1.21
Lombardia	23,584	11.03
Trentino - Alto Adige	11,059	5.17
Veneto	10,959	5.12
Friuli - Venezia Giulia	4,206	1.97
Liguria	4,329	2.02
Emilia Romagna	10,087	4.72
Toscana	10,592	4.95
Umbria	3,997	1.87
Marche	4,894	2.29
Lazio	13,674	6.39
Abruzzo	5,033	2.35
Molise	5,802	2.71
Campania	20,535	9.60
Puglia	15,828	7.40
Basilicata	7,470	3.49
Calabria	14,309	6.69
Sicilia	22,515	10.53
Sardegna	8,063	3.77
Total	213,841	100.00

Source: LFS, Italian survey, 1998-2012.

As described above, the structure of the dataset allows for the investigation of parental and household background. Table 5 shows some characteristics of youngsters' households: household size and composition, parental age, educational level, employment status, migration status and work intensity.[12] Slightly more than 10% of children live in single-parent households, while slightly less has foreign origins. With respect to education and labour market, less than 10% of parents achieved post-secondary education, both fathers and mothers, while about 17% of children are raised in households with low work intensity. It is worthy to stress the gap between fathers and mothers in the labour market: more than half of mothers are out of the labour force, while less than 25% of fathers are in the same status. Moreover, also the unemployment rate is higher among mothers (almost 11%) than among fathers (about 8%). The resulting employment rate is dramatically lower for mothers. Moreover, mothers are on average younger than fathers, so that the figures could be even worse if one considered also the share of retired (i.e., pensioners formerly employed) among those outside the labour force. In order to avoid missing values for single parent households, we cannot include in our analysis the characteristics of both parents. Therefore, we use

[12]Eurostat defines "the work intensity of a household [as] the ratio of the total number of months that all working-age household members have worked during the income reference year and the total number of months the same household members theoretically could have worked in the same period" (Eurostat, 2015c).

the educational achievement of the most educated (only) parent, the employment status of the father (or mother, if father is not present), and we define a household as migrant if at least one of the parents is born abroad.

Table 5: Summary statistics for households

Variable	Obs.	Mean
Household composition		
Household size	213,841	3.983
Members aged ≥ 65	213,841	.084
Members aged ≤ 14	213,841	.198
Single father	4,141	1.94
Single mother	19,807	9.26
Non-cohabiting parents	3,414	1.60
Two-parents households	186,479	87.20
Total	213,841	100.00
Migration status		
Only mother migrant	5,278	3.58
Only father migrant	1,723	1.17
Both parents migrant	4,264	2.89
Both parents native	136,062	92.35
Total	147,327	100.00
Father education		
Primary or less	45,197	23.74
Lower secondary	71,981	37.81
Upper sec. - vocational	12,986	6.82
Upper sec. - for college	43,543	22.87
Post-sec. non-tertiary	988	0.52
Tertiary or above	15,679	8.24
Total	190,374	100.00

Variable	Obs.	Mean
Age		
Mother's age	208,759	49.7
Father's age	191,561	53.5
Mother labour status		
Employed	91,488	43.82
Unemployed	11,229	5.38
Other (out of labour force)	106,042	50.80
Total	208,759	100.00
Father labour status		
Employed	139,491	72.82
Unemployed	12,529	6.54
Other (out of labour force)	39,541	20.64
Total	191,561	100.00
Work intensity	212,743	.51
Low work intensity	36,411	17.03
Mother education		
Primary or less	51,954	25.08
Lower secondary	75,676	36.53
Upper sec. - vocational	16,384	7.91
Upper sec. - for college	46,174	22.29
Post-sec. non-tertiary	1,737	0.84
Tertiary or above	15,222	7.35
Total	207,147	100.00

Source: LFS, Italian survey, 1998-2012.

Focusing on these individual circumstances, we identify some specific conditions that turn out to be positively correlated to high levels of exclusion from the labour market. We name this third set of variables *disadvantage*, since it is the subset of individual circumstances affecting more significantly the exclusion from the labour market. Anticipating some of the results, the disadvantage variables include: having the father unemployed, living in densely populated areas, being a woman, living in a household with at least one member younger than 15 or with a single parent, being migrant, living in central or southern regions, being in the labour market after 2004 (when the Biagi reform of the labour market was enforced) or after 2008 (the first year of the economic crisis).

The fourth set of variables aims at measuring the *capability deprivation*, based both on the observed and on the potential position in the labour market. In order to measure the capability deprivation, we need to compare the exclusion from the labour market of all the individuals with the same conditions of disadvantage, observing both their average exclusion and its dispersion within the group. Indeed, on the one side, the higher is the average exclusion from the labour market, the higher is the capability deprivation

of the group. On the other side, the higher is the dispersion of the exclusion from the labour market, the higher is the "freedom of choice" of individuals within the groups, assuming that individuals can choose more easily among different opportunities whenever the dispersion of outcomes is higher (see Burchardt and Le Grand, 2002). In the empirical analysis we use two different, but similar indices to take into account these features: one is the well-known coefficient of variation, that weights the standard deviation of a variable – in this case the exclusion from the labour market at individual level within every group – by its average level; the other is the Krtscha index (Krtscha, 1994; del Rio and Alonso-Villar, 2008; Lambert and Subramanian, 2014), that weights the coefficient of variation by the standard error. Opposite to the framework of inequality, in our context dispersion within groups is a positive feature of a group, so we take the opposite of the two measures as an indicator of group capability deprivation, that is:

$$\begin{aligned} D_1 &= -CV = -\sigma/\mu \\ D_2 &= -\text{Krtscha index} = -CV \times \sigma \end{aligned} \tag{1}$$

where CV stands for coefficient of variation and μ and σ are the mean and the standard deviation, respectively. It is clear from eq.(1) that both measures decrease with σ and increase with μ,[13] coherently with the properties of capability deprivation.

Finally, we include in our analysis some socio-economic *contextual* variables at regional level, obtained by Eurostat, such as GDP (per capita and growth rate), total and youth unemployment, poverty and deprivation rates. Figure A.4 in appendix shows some relevant indicators for the whole period under investigation. Strong regional disparities clearly emerge from the picture: in the Southern regions more than 25% of households have an income lower than 60% of the national median,[14] while more than 10% are materially deprived (see Eurostat, 2015b, for the definition of material deprivation). These figures are not only dramatic *per se*, but also in comparison with Northern regions, where unemployment, poverty and deprivation rates are significantly lower.

[13] Indeed:

$$\frac{\partial D_1}{\partial \sigma} = -\frac{1}{\mu} < 0, \ \frac{\partial D_2}{\partial \sigma} = -\frac{2\sigma}{\mu} < 0, \ \frac{\partial D_1}{\partial \mu} = \frac{\sigma}{\mu^2} > 0, \ \frac{\partial D_1}{\partial \mu} = \frac{\sigma^2}{\mu^2} > 0$$

since $\mu, \sigma > 0$.

[14] This is the threshold used by Eurostat (2015a) to define poverty.

3 Methods and Results

Once we retrieved the measures of exclusion from the labour market and some background information, we can proceed to the empirical analysis, that is twofold: first, we analyse at *individual* level which are the circumstances more likely to affect the exclusion from the labour market; second, relying on these results, we analyse at *group* level how the capability deprivation is affected by disadvantages.

3.1 Analysis at individual level

When dealing with labour market outcomes at age 20-24, the first issue is the one of selection: a relevant share of the population is outside the labour market because still in formal education, likely at tertiary level, as discussed in section 2. For this reason, it is important to take into account the selection process when investigating the effect of circumstances on the exclusion from the labour market. In order to do this, we first generate a dummy variable that identifies individuals outside formal education (i.e. either in the labour market or NEET); second, we use this dummy to select individuals who effectively or potentially participate in the labour market; third, we investigate how circumstances affect the exclusion from the labour market of these individuals, accounting for the selection process. The best way to deal with selection processes is to implement the so-called Heckman selection model (see Heckman, 1979, for the original model), that consists of a system of equations, as follows:

$$y_i = \begin{cases} y_i^* & \text{if } h_i^* > 0 \\ - & \text{if } h_i^* \leq 0 \end{cases} \tag{2}$$

$$h_i = \begin{cases} 1 & \text{if } h_i^* > 0 \\ 0 & \text{if } h_i^* \leq 0 \end{cases} \tag{3}$$

where y_i is the exclusion from the labour market, that is observed only if the individual is in the labour market or NEET, while it is not observed if she is in education. This selection variable is identified by h_i, that is a binary variable taking value 1 if individual i is in the labour market and 0 otherwise. In turn, the two latent variables y_i^* and h_i^* are identified as follows:

$$y_i^* = x_{1,i}\beta_1 + \varepsilon_{1,i} \tag{4}$$

$$h_i^* = x_{2,i}\beta_2 + \varepsilon_{2,i} \tag{5}$$

where $x_{2,i}$ includes at least one element that is not in $x_{1,i}$, the so-called exclusion restriction. In the present analysis, the exclusion restriction is parental

education, that is shown to be highly correlated to children education, but not to exclusion from the labour market (as shown hereafter). Depending on the assumptions on the error terms $\varepsilon_{1,i}$ and $\varepsilon_{2,i}$, it is possible to compute the β's by maximum likelihood or by a two-step procedure (see for instance Cameron and Trivedi, 2008, pp.541-557). In the paper we show results from the former, that allows to cluster standard errors at household level, but two-step estimations provide results not significantly different.

Table A.1 shows results from three different specifications of the selection model. In all the models, the dependent variable is the binary variable h, indicating the participation to the labour market versus formal education. In model 1 information on migration status are included, while they are not in model 2. As pointed out previously, migration status is available only since 2004 and its inclusion almost halves the number of observations and the period considered. However, this leaves almost unaffected all the other estimated coefficients. Model 3 has exactly the same specification as model 2, but it is computed on the same time-span as model 1, to assess whether the slight differences between model 1 and model 2 are due to the different sample or to the presence of migration status among regressors. The former seems to be more likely, as made clear – for instance – by coefficients on gender and unemployed father.

The first, striking evidence is that parental education strongly affects the probability that children take part to (tertiary) education when they are 20-24: with respect to primary education, the probability of being in the labour market (or NEET) instead of in the educational system decreases sharply with education achieved by the most educated parent, up to almost 60% for tertiary education. Unemployed father (mother) also affects the probability of being in the labour market, most likely to substitute the income of the unemployed parent. The probability of being in the educational system is about 15% higher for girls, confirming the well known result that women tend to acquire more education than boys. Having at least one parent migrant increases the probability of being in the labour market by 4.4%. Finally, the effect of other controls, such as household composition, parents' age, population density (basically, whether living in big cities, small towns or in countryside), and work intensity, are statistically significant, but relatively small in absolute values.

Table A.2 shows results from the second step of the Heckman model and OLS on the same control variables. Sign and magnitude of the coefficients are very similar across models and specifications, supporting a good consistency of our results. The validity of our exclusion restriction is confirmed by the results in table A.3, where the same models as in table A.2 are reported, but with the inclusion of parental education. By comparing the two sets

of models, it clearly emerges that there are no significant differences in the estimated coefficients, nor in the significance of the model, and that parental education leaves virtually unaffected the exclusion from the labour market, once controlling for selection.

The most important circumstance affecting exclusion seems to be gender: being a man decreases exclusion by around 9 p.p. in the OLS model and by slightly less than 7 p.p. when accounting for selection.[15] Having the father (mother) unemployed increases exclusion by 3 to 4 p.p. with respect to an employed father (mother), while exclusion slightly decreases if (s)he is retired. Unsurprisingly, age of experience in the labour market decreases exclusion, and the same does living in intermediate or thinly populated areas.[16] The coefficient associated to work intensity seems to be high in absolute terms, but in fact this depends on the scale of the variable, that is bounded between 0 and 1: indeed, the exclusion decreases by about 7 p.p. if the child lives in a household where *all* the other members are working full time with respect to a households where *none* of the members has any kind of job. Intermediate cases reduce the effect on exclusion. Finally, household size has a very small effect, while the number of young children in the household seems to negatively affect exclusion, likely because of informal childcare, and the same happens in households with a single parent.

On the basis of these results, as anticipated in section 2, we identify several dimensions of disadvantage useful for the following analyses at both individual and group level. At individual level, we need to interact disadvantage dimensions to investigate their possible joint effects; at group level, we need to create clusters of individuals to analyse as homogeneous groups. Therefore, we have to balance detail and parsimony. As for detail, the assumption that all individuals with the same observable circumstances are "equal" calls for a deep investigation of background characteristics. However, since the number of groups is the product of the number of categories within each dimension,[17] we should also be parsimonious, in order to have a sufficient sample size in every cell. Therefore, we need to choose the most relevant circumstances and to select the appropriate disadvantage indicators.

To this goal, we define the following disadvantage dimensions: father (or mother, in case of single maternal households) unemployed, living in

[15]In the case of gender, the difference between the two models is sizeable, most likely due to the larger selection of women in education.

[16]Since we are selecting only children living with their parents, we assume that the choice of where to live – both in terms of region and in terms of the size of the town – is not mainly due to the labour status of the child.

[17]For instance, the number of cells originated by splitting the sample by gender (2), region of residence (20) and year (15) is 600.

a densely populated area (i.e. in a city), being a woman, having a single parent, living in a household with at least one member younger than 15, macro-area (central or southern regions).[18] We exploit these dimensions to account for interactions among disadvantages. Table A.4 reports the same models as in the previous tables, where circumstances have been replaced by disadvantage dimensions. This allows us confirming the relevance of the selected disadvantage and the consistency between Heckman selection models and OLS estimations. For explanatory reasons, in the following analysis we focus only on the OLS model without considering migration status (that is column (4) in table A.4), but results are consistent to different assumptions. Tables A.5 to A.9 show the complete set of interactions by disadvantage dimension,[19] whereas table A.4, column (4) reports the average effects.

Since disadvantage dimensions are all dummy variables, the meaning of interactions is different than usual: one should compare the joint effect of two disadvantages with the sum of the single effects. As an example, let us consider column (1) of table A.5:[20] taking as a reference not living in a city and not having the father unemployed, living in a city increases the exclusion from the labour market by 5.1 p.p. and having the father unemployed increases it by 5.7 p.p., while the joint effect is of 9.3 p.p., that is lower than the sum of the single effects (10.8) by more than 10%. This means that the joint effect is lower than the two independent effects, suggesting that the effect of the father unemployed is higher for those who do not live in a city and that the effect of living in a city is lower for those with the father unemployed. With respect to other variables, the effect of the father unemployed is much stronger in the northern regions than in central or southern regions: even if the levels are lower, the gap of exclusion due to father unemployed is about 10 p.p. in the North, 6.3 p.p. in the Center and less than 4 in the South. This could be due to the different unemployment rates: in areas where unemployment is very high, the disadvantage is relatively low, while in case of a very low unemployment rate, the few youngsters with the father unemployed suffer from a stronger exclusion. Regarding the population density, living in cities (table A.6) affects relatively more the men than the women, and much more youngsters with a single parent, probably due to the weaker family ties. As for the gender, table A.7 shows that women are relatively less affected by living in cities (that increases exclusion by less than 3 p.p., versus 6.6 p.p. for men), while they are more affected by living with younger members

[18] Only to generate the groups, we also cluster years in three periods, as described more in detail in section 3.2.

[19] We do not show the table for the macro-area since all its interactions with the other variables are included in the respective tables.

[20] The same interaction is reported also in column (1) of table A.6.

(more than 4 p.p., versus about 2 for men) and living in central and southern regions. Living in a household with members younger than 15 (table A.8) is mitigated by having the father unemployed, likely because of the substitution effect of childcare, while it does not seem to be affected by other dimensions. Finally, living in a household with a single parent has a stronger effect in the northern regions (3.3 p.p.) than in central and southern regions (2 p.p. and less than 1 p.p., respectively). Similarly to living in a city, this result seems to be related to the stronger family ties in the southern regions.

To summarize, we have investigated not only how different circumstances affect the exclusion from the labour market, but also their joint effects. Such analysis is worthy not only for its explanatory power, but also for the possible policy implications, since compensating one disadvantage dimension could have different effects according to the other individual circumstances.

3.2 Analysis at cluster level

The aim of this section is to analyse the effects of disadvantages (that is, the subset of circumstances more correlated to the exclusion from the labour market) on capability deprivation. We describe in section 3.1 how we select the disadvantage dimensions according to which groups are created. In order to increase the parsimony and to easy the interpretation of the results, we add another dimension of disadvantage, clustering the 15 years in three periods: 1998-2003, before the major reform of the labour market;[21] 2004-2007, after the reform and before the economic crisis; 2008-2012, during the economic crisis. As a result, we end up with 288 groups,[22] 264 of them with more than 10 individuals and 237 of them with more than 20 individuals. Because of robustness of aggregated data we decide to drop the 24 groups with less than 10 members; however, we include all the others, since their size seems not to influence the summary statistics of the indicators of capability deprivation, as reported in table 6.

Table A.10 shows four OLS regressions linking disadvantages to capability deprivation for the two different indicators and including or not some contextual variables.[23] First, results are only slightly different between indicators, while they differ substantially between models: by construction, D_1 (column

[21]The so-called Biagi law (L.30/2003) introduced and/or extended the application of temporary job contracts in Italy.

[22]These are the product of five binary dimensions (father unemployed, gender, cities, children in the household and single parent) and three dimensions with three categories (area and period), resulting in $2^5 \times 3^2 = 288$ groups.

[23]All the contextual variables are provided at regional level by Eurostat and aggregated at macro-area level weighting for population.

Table 6: Exclusion and capability deprivation

Variable	Obs	Mean	Std. Dev.	Min	Max
Full sample					
Mean of exclusion x 100	284	52.92	16.921	0	93.333
St.dev. of exclusion x 100	282	35.893	5.967	0	57.735
D_1 (0-100)	281	62.923	15.608	0	100
D_2 (0-100)	281	71.921	12.804	0	100
$N > 10$					
Mean of exclusion x 100	264	53.645	15.224	18.659	90.517
St.dev. of exclusion x 100	264	36.235	4.062	18.915	45.981
D_1 (0-100)	264	63.531	13.716	17.967	90.89
D_2 (0-100)	264	72.595	10.573	40.079	96.125
$N > 20$					
Mean of exclusion x 100	237	53.816	15.377	18.659	90.517
St.dev. of exclusion x 100	237	35.956	3.962	18.915	45.604
D_1 (0-100)	237	63.874	13.694	17.967	90.89
D_2 (0-100)	237	73.065	10.349	47.636	96.125

Source: Computations on LFS, Italian survey, 1998-2012.

1) is more sensitive to the mean and less to the standard deviation than D_2, and this may explain the lower variability of the measure and the lower coefficients of related to D_2 (column 2). Since there is a very strong correlation between GDP and all the measure of contextual social disadvantage (such as unemployment rate, poverty, social exclusion, deprivation, with coefficients between -.88 and -.99), we decide to include only GDP levels in purchasing power parity. However, it is strongly correlated also to the territorial dimension,[24] being significantly lower in the southern regions. For this reason in equation (3) we do not include the macroareas in the regression. For similar reasons, we exclude the period when including GDP growth and the share of young population. In this case, not only the variables are correlated (.82 and .89, respectively), but there is also an issue of reverse causality: it is possible that a higher capability deprivation due to a less stable labour market on the one side increases the "efficiency" of the economy and therefore the economic growth, on the other side reduces the birth rate. For these reasons, and for comparability to the previous section, we decide to keep the equation in column (2) as the reference for the analysis of groups. Living in the south affects the capability deprivation by 14 p.p., more than the economic crisis (about 10) and the gender (about 8). The effects of the labour market reform and of living in the center are lower, but sizeable, while other household characteristics, such as father unemployed, young members or living in a city have a marginal effect. Living in a household with a single parent does not affect significantly the capability deprivation. However, these are only

[24]The correlation index is about .94, resulting from an average income of 29,331 in Northern regions, 26,708 in Central regions and 16,141 in Southern regions and Islands. The income variability absorbs most of the variability at regional level.

average levels, that might hide important differences between categories. For this reason, tables A.11 to A.16 report the interactions between regressors, analogously to the case of individuals regressions.

Analysing first the effect of the father unemployed, this is more important in less densely populated areas, for women, and – by a large amount – in the 1998-2003 period, likely because of the lower rate of unemployment that "segregates" youngsters with an unemployed father. Living in a densely populated area affects men much more than women and youngsters with a single parent much more than others. Also in this case, the effect is stronger in the 1998-2003 period. With respect to gender, being a woman increases the capability deprivation more than man if the father is unemployed, in southern regions and in the period 2004-2007, while its effect is relatively lower in densely populated areas. Interestingly, table A.14 reports that while the average effect of a household with members younger than 15 is on average positive and significant, this is unrelated to any other disadvantage dimension. Having a single parent affects relatively more the capability deprivation when the parent is also unemployed and living in densely populated areas. Finally, table A.16 shows the asymmetry of the effects of the period in different geographical areas: in particular, with respect to the reference period (1998-2003), the effect of labour market reforms was very different across regions, being positive in the north (about 8 p.p.) and in the center (by about 10 p.p.), but negative in the south (-4 p.p.). Also the effect of economic crisis (2008-2012) was very asymmetric, being positive in all regions, but much higher in the north. However, as largely expected, the average levels remain higher in southern regions.

4 Comments and conclusions

In this work we have investigated the effects of several circumstances on both the labour market outcome and the capability deprivation. *A priori*, there is no reason to assume that some circumstances affect both dimensions in the same direction. However, the results of the empirical analysis suggest that some individual and household characteristics are very predictive of a bad outcome both in the labour market and in capability deprivation. Living in the South of Italy significantly worsens the exclusion from the labour market by about 28 p.p. in our 0-100 scale and capability deprivation by about 14 p.p., and it represents the most important circumstance. Less negative, but still very sizeable, is the effect of living in the Centre. A second, important driver of inequality is gender: being a woman is associated with a worse labour market exclusion and with higher capability deprivation. Even if the

effect is quantitatively lower than the regional disparities, it is indicative of the gender discrimination in the labour market. Indeed, even accounting for the fact that the share of women in tertiary education is higher, the exclusion of the labour market is higher for women by about 10 p.p., and women are more capability deprived by about 8 p.p. with respect to men. Other factors, such as having the father (or the mother) unemployed, living in a densely populated area, and living in a household with at least one member younger than 14, also influence negatively the two outcomes considered. Having a single parent is significant only for the exclusion from the labour market, while it leaves unaffected the capability deprivation. Another key dimension is the period. We were able to test the effects of three different sub-periods on capability deprivation only, and the results show a very relevant effect of the economic crisis started in 2008, whose size is in between regional disparities and gender gap. This effect is – maybe unexpectedly – stronger than the major labour market reform implemented in 2003.

With respect to the previous literature, in this paper we take a step forward and analyse also the interactions among different circumstances. In this case, results are more diversified between labour market exclusion and capability deprivation. In general, living in densely populated areas – typically cities, instead of little towns and villages – reinforces those circumstances for which network and family ties are more important, such as having a single parent or a young household members. Women are relatively more excluded by the labour market in the South of Italy and when there are young household members, while they are less excluded in cities, while they are relatively more capability deprived if they have the father unemployed. In general, other combinations of disadvantages generate an outcome that is better than the sum of the two, separate disadvantages, meaning that – broadly speaking – the marginal effect of disadvantage circumstances is decreasing.

From a policy perspective, this analysis suggests that youngsters are not all equally disadvantaged. In particular, if we want to increase the equality of young workers, both under the Sen's and the Roemer's perspective, we need to compensate for predetermined circumstances, that not only worsen the exclusion from the labour market, but also increase the capability deprivation of individuals. In doing so, we should take into account the possible interactions between such circumstances. In times of binding public budget constraints, policy makers should carefully target interventions on more relevant sources of inequality, possibly more correlated to other factors. For instance, policies targeted to women in Italy, not only can improve the condition of women *per se*, but could also help to fill the gap between Italian regions, since women are worse off in Southern regions.

To conclude, even if Italian young workers are much more disadvantaged

than elderly, they are also very different among themselves. Most of these differences are due to predetermined circumstances that worsen both the labour market exclusion and the capability deprivation. Compensating for these circumstances can be beneficial for those young who are more disadvantaged than others and could help both to increase their capabilities and to increase the equality of opportunities among individuals.

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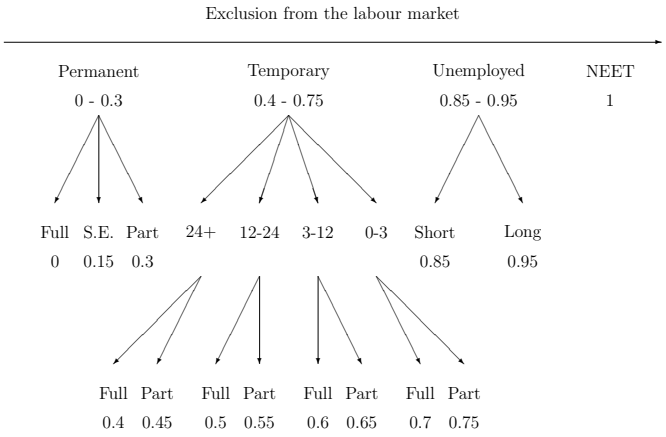
A Tables and graphs

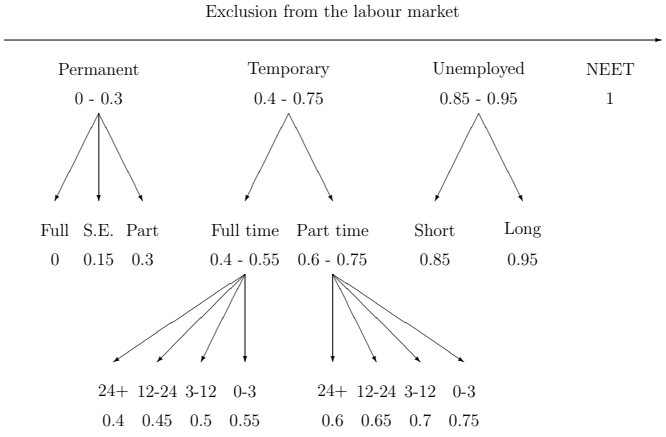
Figure A.1: Alternative scales of exclusion from the labour market



S.E. stands for Self-employed.

0-3, 3-12, 12-24; 24+ are the contract durations in months.

Missing information not included.

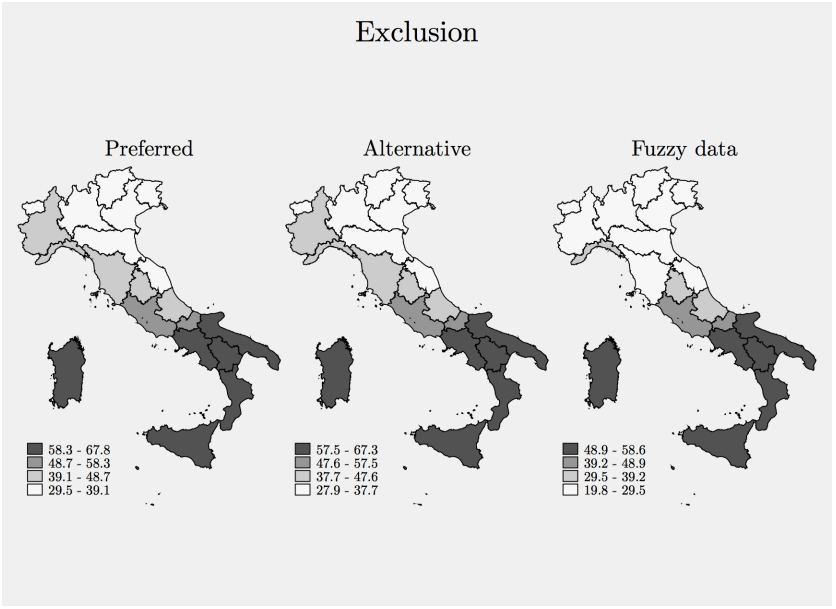


S.E. stands for Self-employed.

0-3, 3-12, 12-24; 24+ are the contract durations in months.

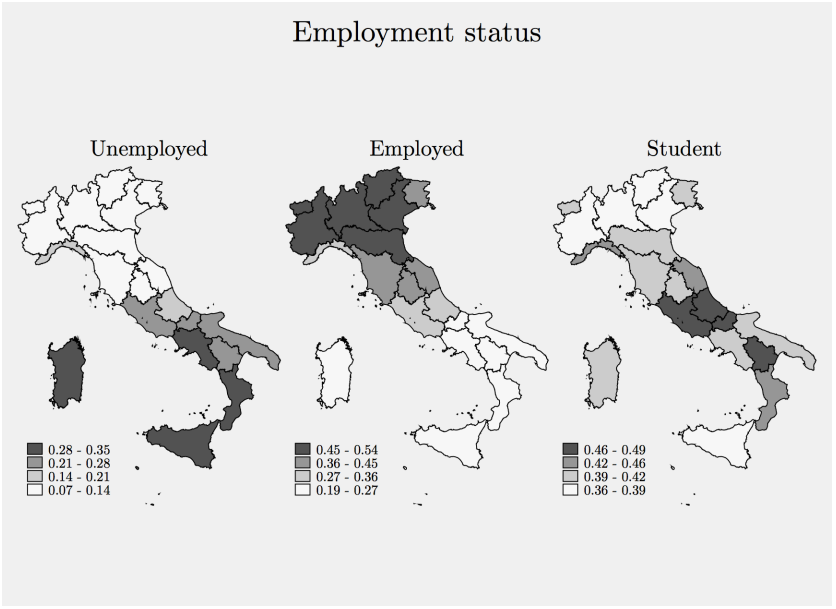
Missing information not included.

Figure A.2: Exclusion from the labour market by region - Multiple indicators



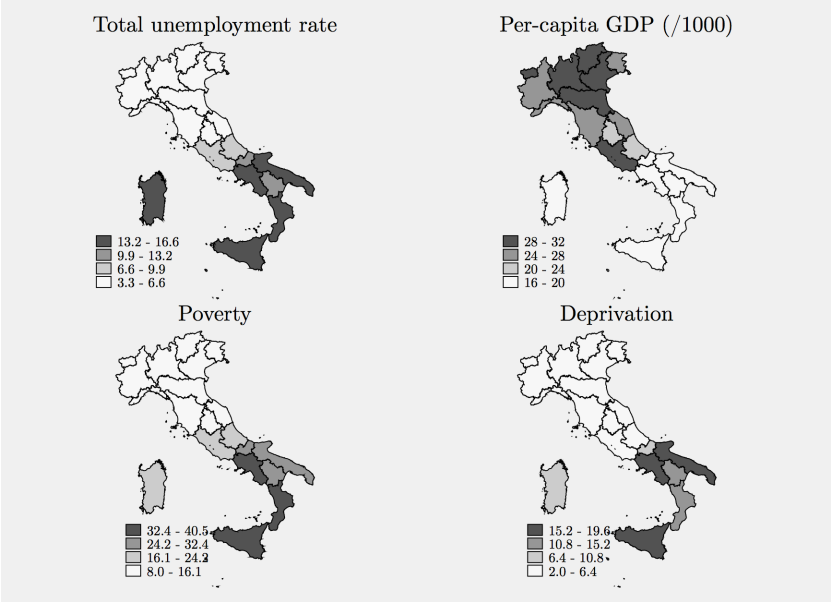
Source: LFS, Italian survey, 1998-2012.

Figure A.3: Employment status of youngsters by region



Source: LFS, Italian survey, 1998-2012.

Figure A.4: Selected Eurostat regional indicators



Source: LFS, Regional indicators (specify better), 1998-2012.

Table A.1: Effects of circumstances on exclusion from the labour market - First step (selection)

	Model 1		Model 2		Model 3	
	(1)	(2)	(3)	(4)	(5)	(6)
Reported beta	Coeff.	Margin	Coeff.	Margin	Coeff.	Margin
	b/se	b/se	b/se	b/se	b/se	b/se
Par.educ.: Primary	ref.	ref.	ref.	ref.	ref.	ref.
Par.educ.: Lower sec.	-0.306***	-0.095***	-0.315***	-0.100***	-0.310***	-0.096***
	0.013	0.004	0.010	0.003	0.013	0.004
Par.educ.: Upper sec. vocational	-0.591***	-0.196***	-0.580***	-0.196***	-0.594***	-0.197***
	0.017	0.005	0.013	0.004	0.017	0.005
Par.educ.: Upper sec. academic	-1.017***	-0.358***	-1.007***	-0.360***	-1.017***	-0.358***
	0.014	0.004	0.010	0.003	0.014	0.004
Par.educ.: Tertiary vocational	-1.256***	-0.446***	-1.226***	-0.440***	-1.258***	-0.447***
	0.037	0.013	0.031	0.011	0.037	0.013
Par.educ.: Tertiary academic	-1.685***	-0.582***	-1.662***	-0.577***	-1.683***	-0.582***
	0.017	0.005	0.013	0.004	0.017	0.005
Par.status: Employed	ref.	ref.	ref.	ref.	ref.	ref.
Par.status: Unemployed	0.255***	0.085***	0.287***	0.096***	0.258***	0.086***
	0.016	0.005	0.014	0.005	0.016	0.005
Par.status: Retired	0.099***	0.034***	0.092***	0.031***	0.096***	0.033***
	0.014	0.005	0.011	0.004	0.014	0.005
Par.status: Other	0.042**	0.014**	0.053***	0.018***	0.040**	0.014**
	0.019	0.006	0.016	0.005	0.019	0.006
Gender (1=Male)	0.465***	0.157***	0.413***	0.140***	0.466***	0.157***
	0.007	0.002	0.006	0.002	0.007	0.002
At least one parent migrant	0.130***	0.044***				
	0.015	0.005				
Elder parent's age	-0.012***	-0.004***	-0.011***	-0.004***	-0.013***	-0.004***
	0.001	0.000	0.001	0.000	0.001	0.000
Densely populated area	ref.	ref.	ref.	ref.	ref.	ref.
Intermediate area	0.040***	0.013***	0.038***	0.013***	0.039***	0.013***
	0.009	0.003	0.007	0.003	0.009	0.003
Thinly populated area	0.052***	0.017***	0.060***	0.021***	0.051***	0.017***
	0.011	0.004	0.009	0.003	0.011	0.004
Work intensity	0.032**	0.011**	0.036***	0.012***	0.025	0.008
	0.015	0.005	0.013	0.004	0.015	0.005
Household size	0.047***	0.016***	0.057***	0.019***	0.049***	0.017***
	0.005	0.002	0.004	0.001	0.005	0.002
Members ≤ 14	-0.022**	-0.007**	-0.027***	-0.009***	-0.020**	-0.007**
	0.009	0.003	0.008	0.003	0.009	0.003
Single parent household	0.037***	0.012***	0.028***	0.009***	0.039***	0.013***
	0.013	0.004	0.011	0.004	0.013	0.004
Constant	1.025***		0.962***		1.060***	
	0.053		0.043		0.053	
Region fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Chi-2	23096.9***		31739.9***		23070.2***	
Obs.	146739	146739	211922	211922	146739	146739

Source: LFS, Italian survey, 1998-2012. Significance of coefficients: *** $p \leq 1\%$, ** $p \leq 5\%$, * $p \leq 10\%$. Dependent variable: being in education (0) or in the labour market (1). Heckman models estimation technique: Maximum likelihood. Standard errors clustered at household level to account for possible correlation between brothers.

Table A.2: Effects of circumstances on exclusion from the labour market - Second step

	Model 1		Model 2		Model 3	
	(1)	(2)	(3)	(4)	(5)	(6)
Estim. method	Heckman	OLS	Heckman	OLS	Heckman	OLS
	b/se	b/se	b/se	b/se	b/se	b/se
Labour market experience	-1.698***	-1.665***	-1.750***	-1.670***	-1.689***	-1.655***
	0.046	0.044	0.039	0.037	0.046	0.044
Par.status: Employed	ref.	ref.	ref.	ref.	ref.	ref.
Par.status: Unemployed	3.939***	3.266***	3.614***	2.429***	3.993***	3.305***
	0.511	0.495	0.457	0.440	0.511	0.495
Par.status: Retired	-2.306***	-2.206***	-3.119***	-3.351***	-2.475***	-2.455***
	0.421	0.418	0.346	0.342	0.420	0.417
Par.status: Other	-0.699	0.145	-1.869***	-1.350**	-0.772	0.042
	0.622	0.611	0.539	0.525	0.622	0.611
Gender (1=Male)	-6.817***	-8.934***	-6.642***	-9.364***	-6.752***	-8.895***
	0.279	0.251	0.233	0.214	0.278	0.251
At least one parent migrant	2.440***	3.446***				
	0.481	0.477				
Densely populated area	ref.	ref.	ref.	ref.	ref.	ref.
Intermediate area	-3.024***	-3.120***	-3.357***	-3.445***	-3.027***	-3.134***
	0.318	0.315	0.269	0.266	0.318	0.315
Thinly populated area	-3.192***	-3.463***	-3.582***	-3.928***	-3.210***	-3.508***
	0.379	0.373	0.326	0.321	0.379	0.373
Work intensity	-6.733***	-6.207***	-7.589***	-7.062***	-6.878***	-6.387***
	0.534	0.528	0.457	0.452	0.534	0.528
Household size	-0.312*	-0.093	-0.152	0.013	-0.260	-0.018
	0.169	0.166	0.142	0.139	0.169	0.167
Members ≤ 14	2.917***	3.388***	2.411***	3.011***	2.975***	3.464***
	0.310	0.304	0.269	0.262	0.310	0.304
Single parent household	2.675***	2.791***	2.818***	3.097***	2.765***	2.907***
	0.433	0.427	0.376	0.368	0.433	0.427
Constant	51.601***	54.753***	50.571***	54.437***	51.514***	54.781***
	1.175	1.077	1.027	0.946	1.174	1.077
athrho	0.093***		0.118***		0.097***	
	0.015		0.012		0.015	
lnsigma	3.549***		3.561***		3.549***	
	0.002		0.002		0.002	
Region	Yes	Yes	Yes	Yes	Yes	Yes
Year f.e.	Yes	Yes	Yes	Yes	Yes	Yes
R-squared		0.165		0.192		0.164
F test		461.3***		706.6***		470.8***
Chi-2	16018.6***		26540.8***		15963.7***	
Obs.	144902	81984	205073	115897	144902	81984

Source: LFS, Italian survey, 1998-2012. Significance of coefficients: *** $p \leq 1\%$, ** $p \leq 5\%$, * $p \leq 10\%$. Dependent variable: exclusion from the labour market. Heckman models estimation technique: Maximum likelihood. Standard errors clustered at household level to account for possible correlation between brothers.

Table A.3: Effects of circumstances on exclusion from the labour market - Second step - Alternative model (parental education included)

	Model 1		Model 2		Model 3	
	(1)	(2)	(3)	(4)	(5)	(6)
Estim. method	Heckman	OLS	Heckman	OLS	Heckman	OLS
	b/se	b/se	b/se	b/se	b/se	b/se
Par.educ.: Primary	ref.	ref.	ref.	ref.	ref.	ref.
Par.educ.: Lower sec.	-1.381***	-1.941***	-1.279***	-0.896***	-1.235**	-1.962***
	0.511	0.390	0.464	0.304	0.509	0.390
Par.educ.: Upper sec. vocational	-1.140	-1.501***	-1.661**	-0.305	-0.764	-1.481***
	0.944	0.524	0.845	0.431	0.934	0.524
Par.educ.: Upper sec. academic	-0.022	-0.146	-1.857	1.347***	0.781	-0.017
	1.611	0.445	1.472	0.363	1.583	0.444
Par.educ.: Tertiary vocational	5.100**	5.172***	2.492	6.655***	6.056**	5.216***
	2.538	1.456	2.256	1.276	2.511	1.456
Par.educ.: Tertiary academic	1.595	2.602***	-2.834	4.262***	3.134	2.842***
	3.072	0.695	2.772	0.601	3.020	0.694
Labour market experience	-1.719***	-1.625***	-1.762***	-1.602***	-1.709***	-1.611***
	0.045	0.045	0.039	0.039	0.045	0.045
Par.status: Employed	ref.	ref.	ref.	ref.	ref.	ref.
Par.status: Unemployed	3.531***	3.252***	3.872***	2.509***	3.393***	3.294***
	0.606	0.495	0.572	0.441	0.604	0.495
Par.status: Retired	-2.546***	-2.486***	-3.243***	-3.464***	-2.702***	-2.715***
	0.419	0.421	0.345	0.345	0.418	0.420
Par.status: Other	-0.972	-0.061	-1.991***	-1.321**	-1.049*	-0.149
	0.592	0.614	0.516	0.530	0.591	0.614
Gender (1=Male)	-7.442***	-9.002***	-6.163***	-9.461***	-7.751***	-8.974***
	0.770	0.252	0.620	0.215	0.760	0.252
At least one parent migrant	2.215***	3.155***				
	0.513	0.479				
Densely populated area	ref.	ref.	ref.	ref.	ref.	ref.
Intermediate area	-3.068***	-2.988***	-3.326***	-3.285***	-3.099***	-2.992***
	0.316	0.315	0.265	0.267	0.316	0.316
Thinly populated area	-3.247***	-3.249***	-3.529***	-3.661***	-3.296***	-3.274***
	0.379	0.374	0.328	0.322	0.379	0.374
Work intensity	-6.710***	-6.578***	-7.598***	-7.480***	-6.845***	-6.773***
	0.525	0.532	0.449	0.455	0.524	0.531
Household size	-0.389**	-0.125	-0.107	-0.032	-0.380**	-0.058
	0.171	0.166	0.151	0.139	0.172	0.167
Members ≤ 14	2.951***	3.495***	2.445***	3.113***	2.997***	3.569***
	0.296	0.304	0.257	0.262	0.296	0.304
Single parent household	2.421***	2.660***	2.791***	3.016***	2.438***	2.768***
	0.432	0.428	0.371	0.370	0.433	0.428
Constant	54.623***	55.761***	50.214***	54.307***	55.425***	55.742***
	2.066	1.132	1.780	0.992	2.033	1.133
Lambda	0.695		6.257**		-0.628	
	2.877		2.574		2.826	
Region	Yes	Yes	Yes	Yes	Yes	Yes
Year f.e.	Yes	Yes	Yes	Yes	Yes	Yes
R-squared		0.166		0.193		0.165
F test		413.2***		637.4***		421.0***
Chi-2	14763.8***		23943.5***		14735.2***	
Obs.	144902	81984	205073	115344	144902	81984

Source: LFS, Italian survey, 1998-2012. Significance of coefficients: *** $p \leq 1\%$, ** $p \leq 5\%$, * $p \leq 10\%$. Dependent variable: exclusion on the labour market. Heckman models estimation technique: Two step estimators. Maximum likelihood does not converge for models (2) and (3). Standard errors clustered at household level in OLS estimations.

Table A.4: Effects of disadvantage dimensions on exclusion from the labour market - Second step

	Model 1		Model 2		Model 3	
	(1)	(2)	(3)	(4)	(5)	(6)
Estim. method	Heckman	OLS	Heckman	OLS	Heckman	OLS
	b/se	b/se	b/se	b/se	b/se	b/se
Disadv.: parent unemployed	6.696***	5.084***	7.218***	5.140***	6.769***	5.192***
	0.457	0.432	0.410	0.385	0.456	0.431
Disadv.: density of population	3.794***	4.052***	4.624***	4.987***	3.791***	4.052***
	0.283	0.273	0.236	0.227	0.283	0.273
Disadv.: woman	7.155***	9.858***	7.210***	10.553***	7.130***	9.828***
	0.277	0.248	0.231	0.209	0.277	0.248
Disadv.: young members	2.780***	3.126***	2.542***	3.104***	2.862***	3.264***
	0.334	0.321	0.287	0.275	0.334	0.320
Disadv.: single parent	2.334***	2.086***	2.044***	2.116***	2.353***	2.118***
	0.374	0.363	0.322	0.310	0.374	0.363
Disadv.: north	ref.	ref.	ref.	ref.	ref.	ref.
Disadv.: center	9.761***	10.136***	11.256***	11.864***	9.745***	10.114***
	0.392	0.381	0.331	0.323	0.392	0.381
Disadv.: south	24.523***	24.625***	28.082***	28.953***	24.398***	24.408***
	0.288	0.279	0.244	0.233	0.286	0.277
Disadv.: migration	1.484***	2.406***				
	0.481	0.467				
Constant	19.597***	24.029***	17.017***	21.315***	19.689***	24.198***
	0.623	0.571	0.601	0.559	0.621	0.570
athrho	0.189***		0.212***		0.189***	
	0.013		0.011		0.013	
lnsigma	3.573***		3.592***		3.573***	
	0.002		0.002		0.002	
Year f.e.	Yes	Yes	Yes	Yes	Yes	Yes
R-squared		0.134		0.159		0.133
F test		860.5***		1175.4***		915.7***
Chi-2	12118.5***		20440.4***		12106.3***	
Obs.	145620	84012	209655	122353	145620	84012

Source: LFS, Italian survey, 1998-2012. Significance of coefficients: *** $p \leq 1\%$, ** $p \leq 5\%$, * $p \leq 10\%$. Dependent variable: exclusion on the labour market. Heckman models estimation technique: Maximum likelihood. Standard errors clustered at household level to account for possible correlation between brothers.

Table A.5: Effects of disadvantage dimensions on exclusion from the labour market - Interactions - Father unemployed

	(1)	(2)	(3)	(4)	(5)
Estim. method	OLS	OLS	OLS	OLS	OLS
	b/se	b/se	b/se	b/se	b/se
Parent not unemployed X Not cities	ref.				
Parent not unemployed X Cities	5.138***				
	0.238				
Parent unemployed X Not cities	5.740***				
	0.480				
Parent unemployed X Cities	9.274***				
	0.606				
Parent not unemployed X Men		ref.			
Parent not unemployed X Women		10.592***			
		0.220			
Parent unemployed X Men		5.328***			
		0.522			
Parent unemployed X Women		15.480***			
		0.533			
Parent not unemployed X No young members			ref.		
Parent not unemployed X Young members			3.247***		
			0.292		
Parent unemployed X No young members			5.457***		
			0.444		
Parent unemployed X Young members			7.467***		
			0.709		
Parent not unemployed X No single parent				ref.	
Parent not unemployed X Single parent				2.255***	
				0.328	
Parent unemployed X No single parent				5.364***	
				0.422	
Parent unemployed X Single parent				6.286***	
				0.861	
Parent not unemployed X North					ref.
Parent not unemployed X Center					11.973***
					0.331
Parent not unemployed X South					29.310***
					0.240
Parent unemployed X North					10.030***
					0.931
Parent unemployed X Center					18.277***
					1.239
Parent unemployed X South					33.156***
					0.441
Constant	21.264***	21.298***	21.291***	21.302***	21.164***
	0.559	0.559	0.559	0.559	0.559
Year f.e.	Yes	Yes	Yes	Yes	Yes
Disadv.: density of population	No	Yes	Yes	Yes	Yes
Disadv.: woman	Yes	No	Yes	Yes	Yes
Disadv.: young members	Yes	Yes	No	Yes	Yes
Disadv.: single parent	Yes	Yes	Yes	No	Yes
Disadv.: area	Yes	Yes	Yes	Yes	No
R-squared	0.159	0.159	0.159	0.159	0.159
F test	1122.8***	1122.6***	1122.1***	1122.0***	1076.3***
Chi-2					
Obs.	122353	122353	122353	122353	122353

Source: LFS, Italian survey, 1998-2012. Significance of coefficients: *** $p \leq 1\%$, ** $p \leq 5\%$, * $p \leq 10\%$. Dependent variable: exclusion on the labour market. Standard errors clustered at household level to account for possible correlation between brothers.

Table A.6: Effects of disadvantage dimensions on exclusion from the labour market - Interactions - Densely populated areas

	(1)	(2)	(3)	(4)	(5)
Estim. method	OLS	OLS	OLS	OLS	OLS
	b/se	b/se	b/se	b/se	b/se
Not cities X Parent not unemployed	ref.				
Not cities X Parent unemployed	5.740***				
	0.480				
Cities X Parent not unemployed	5.138***				
	0.238				
Cities X Parent unemployed	9.274***				
	0.606				
Not cities X Men		ref.			
Not cities X Women		11.809***			
		0.256			
Cities X Men		6.602***			
		0.304			
Cities X Women		14.681***			
		0.321			
Not cities X No young members			ref.		
Not cities X Young members			3.214***		
			0.338		
Cities X No young members			5.047***		
			0.252		
Cities X Young members			7.945***		
			0.443		
Not cities X No single parent				ref.	
Not cities X Single parent				1.863***	
				0.391	
Cities X No single parent				4.889***	
				0.246	
Cities X Single parent				7.420***	
				0.484	
Not cities X North					ref.
Not cities X Center					11.769***
					0.383
Not cities X South					28.953***
					0.284
Cities X North					4.945***
					0.340
Cities X Center					17.042***
					0.572
Cities X South					33.895***
					0.346
Constant	21.264***	20.792***	21.292***	21.349***	21.331***
	0.559	0.562	0.560	0.559	0.565
Year f.e.	Yes	Yes	Yes	Yes	Yes
Disadv.: parent unemployed	No	Yes	Yes	Yes	Yes
Disadv.: woman	Yes	No	Yes	Yes	Yes
Disadv.: young members	Yes	Yes	No	Yes	Yes
Disadv.: single parent	Yes	Yes	Yes	No	Yes
Disadv.: area	Yes	Yes	Yes	Yes	No
R-squared	0.159	0.159	0.159	0.159	0.159
F test	1122.8***	1126.8***	1122.0***	1121.9***	1074.6***
Chi-2					
Obs.	122353	122353	122353	122353	122353

Source: LFS, Italian survey, 1998-2012. Significance of coefficients: *** $p \leq 1\%$, ** $p \leq 5\%$, * $p \leq 10\%$. Dependent variable: exclusion on the labour market. Standard errors clustered at household level to account for possible correlation between brothers.

Table A.7: Effects of disadvantage dimensions on exclusion from the labour market - Interactions - Women

	(1)	(2)	(3)	(4)	(5)
Estim. method	OLS	OLS	OLS	OLS	OLS
	b/se	b/se	b/se	b/se	b/se
Men X Parent not unemployed	ref.				
Men X Parent unemployed	5.328***				
	0.522				
Women X Parent not unemployed	10.592***				
	0.220				
Women X Parent unemployed	15.480***				
	0.533				
Men X Not cities		ref.			
Men X Cities		6.602***			
		0.304			
Women X Not cities		11.809***			
		0.256			
Women X Cities		14.681***			
		0.321			
Men X No young members			ref.		
Men X Young members			2.173***		
			0.373		
Women X No young members			10.160***		
			0.232		
Women X Young members			14.440***		
			0.389		
Men X No single parent				ref.	
Men X Single parent				2.724***	
				0.419	
Women X No single parent				10.746***	
				0.225	
Women X Single parent				12.085***	
				0.444	
Men X North					ref.
Men X Center					11.615***
					0.424
Men X South					27.555***
					0.308
Women X North					8.977***
					0.319
Women X Center					21.173***
					0.473
Women X South					39.801***
					0.316
Constant	21.298***	20.792***	21.480***	21.228***	21.988***
	0.559	0.562	0.560	0.560	0.567
Year f.e.	Yes	Yes	Yes	Yes	Yes
Disadv.: parent unemployed	No	Yes	Yes	Yes	Yes
Disadv.: density of population	Yes	No	Yes	Yes	Yes
Disadv.: young members	Yes	Yes	No	Yes	Yes
Disadv.: single parent	Yes	Yes	Yes	No	Yes
Disadv.: area	Yes	Yes	Yes	Yes	No
R-squared	0.159	0.159	0.159	0.159	0.159
F test	1122.6***	1126.8***	1124.0***	1122.2***	1075.9***
Chi-2					
Obs.	122353	122353	122353	122353	122353

Source: LFS, Italian survey, 1998-2012. Significance of coefficients: *** $p \leq 1\%$, ** $p \leq 5\%$, * $p \leq 10\%$. Dependent variable: exclusion on the labour market. Standard errors clustered at household level to account for possible correlation between brothers.

Table A.8: Effects of disadvantage dimensions on exclusion from the labour market - Interactions - Young members

	(1)	(2)	(3)	(4)	(5)
Estim. method	OLS	OLS	OLS	OLS	OLS
	b/se	b/se	b/se	b/se	b/se
No young members X Parent not unemployed	ref.				
No young members X Parent unemployed	5.457***				
	0.444				
Young members X Parent not unemployed	3.247***				
	0.292				
Young members X Parent unemployed	7.467***				
	0.709				
No young members X Not cities		ref.			
No young members X Cities		5.047***			
		0.252			
Young members X Not cities		3.214***			
		0.338			
Young members X Cities		7.945***			
		0.443			
No young members X Men			ref.		
No young members X Women			10.160***		
			0.232		
Young members X Men			2.173***		
			0.373		
Young members X Women			14.440***		
			0.389		
No young members X No single parent				ref.	
No young members X Single parent				2.132***	
				0.336	
Young members X No single parent				3.117***	
				0.291	
Young members X Single parent				5.133***	
				0.771	
No young members X North					ref.
No young members X Center					11.780***
					0.352
No young members X South					29.201***
					0.257
Young members X North					3.720***
					0.443
Young members X Center					16.027***
					0.730
Young members X South					31.590***
					0.392
Constant	21.291***	21.292***	21.480***	21.312***	21.201***
	0.559	0.560	0.560	0.559	0.562
Year f.e.	Yes	Yes	Yes	Yes	Yes
Disadv.: parent unemployed	No	Yes	Yes	Yes	Yes
Disadv.: density of population	Yes	No	Yes	Yes	Yes
Disadv.: woman	Yes	Yes	No	Yes	Yes
Disadv.: single parent	Yes	Yes	Yes	No	Yes
Disadv.: area	Yes	Yes	Yes	Yes	No
R-squared	0.159	0.159	0.159	0.159	0.159
F test	1122.1***	1122.0***	1124.0***	1122.0***	1073.3***
Chi-2					
Obs.	122353	122353	122353	122353	122353

Source: LFS, Italian survey, 1998-2012. Significance of coefficients: *** $p \leq 1\%$, ** $p \leq 5\%$, * $p \leq 10\%$. Dependent variable: exclusion on the labour market. Standard errors clustered at household level to account for possible correlation between brothers.

Table A.9: Effects of disadvantage dimensions on exclusion from the labour market - Interactions - Single parent

	(1)	(2)	(3)	(4)	(5)
Estim. method	OLS	OLS	OLS	OLS	OLS
	b/se	b/se	b/se	b/se	b/se
No single parent X Parent not unemployed	ref.				
No single parent X Parent unemployed	5.364***				
	0.422				
Single parent X Parent not unemployed	2.255***				
	0.328				
Single parent X Parent unemployed	6.286***				
	0.861				
No single parent X Not cities		ref.			
No single parent X Cities		4.889***			
		0.246			
Single parent X Not cities		1.863***			
		0.391			
Single parent X Cities		7.420***			
		0.484			
No single parent X Men			ref.		
No single parent X Women			10.746***		
			0.225		
Single parent X Men			2.724***		
			0.419		
Single parent X Women			12.085***		
			0.444		
No single parent X No young members				ref.	
No single parent X Young members				3.117***	
				0.291	
Single parent X No young members				2.132***	
				0.336	
Single parent X Young members				5.133***	
				0.771	
No single parent X North					ref.
No single parent X Center					12.062***
					0.349
No single parent X South					29.280***
					0.250
Single parent X North					3.278***
					0.453
Single parent X Center					14.068***
					0.756
Single parent X South					30.192***
					0.501
Constant	21.302***	21.349***	21.228***	21.312***	21.135***
	0.559	0.559	0.560	0.559	0.561
Year f.e.	Yes	Yes	Yes	Yes	Yes
Disadv.: parent unemployed	No	Yes	Yes	Yes	Yes
Disadv.: density of population	Yes	No	Yes	Yes	Yes
Disadv.: woman	Yes	Yes	No	Yes	Yes
Disadv.: young members	Yes	Yes	Yes	No	Yes
Disadv.: area	Yes	Yes	Yes	Yes	No
R-squared	0.159	0.159	0.159	0.159	0.159
F test	1122.0***	1121.9***	1122.2***	1122.0***	1075.0***
Chi-2					
Obs.	122353	122353	122353	122353	122353

Source: LFS, Italian survey, 1998-2012. Significance of coefficients: *** $p \leq 1\%$, ** $p \leq 5\%$, * $p \leq 10\%$. Dependent variable: exclusion on the labour market. Standard errors clustered at household level to account for possible correlation between brothers.

Table A.10: Effects of disadvantages on capability deprivation

	(1)	(2)	(3)	(4)
Dep.var.:	D_1	D_2	D_2	D_2
	b/se	b/se	b/se	b/se
Disadv.: parent unemployed	3.739***	2.932***	2.946***	3.003***
	1.371	0.890	0.972	0.734
Disadv.: density of population	4.671***	2.681***	2.536***	2.732***
	0.716	0.465	0.507	0.383
Disadv.: woman	10.922***	8.426***	8.445***	8.446***
	0.679	0.441	0.481	0.364
Disadv.: young members	2.389***	1.570***	1.543**	1.464***
	0.906	0.588	0.642	0.485
Disadv.: single parent	1.632	0.491	0.500	0.483
	1.020	0.662	0.723	0.547
Disadv.: before reform	ref.	ref.	ref.	
Disadv.: after reform	5.256***	4.571***	5.777***	
	0.864	0.561	0.614	
Disadv.: during crisis	13.255***	10.200***	12.185***	
	0.824	0.535	0.591	
Disadv.: north	ref.	ref.		
Disadv.: center	12.919***	6.514***		
	1.024	0.665		
Disadv.: south	24.032***	14.376***		
	0.752	0.488		
GDP (/1000 euro, ppp)			-1.024***	-1.570***
			0.039	0.044
GDP growth (x 100)				0.654***
				0.226
Share of youngsters (0-25) (x 100)				-8.638***
				0.406
Constant	32.972***	52.712***	82.690***	159.198***
	0.893	0.580	1.010	3.466
R-squared	0.866	0.871	0.845	0.911
F test	182.954***	189.730***	173.783***	328.108***
Obs.	264	264	264	264

Source: LFS, Italian survey, 1998-2012. Significance of coefficients: *** $p \leq 1\%$, ** $p \leq 5\%$, * $p \leq 10\%$. Dependent variable: capability deprivation. Robust standard errors. All observations are weighted by group size.

Table A.11: Effects of disadvantage dimensions on capability deprivation - Interactions - Father unemployed

	(1)	(2)	(3)	(4)	(5)	(6)
Estim. method	OLS	OLS	OLS	OLS	OLS	OLS
	b/se	b/se	b/se	b/se	b/se	b/se
Parent not unemployed X Not cities	ref.					
Parent not unemployed X Cities	3.663***					
	0.866					
Parent unemployed X Not cities	3.850***					
	1.022					
Parent unemployed X Cities	5.710***					
	1.025					
Parent not unemployed X Men		ref.				
Parent not unemployed X Women		7.624***				
		0.867				
Parent unemployed X Men		2.283**				
		1.009				
Parent unemployed X Women		11.277***				
		1.126				
Parent not unemployed X No young members			ref.			
Parent not unemployed X Young members			0.979			
			0.867			
Parent unemployed X No young members			3.552***			
			0.843			
Parent unemployed X Young members			3.208***			
			1.222			
Parent not unemployed X No single parent				ref.		
Parent not unemployed X Single parent				0.049		
				0.868		
Parent unemployed X No single parent				2.519***		
				0.891		
Parent unemployed X Single parent				3.575***		
				1.076		
Parent not unemployed X North					ref.	
Parent not unemployed X Center					6.944***	
					1.120	
Parent not unemployed X South					14.618***	
					0.983	
Parent unemployed X North					3.459***	
					1.305	
Parent unemployed X Center					9.168***	
					1.408	
Parent unemployed X South					17.754***	
					1.150	
Parent not unemployed X 1998-2003						ref.
Parent not unemployed X 2004-2007						6.146***
						1.137
Parent not unemployed X 2008-2012						12.461***
						1.126
Parent unemployed X 1998-2003						5.618***
						1.557
Parent unemployed X 2004-2007						7.134***
						1.445
Parent unemployed X 2008-2012						14.841***
						1.210
Constant	52.586***	53.257***	52.687***	53.161***	52.784***	51.813***
	1.032	1.041	1.029	1.000	1.097	1.084
Disadv.: density of population	No	Yes	Yes	Yes	Yes	Yes
Disadv.: woman	Yes	No	Yes	Yes	Yes	Yes
Disadv.: young members	Yes	Yes	No	Yes	Yes	Yes
Disadv.: single parent	Yes	Yes	Yes	No	Yes	Yes
Disadv.: area	Yes	Yes	Yes	Yes	No	Yes
Disadv.: period	Yes	Yes	Yes	Yes	Yes	No
R-squared	0.702	0.701	0.701	0.701	0.701	0.708
F test	72.7***	72.1***	71.6***	75.4***	66.8***	71.1***
Obs.	264	264	264	264	264	264

Source: LFS, Italian survey, 1998-2012. Significance of coefficients: *** $p \leq 1\%$, ** $p \leq 5\%$, * $p \leq 10\%$. Dependent variable: capability deprivation. Robust standard errors. All observations are weighted by group size.

Table A.12: Effects of disadvantage dimensions on capability deprivation - Interactions - Densely populated area

	(1)	(2)	(3)	(4)	(5)	(6)
Estim. method	OLS	OLS	OLS	OLS	OLS	OLS
	b/se	b/se	b/se	b/se	b/se	b/se
Not cities X Parent not unemployed	ref.					
Not cities X Parent unemployed	3.850***					
	1.022					
Cities X Parent not unemployed	3.663***					
	0.866					
Cities X Parent unemployed	5.710***					
	1.025					
Not cities X Men		ref.				
Not cities X Women		10.046***				
		0.983				
Cities X Men		4.671***				
		0.996				
Cities X Women		11.061***				
		0.987				
Not cities X No young members			ref.			
Not cities X Young members			0.785			
			1.041			
Cities X No young members			3.206***			
			0.841			
Cities X Young members			3.203***			
			1.093			
Not cities X No single parent				ref.		
Not cities X Single parent				-0.851		
				1.007		
Cities X No single parent				1.578*		
				0.874		
Cities X Single parent				3.471***		
				1.073		
Not cities X North					ref.	
Not cities X Center					4.942***	
					1.356	
Not cities X South					14.505***	
					1.075	
Cities X North					1.927	
					1.254	
Cities X Center					9.883***	
					1.219	
Cities X South					16.383***	
					1.219	
Not cities X 1998-2003						ref.
Not cities X 2004-2007						6.058***
						1.385
Not cities X 2008-2012						12.789***
						1.293
Cities X 1998-2003						5.381***
						1.531
Cities X 2004-2007						7.457***
						1.481
Cities X 2008-2012						14.616***
						1.402
Constant	52.586***	52.074***	52.791***	53.592***	53.409***	51.688***
	1.032	1.124	1.066	1.062	1.139	1.245
Disadv.: parent unemployed	No	Yes	Yes	Yes	Yes	Yes
Disadv.: woman	Yes	No	Yes	Yes	Yes	Yes
Disadv.: young members	Yes	Yes	No	Yes	Yes	Yes
Disadv.: single parent	Yes	Yes	Yes	No	Yes	Yes
Disadv.: area	Yes	Yes	Yes	Yes	No	Yes
Disadv.: period	Yes	Yes	Yes	Yes	Yes	No
R-squared	0.702	0.708	0.700	0.704	0.705	0.707
F test	72.7***	73.0***	72.1***	72.1***	65.6***	68.5***
Obs.	264	264	264	264	264	264

Source: LFS, Italian survey, 1998-2012. Significance of coefficients: *** $p \leq 1\%$, ** $p \leq 5\%$, * $p \leq 10\%$. Dependent variable: capability deprivation. Robust standard errors. All observations are weighted by group size.

Table A.13: Effects of disadvantage dimensions on capability deprivation - Interactions - Women

	(1)	(2)	(3)	(4)	(5)	(6)
Estim. method	OLS	OLS	OLS	OLS	OLS	OLS
	b/se	b/se	b/se	b/se	b/se	b/se
Men X Parent not unemployed	ref.					
Men X Parent unemployed	2.283**					
	1.009					
Women X Parent not unemployed	7.624***					
	0.867					
Women X Parent unemployed	11.277***					
	1.126					
Men X Not cities		ref.				
Men X Cities		4.671***				
		0.996				
Women X Not cities		10.046***				
		0.983				
Women X Cities		11.061***				
		0.987				
Men X No young members			ref.			
Men X Young members			0.366			
			1.070			
Women X No young members			8.216***			
			0.842			
Women X Young members			8.647***			
			1.032			
Men X No single parent				ref.		
Men X Single parent				-0.054		
				1.040		
Women X No single parent				7.741***		
				0.880		
Women X Single parent				8.780***		
				1.009		
Men X North					ref.	
Men X Center					6.342***	
					1.358	
Men X South					13.260***	
					1.127	
Women X North					7.343***	
					1.246	
Women X Center					13.787***	
					1.321	
Women X South					23.023***	
					1.247	
Men X 1998-2003						ref.
Men X 2004-2007						3.503***
						1.331
Men X 2008-2012						11.097***
						1.249
Women X 1998-2003						7.909***
						1.562
Women X 2004-2007						12.599***
						1.310
Women X 2008-2012						18.850***
						1.205
Constant	53.257***	52.074***	52.977***	53.220***	53.422***	53.122***
	1.041	1.124	1.072	1.088	1.154	1.168
Disadv.: parent unemployed	No	Yes	Yes	Yes	Yes	Yes
Disadv.: density of population	Yes	No	Yes	Yes	Yes	Yes
Disadv.: young members	Yes	Yes	No	Yes	Yes	Yes
Disadv.: single parent	Yes	Yes	Yes	No	Yes	Yes
Disadv.: area	Yes	Yes	Yes	Yes	No	Yes
Disadv.: period	Yes	Yes	Yes	Yes	Yes	No
R-squared	0.701	0.708	0.700	0.701	0.703	0.701
F test	72.1***	73.0***	71.5***	72.3***	64.0***	65.2***
Obs.	264	264	264	264	264	264

Source: LFS, Italian survey, 1998-2012. Significance of coefficients: *** $p \leq 1\%$, ** $p \leq 5\%$, * $p \leq 10\%$. Dependent variable: capability deprivation. Robust standard errors. All observations are weighted by group size.

Table A.14: Effects of disadvantage dimensions on capability deprivation - Interactions - Young members

	(1)	(2)	(3)	(4)	(5)	(6)
Estim. method	OLS	OLS	OLS	OLS	OLS	OLS
	b/se	b/se	b/se	b/se	b/se	b/se
No young members X Parent not unemployed	ref.					
No young members X Parent unemployed	3.552***					
	0.843					
Young members X Parent not unemployed	0.979					
	0.867					
Young members X Parent unemployed	3.208***					
	1.222					
No young members X Not cities		ref.				
No young members X Cities		3.206***				
		0.841				
Young members X Not cities		0.785				
		1.041				
Young members X Cities		3.203***				
		1.093				
No young members X Men			ref.			
No young members X Women			8.216***			
			0.842			
Young members X Men			0.366			
			1.070			
Young members X Women			8.647***			
			1.032			
No young members X No single parent				ref.		
No young members X Single parent				1.071		
				0.840		
Young members X No single parent				0.980		
				0.884		
Young members X Single parent				0.753		
				1.274		
No young members X North					ref.	
No young members X Center					6.295***	
					1.046	
No young members X South					14.622***	
					0.968	
Young members X North					0.418	
					1.333	
Young members X Center					7.004***	
					1.457	
Young members X South					14.748***	
					1.087	
No young members X 1998-2003						ref.
No young members X 2004-2007						3.900***
						1.090
No young members X 2008-2012						10.171***
						1.120
Young members X 1998-2003						-0.391
						1.626
Young members X 2004-2007						3.956***
						1.482
Young members X 2008-2012						11.622***
						1.193
Constant	52.687***	52.791***	52.977***	52.694***	52.939***	53.314***
	1.029	1.066	1.072	1.056	1.077	1.130
Disadv.: parent unemployed	No	Yes	Yes	Yes	Yes	Yes
Disadv.: density of population	Yes	No	Yes	Yes	Yes	Yes
Disadv.: woman	Yes	Yes	No	Yes	Yes	Yes
Disadv.: single parent	Yes	Yes	Yes	No	Yes	Yes
Disadv.: area	Yes	Yes	Yes	Yes	No	Yes
Disadv.: period	Yes	Yes	Yes	Yes	Yes	No
R-squared	0.701	0.700	0.700	0.701	0.700	0.701
F test	71.6***	72.1***	71.5***	71.8***	65.7***	66.2***
Obs.	264	264	264	264	264	264

Source: LFS, Italian survey, 1998-2012. Significance of coefficients: *** $p \leq 1\%$, ** $p \leq 5\%$, * $p \leq 10\%$. Dependent variable: capability deprivation. Robust standard errors. All observations are weighted by group size.

Table A.15: Effects of disadvantage dimensions on capability deprivation - Interactions - Single parent

	(1)	(2)	(3)	(4)	(5)	(6)
Estim. method	OLS	OLS	OLS	OLS	OLS	OLS
	b/se	b/se	b/se	b/se	b/se	b/se
No single parent X Parent not unemployed	ref.					
No single parent X Parent unemployed	2.519***					
	0.891					
Single parent X Parent not unemployed	0.049					
	0.868					
Single parent X Parent unemployed	3.575***					
	1.076					
No single parent X Not cities		ref.				
No single parent X Cities		1.578*				
		0.874				
Single parent X Not cities		-0.851				
		1.007				
Single parent X Cities		3.471***				
		1.073				
No single parent X Men			ref.			
No single parent X Women			7.741***			
			0.880			
Single parent X Men			-0.054			
			1.040			
Single parent X Women			8.780***			
			1.009			
No single parent X No young members				ref.		
No single parent X Young members				0.980		
				0.884		
Single parent X No young members				1.071		
				0.840		
Single parent X Young members				0.753		
				1.274		
No single parent X North					ref.	
No single parent X Center					6.593***	
					1.142	
No single parent X South					15.078***	
					1.015	
Single parent X North					1.065	
					1.277	
Single parent X Center					7.294***	
					1.431	
Single parent X South					14.887***	
					1.183	
No single parent X 1998-2003						ref.
No single parent X 2004-2007						4.320***
						1.184
No single parent X 2008-2012						10.617***
						1.129
Single parent X 1998-2003						0.361
						1.597
Single parent X 2004-2007						4.185***
						1.410
Single parent X 2008-2012						11.829***
						1.233
Constant	53.161***	53.592***	53.220***	52.694***	52.676***	53.024***
	1.000	1.062	1.088	1.056	1.079	1.167
Disadv.: parent unemployed	No	Yes	Yes	Yes	Yes	Yes
Disadv.: density of population	Yes	No	Yes	Yes	Yes	Yes
Disadv.: woman	Yes	Yes	No	Yes	Yes	Yes
Disadv.: young members	Yes	Yes	Yes	No	Yes	Yes
Disadv.: area	Yes	Yes	Yes	Yes	No	Yes
Disadv.: period	Yes	Yes	Yes	Yes	Yes	No
R-squared	0.701	0.704	0.701	0.701	0.701	0.701
F test	75.4***	72.1***	72.3***	71.8***	67.5***	65.6***
Obs.	264	264	264	264	264	264

Source: LFS, Italian survey, 1998-2012. Significance of coefficients: *** $p \leq 1\%$, ** $p \leq 5\%$, * $p \leq 10\%$. Dependent variable: capability deprivation. Robust standard errors. All observations are weighted by group size.

Table A.16: Effects of disadvantage dimensions on capability deprivation - Interactions - Macro-area

	(1)	(2)	(3)	(4)	(5)	(6)
Estim. method	OLS	OLS	OLS	OLS	OLS	OLS
	b/se	b/se	b/se	b/se	b/se	b/se
North X Parent not unemployed	ref.					
North X Parent unemployed	3.459***					
	1.305					
Center X Parent not unemployed	6.944***					
	1.120					
Center X Parent unemployed	9.168***					
	1.408					
South X Parent not unemployed	14.618***					
	0.983					
South X Parent unemployed	17.754***					
	1.150					
North X Not cities		ref.				
North X Cities		1.927				
		1.254				
Center X Not cities		4.942***				
		1.356				
Center X Cities		9.883***				
		1.219				
South X Not cities		14.505***				
		1.075				
South X Cities		16.383***				
		1.219				
North X Men			ref.			
North X Women			7.343***			
			1.246			
Center X Men			6.342***			
			1.358			
Center X Women			13.787***			
			1.321			
South X Men			13.260***			
			1.127			
South X Women			23.023***			
			1.247			
North X No young members				ref.		
North X Young members				0.418		
				1.333		
Center X No young members				6.295***		
				1.046		
Center X Young members				7.004***		
				1.457		
South X No young members				14.622***		
				0.968		
South X Young members				14.748***		
				1.087		
North X No single parent					ref.	
North X Single parent					1.065	
					1.277	
Center X No single parent					6.593***	
					1.142	
Center X Single parent					7.294***	
					1.431	
South X No single parent					15.078***	
					1.015	
South X Single parent					14.887***	
					1.183	
North X 1998-2003						ref.
North X 2004-2007						7.957***
						1.482
North X 2008-2012						17.123***
						1.211
Center X 1998-2003						7.092***
						1.807
Center X 2004-2007						16.665***
						1.249
Center X 2008-2012						21.193***
						1.217
South X 1998-2003						23.483***
						1.111
South X 2004-2007						19.496***
						1.182
South X 2008-2012						26.150***
						1.046
Constant	52.784***	53.409***	53.422***	52.939***	52.676***	49.423***
	1.097	1.139	1.154	1.077	1.079	1.006
Disadv.: parent unemployed	No	Yes	Yes	Yes	Yes	Yes
Disadv.: density of population	Yes	No	Yes	Yes	Yes	Yes
Disadv.: woman	Yes	Yes	No	Yes	Yes	Yes
Disadv.: young members	Yes	Yes	Yes	No	Yes	Yes
Disadv.: single parent	Yes	Yes	Yes	Yes	No	Yes
Disadv.: period	Yes	Yes	Yes	Yes	Yes	No
R-squared	0.701	0.705	0.703	0.700	0.701	0.780
F test	66.8***	65.6***	64.0***	65.7***	67.5***	89.3***
Obs.	264	264	264	264	264	264

Source: LFS, Italian survey, 1998-2012. Significance of coefficients: *** $p \leq 1\%$, ** $p \leq 5\%$, * $p \leq 10\%$. Dependent variable: capability deprivation. Robust standard errors. All observations are weighted by group size.