HAVE SOME EUROPEAN COUNTRIES BEEN MORE SUCCESSFUL AT EMPLOYING DISABLED PEOPLE THAN OTHERS?

MORTEN BLEKESAUNE

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Institute for Social and Economic Research, University of Essex, Wivenhoe Park,
Colchester. Essex CO4 3SQ UK
Telephone: +44 (0) 1206 872957 Fax: +44 (0) 1206 873151 E-mail: iser@essex.ac.uk
Website: http://www.iser.essex.ac.uk

Abstract

Have some European countries been more successful at employing disabled people than others? Answering this question requires data about disability that are comparable across countries. This paper investigates three possible sources of survey data. Altogether, the European Social Survey (ESS) appears to be the most suitable data source for comparing disabled people between European countries. Employment rates among disabled people vary a lot between these countries. This variation is investigated in relation to several country-level characteristics: the number of people reporting disability, employment rates among non-disabled people, general unemployment rates, some characteristics of disability policies as well as some general employment policies. It is difficult to explain why particular countries are more or less successful at employing disabled people.

Non-technical summary

This paper investigates three possible sources of cross-national survey data on disability and employment in Europe: the Labour Force Survey, the European Social Survey, and the European Community Household Panel survey. They all show very large variation in the number of people reporting disability between countries, and the same countries can be differently positioned in different data sources. Altogether, the European Social Survey (ESS) appears to be the most suitable data source.

Employment rates among disabled people vary a lot between these countries. This variation is investigated in relation to several country-level characteristics: the number of people reporting disability, employment rates among non-disabled people, general unemployment rates, some characteristics of disability policies as well as some general employment policies. Some of these characteristics are statistically correlated with the employment of people reporting any level of disability, and the direction of association is usually consistent with expectations. But none of the country-level characteristics is significantly correlated with the employment of more severely disabled people. It is thus difficult to explain what it is about some countries that make them more successful than others at employing severely disabled people.

Great Britain has relatively low employment rates among disabled people, and this result is even less impressive when considering the large number of Britons reporting disability, as well as its relatively high employment rate among non-disabled people.

1 Introduction

Research in many countries has shown, first, that disability is associated with employment disadvantage, and, second, that the number of people claiming disability benefits has been increasing (Rupp and Stapleton 1998; Marin, Prinz and Queisser 2004). The UK is certainly no exception. Here, the number of disabled people out of work and claiming incapacity benefits increased from one million in the early 1980s to 2½ million today. The large number of people receiving incapacity benefits puts stress on national economies, and increases the risk of poverty and social isolation of disabled people. As a result, policy makers in several countries are looking for ways to enhance the employment prospects of disabled people (OECD 2003).

One way of finding the most appropriate policies for enhancing the employment prospects of disabled people is to compare the experiences of various countries. Have some countries been more successful in employing disabled people than others? And if so, what characterises the policies of the more successful countries compared with the less successful?

A crucial requirement for investigating these issues is that we have measures of disability that can be compared across countries. This could be investigated using various types of data, including administrative data on the receipt of incapacity benefits (e.g. OECD 2003) or survey data on self-reported disability (e.g. Dupré and Karjalainen 2003). A problem with administrative data is that the benefit system varies from country to country, and many disability benefits make requirements about low income or non-employment, invalidating any effort to investigate how far "disability" is associated with employment disadvantage. Survey data can also be difficult to compare between countries because disability itself is a rather abstract concept which can be difficult to translate from one language to another.

The first part of this analysis investigates how disability rates compare in various European countries when using three survey data sources: the Labour Force Survey, the European Social Survey, and the European Community Household Panel. The prime objective is to identify which of these data sources is likely to provide the most comparable information about disability in Europe.

The second part of this analysis investigates how far disability is associated with employment or non-employment in various European countries. Country-level variation in employment rates among disabled people is then investigated using a set of other country characteristics as potential explanatory variables: employment rates of non-disabled people, the number of people reporting disability in the country, general unemployment rates, policy emphasis on work integration of disabled people, and two measures of job security. Some conclusions and policy implications are also presented.

Comparing disability rates using survey data

Disability typically indicates a mismatch between reduced individual capabilities, resulting from disease or impairment, and the various requirements facing people in everyday life. Classifying people into disabled and non-disabled categories is difficult since a large number of people face moderate forms of disability and comparatively few are confronted with more severe forms of disability.

Further, the concept of disability is rather abstract, and many people with health problems may not themselves have a ready-made opinion as to whether they are disabled or not, or how their impairments should be classified on a severity scale. These uncertainties pose particular problems when comparing disability rates in various countries because of different cultural understandings and languages; for example, non-English languages may have various words resembling the English 'disability' without any words being identical.

In survey questionnaires the concept of disability tends to be operationalised by considering the types of activities people cannot do or are excluded from doing. Most typically, disability is related to activities of daily living (ADL). But some data sources may also ask about restriction on other activities such as work (e.g. the UK Census) or merely the presence of a long lasting health problem or disability (e.g. Labour Force Survey). The latter is unsatisfactory since many people have long lasting health problems that do not pose any problems in everyday life.

2.1 Three sources of survey data about disability and work

Three major comparative sources of survey data are available for investigating disability in European countries: the Labour Force Survey (2002), the European Social Survey (2002/2003 and 2004/2005), and the European Community Household Panel (1994–2001). Since disability increases with age, and since age composition varies between countries, this analysis uses age-standardised rates (using the direct method) for people aged 25-59 years (assuming equal numbers of people in each five-year age group).

National Labour Force Surveys included a question about disability in the spring 2002 for all people living in private households between the ages of 16 and 64 years. A module was asked about the existence of a long-standing health problem or disability, and further questions included type of disability, its cause, its duration etc. Eurostat proposed using questions that were translated and harmonised by them, but some rewording was felt necessary at national level, which could have affected the comparability of the data. Respondents were asked: 'Do you have any health problems or disabilities that you expect will last more than a year?' Those saying yes, were also the asked: 'Does this (do these) health problem(s) or disability(ies) (when taken singly or together) substantially limit your ability to carry out normal day-to-day activities?' Unfortunately, comparable data on disability are only available for the first definition of disability (long-standing health problem or disability, LSHPD) rather than the second (substantially limit your ability to carry out normal day-to-day activities) for any substantial number of countries. Eurostat statistics classify people as disabled if the long-standing health problem or disability (LSHPD) has or is

expected to last at least six months (Dupré and Karjalainen 2003). The Labour Force Surveys provide large samples and relatively high response rates compared to most other data sources. National samples can include 70,000 people in large countries such as the UK but down to 12,000 in smaller countries such as Finland and 5,500 in Luxembourg. Response rates are typically around 90%, but some countries are substantially lower, in particular the Netherlands (66%) but also the UK (78%).

A first round of the European Social Survey (ESS) was undertaken in 2002/2003 and a second round in 2004/2005. Altogether 26 countries participated in at least one of these rounds. Respondents were asked: 'Are you hampered in your daily activities in any way by any long-standing illness, or disability, infirmity or mental health problem? If yes, is that a lot or to some extent?' Responses could thus be (1) 'Yes, a lot', (2) 'Yes, to some extent', and (3) 'No'. National samples sizes (both waves pooled, when appropriate) are of at least 1,200 people except for Iceland (420) and Italy (846) whereas some countries (Germany, Austria and Greece) have more than 3,000 people. Response rates vary a lot, from 43% in France to 80% in Greece. Since ESS has lower response rates than the Labour Force Survey, the disability data are adjusted using population weights provided by the Eurostat. Weighting makes only small changes to the results, however.

A first wave of the European Community Household Panel (ECHP) was undertaken in 1994 with subsequent annual waves to 2001. It included the 12 member countries of the EU in 1994 but data from Austria (1995), Finland (1996) and Sweden (1997) were included later. While nine of the countries conducted new surveys to the ECHP specification, five of them transcribed their data from existing surveys, which may not have used exactly the same disability questions. (The 15th country, Luxembourg, provided no data on disability.) It is thus uncertain how comparable the data are. Respondents (in the ECHP-model countries) were asked: 'Are you hampered in your daily activities by any chronic physical or mental health problem, illness or disability?' Responses could be (1) 'Yes, severely', (2) 'Yes, to some extent', and (3) 'No'. This analysis uses data from wave 6 to 8 (1999–2001) to make the ECHP data closer in time to the other two data sources (LFS and ESS). Annual samples vary from just below 4,000 people in Denmark to 14,000 people in Italy. The combined effect of initial response rates (not participating in the first wave) and attrition problems (leaving the study over consecutive waves) is a serious problem in this type of data and can give effective response rates down to 50% in later waves for some countries (Behr, Bellgardt and Rendtel 2005). Further, people in poor health have higher attrition rates than people in good health (Jones, Koolman and Rice 2006). Thus, population weights provided by the data distributors are also used when analysing the ECHP.

Disability is a possible but not a necessary consequence of a long-lasting health problem. While the data from the Labour Force Survey relate to long-lasting health problems or disability, the European Social Survey and the European Community Household Panel ask specifically about disability. Both the European Social Survey and the European Community Household Panel allow for grading disability ('a lot/severely' and 'to some extent') whereas there are no comparable data for any number of countries on the grading or severity of disability in the Labour Force Survey. For these reasons, we would expect more similar results when comparing the European Social Survey and the European Community Household Panel than comparisons with the Labour Force Survey.

Table 1 provides some descriptive statistics of all five measures of disability from the three data sources presented (LFS, ESS and ECHP). We have already mentioned that the LFS and the ESS provide data for more (25 and 26) countries than the ECHP (14), and that this is even truer when considering that five of the countries in the ECHP have added their 'own data' which could reduce the number of comparable countries to 9. When comparing mean values (percentages in the table) we find that the rather similar questions about being hampered to some extent in daily activities in the ESS and the ECHP give different proportions reporting disability: 18.5% and 15.6% each respectively (unweighted means of the countries meaning that each country is given the same importance in the country-level analysis, regardless of its size). Most of the difference is due to which countries are included; when comparing the 13 countries represented in both data sources the difference is smaller: 16.7% and 15.8% respectively. The ECHP has on the other hand more people reporting being hampered severely in daily activities (5.1%) compared to those being hampered a lot in the ESS (4.1%) and this difference is even larger when comparing those 13 countries included in both surveys 5.3% and 3.8% respectively).

Table 1: Descriptive statistics of three data sources and up to two levels of disability, percentages calculated as un-weighted means of the countries standardised by age

Source and level	N	Mean	S.D.	C.V.	Min	Max
LFS: Long lasting health problem or disability	25	16.7	8.0	0.48	6.3	33.4
ESS: Hampered to some extent in daily activities	26	18.5	6.3	0.34	7.2	36.5
ESS: Hampered a lot in daily activities	26	4.2	1.5	0.36	1.7	7.4
ECHP: Hampered to some extent in daily activities	14	15.6	6.6	0.42	6.1	30.7
ECHP: Hampered severely in daily activities	14	5.1	2.4	0.47	1.9	9.9

We have no independent source to show how much disability rates actually vary between European countries. In all three sample surveys this country-level variation is very large, and seemingly too large to be credible. In four out of five disability measures being compared the highest national percentage value is five times larger than the lowest one (indicated by comparing the minimum and maximum values in the table). In the fifth measure (hampered a lot in the ESS) this ratio is four to one.

There is only one measure of health which we know is comparable between countries, and that is mortality. Mortality rates vary much less between European countries than disability rates as measured by survey data. The World Health Organization (WHO) is a prime source for mortality rates.[1] Their statistics shows a range between the countries represented in any of the data sources in Table 1 of about two to one (see Appendix Table A1); whish is less than half of the range of disability rates in all three survey data sources.

The best way of investigating if country-level variation is larger in one measure/ source than in others is to use the coefficient of variation (C.V.) which is the standard deviation (S.D.) divided by the mean (all statistics are presented in the table). This statistic shows that the largest country-level variation is found in the presence of a long-lasting health problem or disability in the LFS (0.48) and in being hampered severely in the ECHP (0.47). The lowest variation, and thus seemingly the most credible source for comparing disability rates, are in the ESS with C.V.s of 0.34 (hampered to some extent) and 0.36 (hampered a lot) for the two levels of disability available in this data source. In comparison, mortality rates show a C.V. of about 0.25 for these countries.

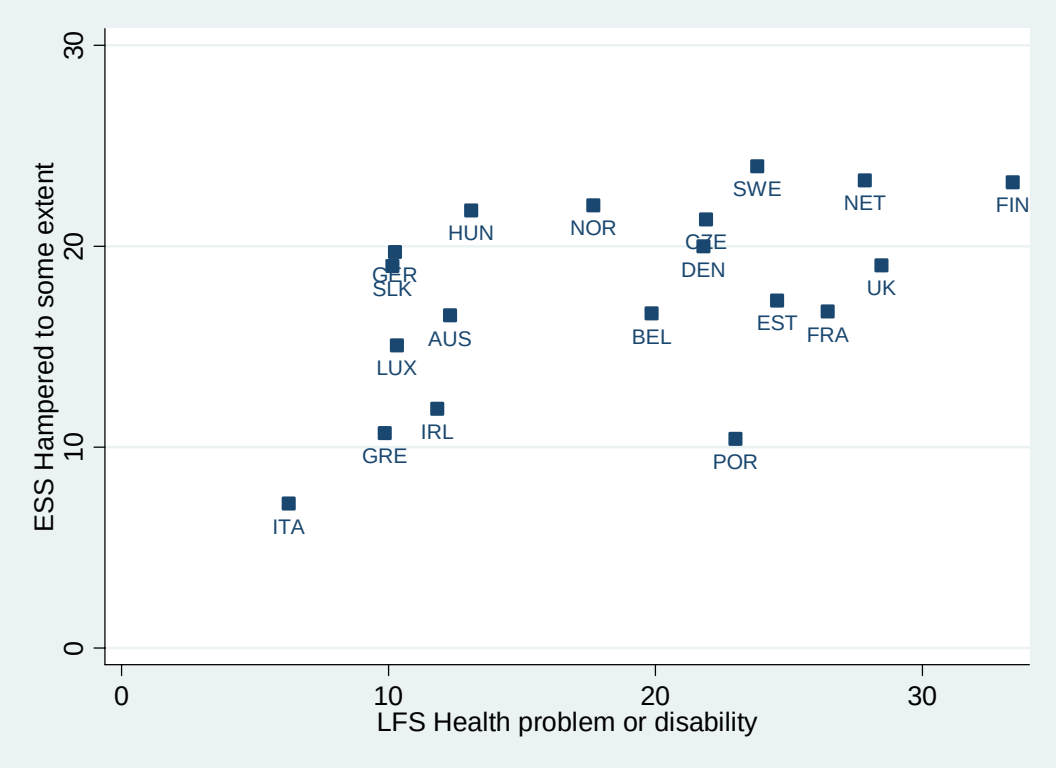
The following sections present a series of paired comparisons between data sources and measures.

2.2 Comparing ESS and LFS

Altogether 19 countries are represented both in the Labour Force Survey of 2002 and in the European Social Survey of 2002/2003 or 2004/2005. The general question about long-standing health problems or disability in the LFS can best be compared with those reporting to be hampered 'to some extent' (or more) in ESS. When comparing these measures, the overall disability rate is similar in ESS and LFS across the countries: 18.6% are disabled in the LFS and 17.7% are disabled in the ESS (when using non-weighted means of the 19 countries). The LFS has much more country-level variation around this mean disability rate than in the ESS (S.D. = 7.9 and 4.8 and C.V. = 0.43 and 0.27 respectively). The country-level variation in disability rates in the LFS is unsatisfactorily large: disability rates vary from 6.3% in Italy to 33.4% in Finland. It indicates that the wording in the Labour Force Survey is not comparable between the countries, and is likely to be less comparable than similar data from the ESS.

[1] Mortality data are downloadable from http://www.euro.who.int

Figure A: Disability rates in Labour Force Surveys (2002) and European Social Survey (2002–2005) (adjusted r = 0.48)

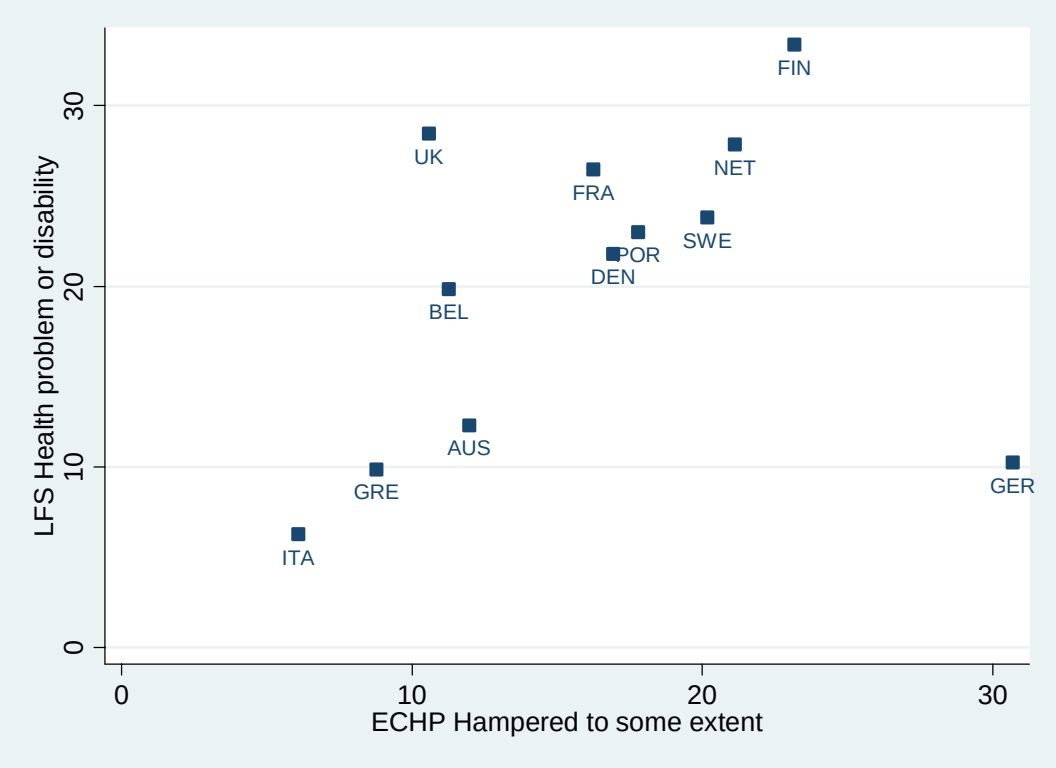


The same countries can be in rather different positions regarding disability rates as indicated by Figure A which plots the disability rates in ESS and LFS for the 19 countries represented in both surveys. The correlation between the two sources (after adjusting for the low number of countries) is 0.48, which is lower than we would like to see. Major deviances are found for Portugal with high disability rates in LFS (23.0%) but low disability rates in ESS (10.4%), whereas Hungary, Germany and Slovakia have high disability rates in ESS (21.8%, 19.7% and 19.6%) but low rates in LFS (13.1%, 10.2% and 10.2% respectively).

2.3 Comparing ECHP and LFS

Only 12 countries can be compared in both the Labour Force Survey and the European Community Household Panel. Again, we compare those reporting being hampered 'to some extent' (or more) in ECHP with those reporting a long-standing health problem or disability in the LFS. Measured this way, the overall disability rate is higher in ECHP than in LFS, 20.3% and 16.2% respectively (non-weighted means of the 12 countries). Also the variation around these means is larger in ECHP than in LFS (S.D. = 8.7 and 7.0 respectively) but the C.V. statistics are the same (0.43 in each data source). In LFS disability rates vary from 6.1% in Italy to 30.7% in Germany. In ECHP these rates vary from 6.3% in Italy to 33.4% in Finland.

Figure B: Disability rates in the LFS (2002) and the ECHP (1999–2001) (adjusted r = 0.11)



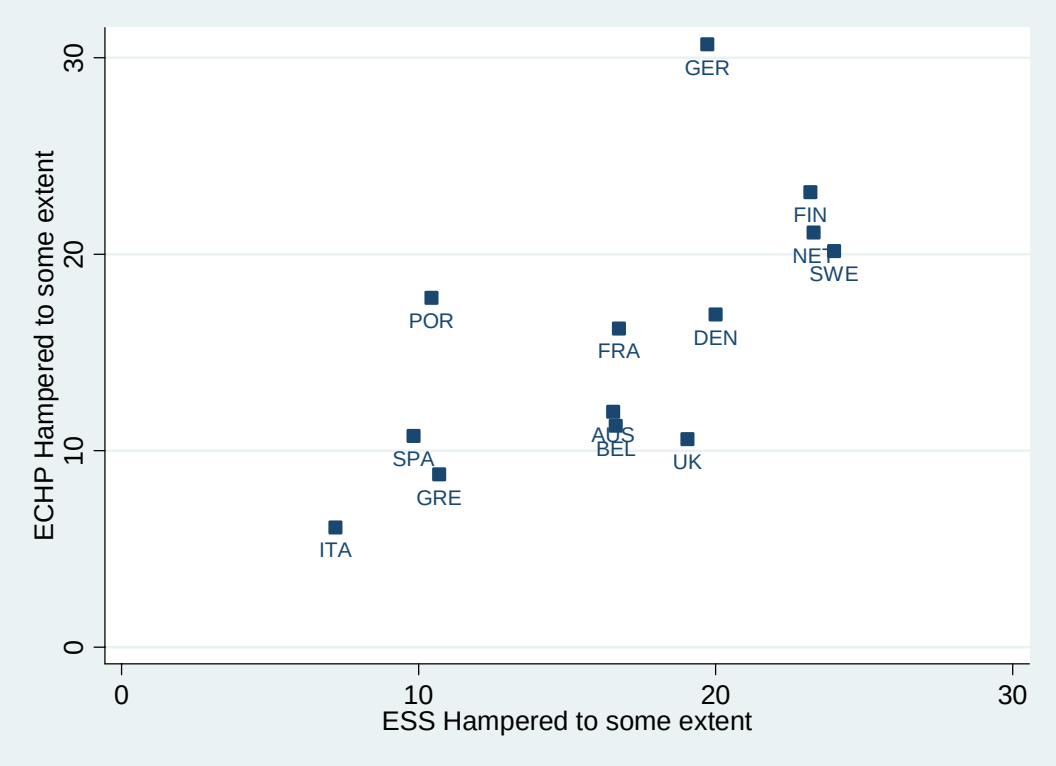
There are considerable differences between these two data sources regarding which countries having high and low disability rates, as indicated by Figure B. There is virtually no correlation between the two sources of data regarding which countries have high and low disability rates (adjusted r statistic = 0.11). The main deviances are found for Germany (low rates in LFS but very high rates in ECHP) and the UK (high in LFS but low in ECHP). Note that Germany and the UK are among five of the 12 countries who added their 'own' panel data sets into the ECHP. If we exclude these two countries there is actually high degree of consistency in disability rates between the other ten European countries when comparing the LFS and the ECHP. Country-level variation in disability rates is, on the other hand, still unsatisfactory large in both surveys.

2.4 Comparing ESS and ECHP – hampered to some extent

Altogether 13 countries can be compared in both the European Social Survey and the European Community Household Panel. Both surveys provide two levels of disability that can be compared: being hampered 'a lot' and 'to some extent' in the ESS and being hampered 'severely' and 'to some extent' in the ECHP.
When using 'to some extent', the overall disability rates are generally a bit higher in the ESS than in the ECHP, 16.7% and 15.8% respectively for these 13 countries (unweighted mean). The variation between the countries is, on the other hand, larger in the ECHP than in the ESS (S.D. = 6.8 and 5.6 and C.V. = 0.43 and 0.34

respectively). In the ECHP disability rates vary from 6.1% in Italy to 30.7% in Germany. In the ESS disability rates vary from 7.2% in Italy to 24.0% in Sweden.

Figure C: Disability rates in the European Social Survey (2002–2005) and the European Community Household Panel (adjusted r = 0.63)



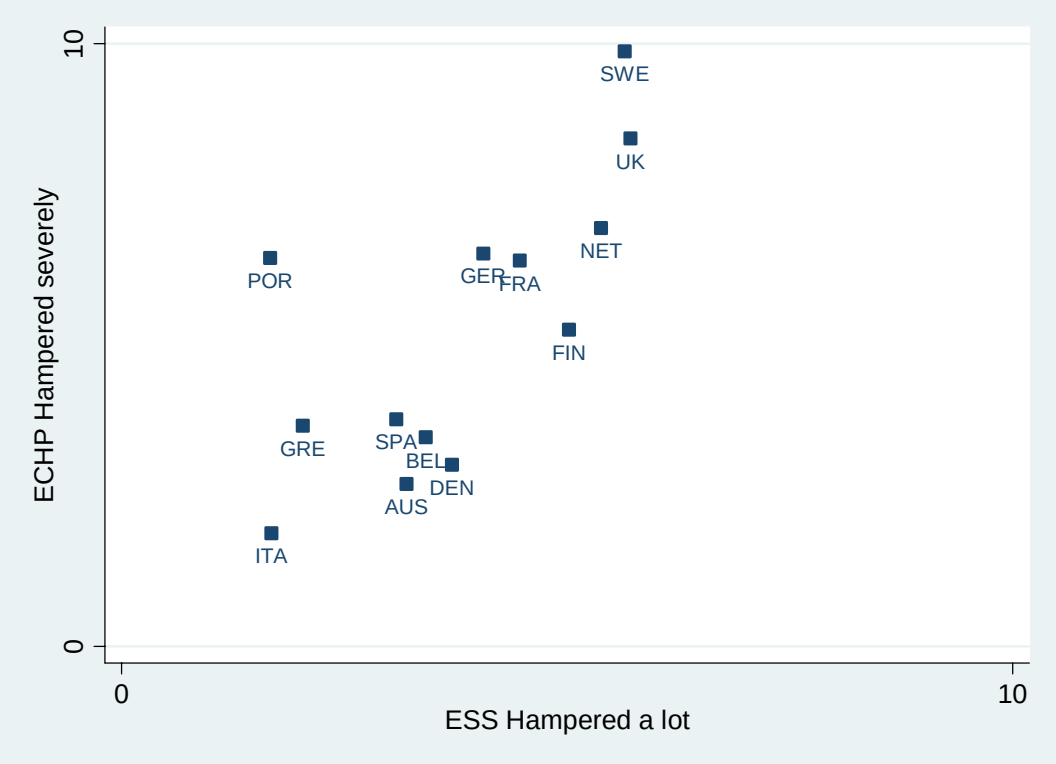
There is some correspondence between these two data sources in the countries which have high and low disability rates, as indicated by Figure C. The adjusted r statistic is 0.63 which is better than similar comparisons with the Labour Force Survey (0.42 and 0.10). This is also expected since the wordings are quite similar in the ECHP and the ESS. In fact, given the similarities in measurement instruments and concepts used, the country-level correlation between the ESS and the ECHP is lower than expected. Also in this comparison, Germany and the UK are outliers provides a much better correspondence in which countries having high and low disability rates.

2.5 Comparing ESS and ECHP – hampered a lot or severely

When using being hampered ‘a lot’ or ‘severely’ the overall disability rates are generally higher in the ECHP (‘severely’) than in the ESS (‘a lot’), 5.3% and 3.8% respectively. Also country-level variation is larger in the ECHP than the ESS (S.D. = 2.4 and 1.4 and C.V. = 0.46 and 0.38 respectively). In the ECHP, more severe disability varies from 1.9% in Italy to 9.9% in Sweden. In the ESS a lot of disability varies from 1.7% in Portugal and Italy to 5.7% in the UK and Sweden.

There is a similar level of correspondence in which countries have high and low disability rates between these two data sources, as indicated by Figure D. The adjusted r statistic is 0.67 which is marginally better than when comparing the less severe forms of disability.

Figure D: Severe disability rates in the European Social Survey (2002–2005) and the European Community Household Panel (adjusted r = 0.67)



When investigating more severe forms of disability, Germany and the UK are no longer outliers when comparing ESS and ECHP data. This could indicate that more severe forms of disability are also more comparable between ECHP countries than more moderate forms of disability.

2.6 Internal comparisons of ESS and ECHP

Lastly, we will investigate how far the two levels of disability in the ESS and ECHP respectively show similar patterns across the countries represented in these surveys. (No separate graphs are presented since the relevant distributions have been presented in previous graphs.) The ESS shows very strong country-level correlation between rates of people reporting ‘a lot’ and ‘to some extent’ disability. The (adjusted) r statistic is as high as 0.88. The ECHP shows, on the other hand, much lower consistency between countries when comparing the two levels of disability. The (adjusted) r statistic is 0.44.

2.7 Summing up country-level variations

When investigating country-level variation in disability rates, it appears that ESS provides the most comparable data on disability. It provides a measure of disability rather than a measure of poor health etc. All three data sets show a range of country variation in disability rates which is difficult to believe, but the variation is ESS is narrower, and so more plausible, than in the other two data sources. The ESS has also very good internal consistency regarding which countries are high and low on the two levels of disability available in the data. A drawback with the ESS is the comparatively low samples available. This is particularly true for Iceland (420) and Italy (846). Italy also has also the lowest proportion of disabled people in the ESS, and so a very small sample of the group of interest. Thus, further analyses of the ESS should probably exclude Iceland and Italy but would still include 24 countries. This also reduces the country-level variation in disability rates slightly: the C.V. statistics reduced from 0.34 to 0.32 for being hampered somewhat and from 0.36 to 0.34 for being hampered a lot.

The ECHP could also have been a valuable data source had it not been for the country-level variation in disability rates being unsatisfactorily large and the fact that we do not know how comparable these data are for those five countries who added ‘their own’ second hand data to the ECHP. It provides similar measures of disability to those in the ESS but the internal inconsistency between the two levels of disability also raises serious questions about comparability between the countries.

The LFS could have been a valuable data source for comparing disability in Europe given its large sample sizes and high response rates. But the disability measures used is not the best one, merely asking about the presence of a long-lasting health problem or disability and not providing comparable data about the consequences this health problem poses for everyday life for any number of countries. Also country-level variation in the proportion of people reporting a long-lasting health problem is much too large to give any confidence to the comparability of how this question was worded in different European countries.

3 Employment of disabled people in Europe

The previous analysis indicates that the European Social Survey (ESS) appears to provide the best data for comparing disabled people in Europe. The remainder of this paper compares employment rates among disabled people in 24 out of the 26 countries represented in any of the first two waves of the ESS. Iceland and Italy were excluded because of small samples and the very small number of people reporting disability in these countries (both countries have only 14 persons each reporting being hampered 'a lot' in their daily activities). It first investigates country-level variation in employment rates among disabled people before investigating if this is correlated with other country-level characteristics including the number of people reporting disability, employment rates among non-disabled people, general unemployment rates, and some characteristics of disability policies as well as general employment policies.

3.1 Employment among disabled people in Europe

Table 2 describes employment rates among disabled people aged 20–59 years in 24 countries. Two degrees of disability are investigated: for convenience labelled 'some disability' and 'severe disability'. Countries' age and sex compositions are controlled for using logistic regression models and piece-wise constant slopes ('splines') for each ten-year interval of age. This analysis largely corresponds to model 1 in Appendix Table A2 but uses dummy variables for the countries. The table presents country-level employment rates from this analysis for a 'model person': a man of 45 years of age.

3.2 Selection – number of disabled people

Another explanation of why employment rates among disabled people vary between countries could be that the proportion reporting disability varies as well. If a high proportion report disability they could also include people with minor disability who are more likely to work; if a small proportion report disability they could also be more severally disabled and less likely to work.

There is a positive correlation between the number of people reporting (at least) some disability and the probability of these people being employed (adjusted $r = 0.30$), as indicated by Figure E1.[2] This result is statistically significant (when using a one tailed test because it is according to our hypothesis). There are some deviances from this general trend, though. On the rather negative side, Ukraine has the by far largest number of people reporting some kind of disability (36%) but an average employment rates among disabled people. Also Poland and Hungary have low employment rates among people reporting any type of disability in spite of the fact that many people in these countries report at least some disability. On the more positive side we find Switzerland and Austria with high employment rates among disabled people in spite of the fact that they have less than the average number of people reporting disability.

[2] The number of people reporting disability is standardised for age using the direct method for 5-year groups.

Table 2: Estimated employment rates among disabled people, ESS data

Country	Label	Severe disability	Partial disability	Any disability
Austria	AUS	59.3	82.1	77.4
Sweden	SWE	57.6	88.0	81.7
Finland	FIN	55.7	85.7	79.5
Germany	GER	54.4	79.1	73.7
Slovenia	SLV	53.0	77.5	71.2
Switzerland	SWI	49.4	83.8	77.4
Israel	ISR	48.8	60.3	56.9
Netherlands	NET	47.5	79.8	72.8
Greece	GRE	44.5	62.8	57.2
Estonia	EST	44.2	86.8	76.1
Norway	NOR	43.8	85.5	77.8
Ukraine	UKR	42.9	74.8	68.2
Czech republic	CZE	42.6	80.4	73.7
France	FRA	42.0	77.7	69.0
Ireland	IRL	38.7	71.2	64.3
Luxembourg	LUX	33.6	74.2	65.3
Spain	SPA	33.2	70.1	59.6
Great Britain	GB	29.4	71.5	60.4
Denmark	DEN	28.2	82.6	73.7
Belgium	BEL	27.6	69.8	61.2
Hungary	HUN	26.2	71.4	60.0
Slovakia	SLK	25.5	66.5	58.7
Poland	POL	24.8	67.7	58.3
Portugal	POR	21.4	71.5	61.1

Table 2 sorts the countries by employment rates of severely disabled people (in the right-hand column). There is considerable variation in employment rates among disabled people between the 24 countries. A man of 45 with some disability has an estimated 57% probability of being employed in Israel and Greece compared with 82% in Sweden. The variation is even larger when comparing people with severe disability. In this group, estimated employment probabilities vary from 21% in Portugal to 59% in Austria.

Figure E1: Employment rates among people reporting (at least) some disability and percentage reporting (at least) some disability in 24 countries (adjusted r = 0.30)

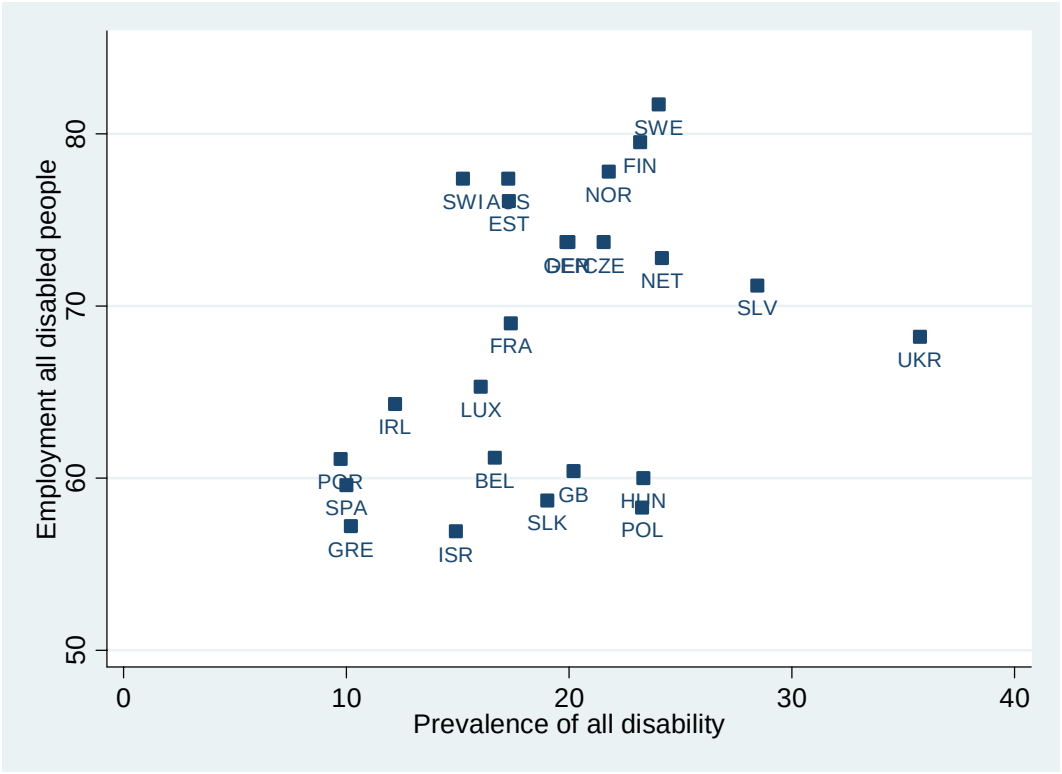
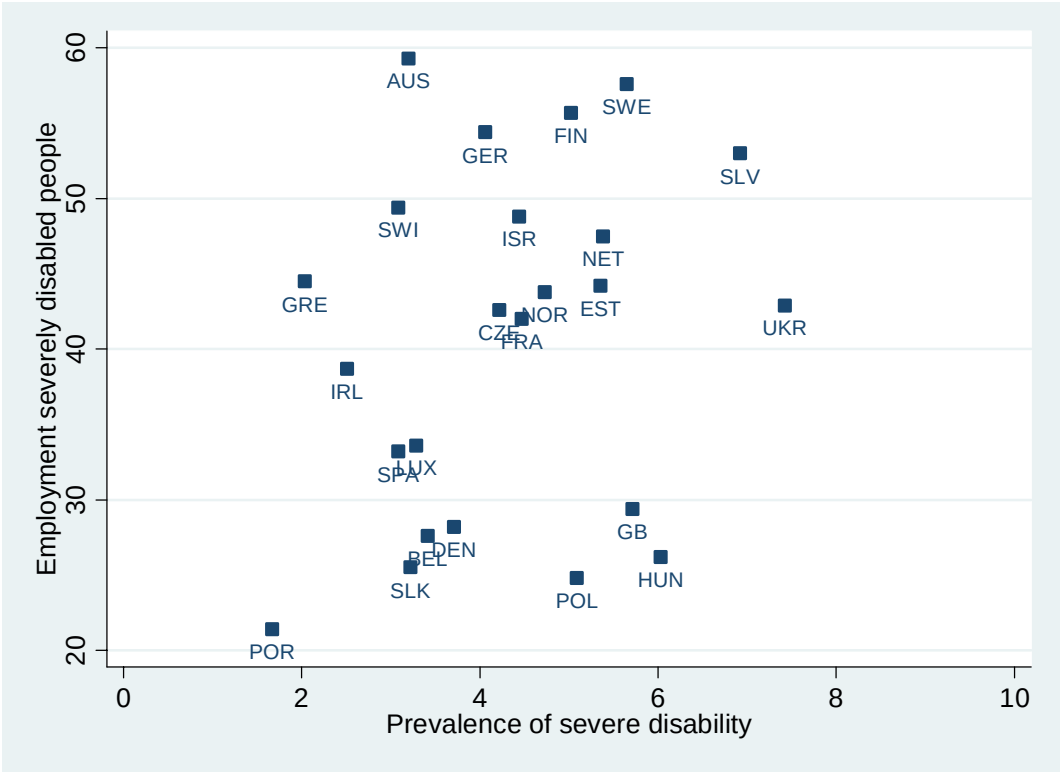


Figure E2: Employment rates among people reporting severe disability and percentage reporting severely disability in 24 countries (adjusted r = 0.13)



But when looking at more severely disabled people, there is actually no significant correlation between the number of people reporting disability and the probability of these people being employed, as is indicated by Figure E2. This is slightly surprising given the large variation in the percentage reporting severe disability in Europe, which ranges from less than two per cent in Portugal to more than seven per cent in Ukraine. The graph shows that Portugal (with the smallest number of disabled people) also has the lowest employment rate among disabled people. But Ukraine (with the highest number of disabled people) has an average employment rate among disabled people.

Again, it is the deviances from our hypothesis which are the most interesting cases. Austria, in particular, has a rather low percentage reporting severe disability (3.2%). But Austria has the highest employment rate among disabled people, estimated at 59 per cent for our model man of 45. Also Sweden, Finland, Germany, Switzerland and Greece all have relatively high employment rates among disabled people when considering the relatively low numbers of people reporting disability in at least some of these countries. On the negative side we find Hungary, Poland and Great Britain. In these countries disabled people have among the lowest employment rates in Europe in spite of the fact that they also have relatively many people reporting disability. Also Ukraine has relatively low employment rate among disabled people considering the large number of people reporting severe disability in that country.

Taken together, this analysis initially supports our hypothesis that the more people who report disability in a country the more of these people are employed as well. But this is only true when including moderate forms of disability. For more severe disability there is no such correlation at all.

3.3 Comparing employment among disabled and non-disabled people

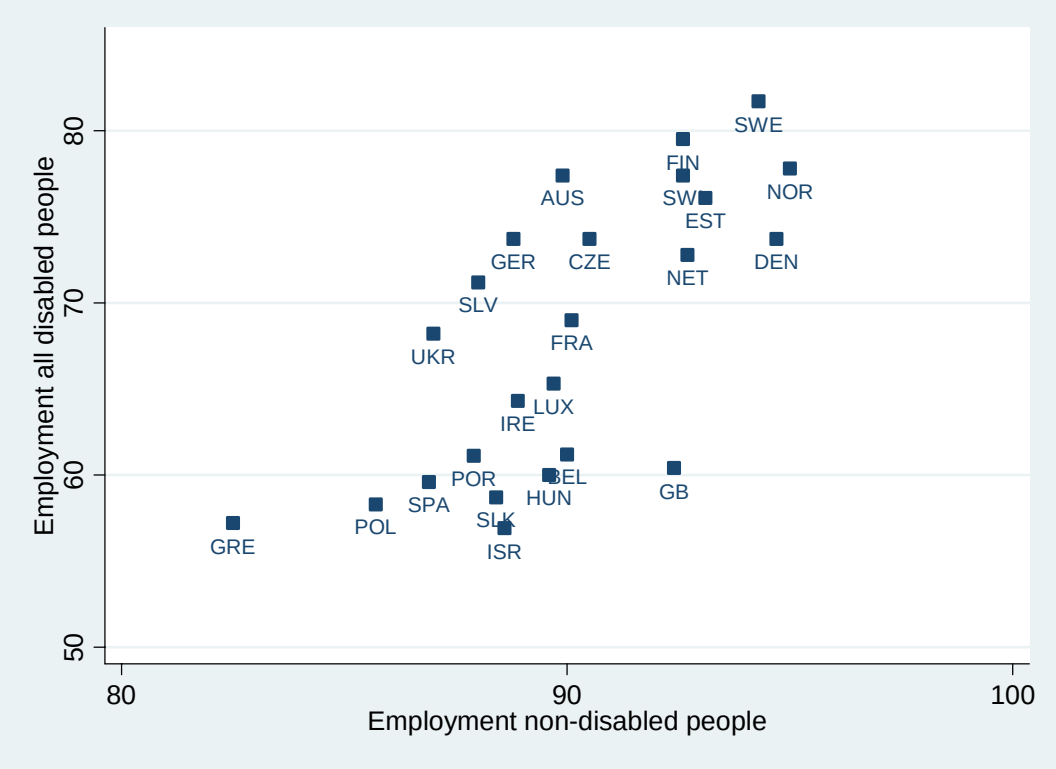
How can we explain this large country-level variation in employment among disabled people? A first place to start looking is the overall employment rates in these countries. High and low employment rates among disabled people could reflect high and low employment rates in these 24 countries more generally.

Figures F1 and F2 compare employment rates among disabled people with similar employment rates for similar-aged non-disabled people. Both degrees of disability in the ESS are investigated: people reporting being hampered ‘to some extent’ in their daily activities by a chronic health problem or disability (Figure F1), and people being hampered ‘a lot’ in their daily activities (Figure F2). Again, this analysis uses logistic regression models controlling for age and gender, as in Table 2.

There is considerable country-level correlation in employment rates of people reporting (at least) some disability and no disability (0.69). Countries with high employment rates among non-disabled people, such as Sweden and Finland, also tend to have high employment rates among disabled people. But we also find some deviances from this general trend. On the positive side we find Austria with an average employment rate among non-disabled people but it has one of the highest employment rates among (partially) disabled people. On the negative side we find

Great Britain with high employment rates among non-disabled people; but disabled people in Great Britain have low employment rates by European standards.

Figure F1: Employment rates among people reporting (at least) some disability and non-disabled people in 24 countries (adjusted r = 0.69)



3.4 Demand for labour – unemployment rates

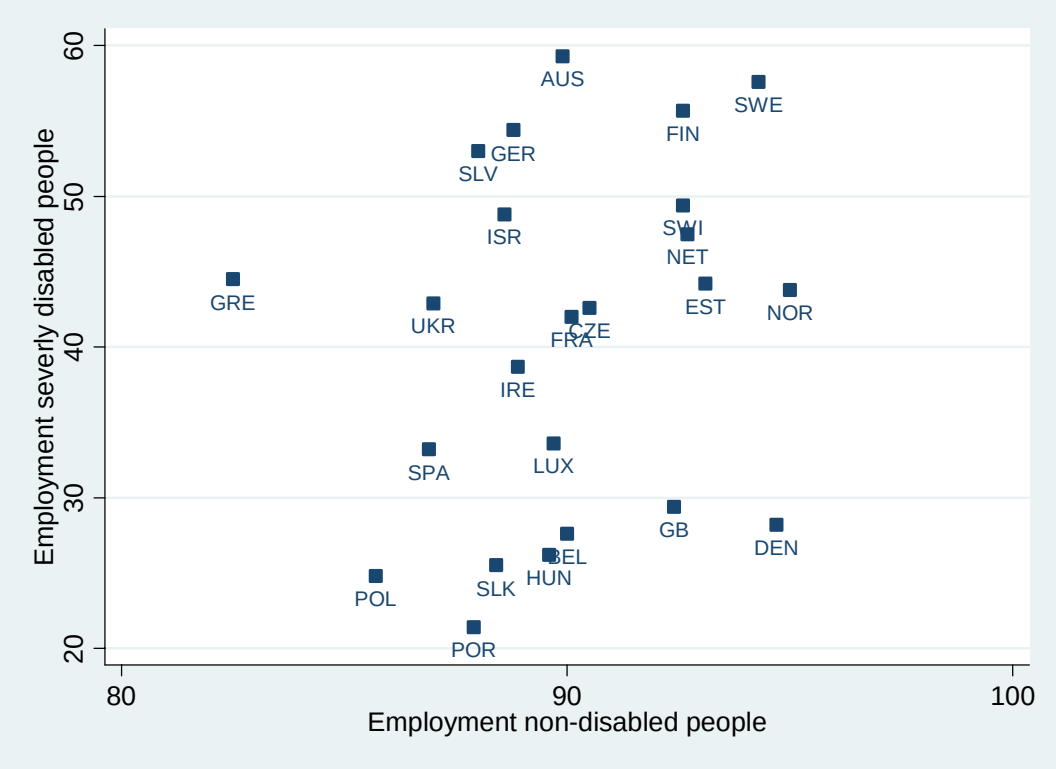
Figure F2 (above) showed no correlation between employment rates among severely disabled and non-disabled people at country level. One interpretation could be that the general demand for labour in a country is not that important for the employment prospects of disabled people. But before making this conclusion we should also check other measures of how difficult it is to find employment in a country for people in general, and not only disabled people. Another measure of employment prospects in a country is the percentage unemployed.[3]

We do find a correlation between unemployment rates and employment rates among people with any level of disability (adjusted r = -0.43), as indicated by Figure G1. The two countries (Poland and Slovakia) with high unemployment rates also have relatively low employment rates among disabled people. At the opposite end we find Norway and Sweden with low unemployment rates and high employment rates among people reporting any level of disability. There are not really any deviant countries on the positive side of this trend, with high unemployment rates but still respectable

[3] Note: Unemployment is here largely taken from the Eurostat web pages and supplemented with official statistics from national sources whenever necessary. Years are matched with those of the ESS data. Ukraine was excluded since some foreign sources (CIA) claims that the official numbers (2.9%) are set too low and should have been 9-10%.

employment rates among disabled people. But on the rather negative side we find Great Britain with a low employment rates among people reporting at least some kind of disability in spite of having a low general unemployment rate.

Figure F2: Employment rates among severely disabled people and non-disabled people in 24 countries (adjusted r = 0.05)



When looking at more severely disabled people, there is actually no country-level correlation when comparing their employment rates with similar employment rates in the non-disabled population, as indicated by Figure F2. Because of the relatively small number of severely disabled people in the ESS (an average of 86 people in each country ranging from 29 in Slovakia to 153 in the Netherlands) the exact position for each country is indicated with some uncertainty. The apparently most successful countries are Austria and Sweden. These countries are in rather different positions regarding the overall employment rates, Sweden high and Austria average. Greece is also worth mentioning with very low employment rates among non-disabled people but respectable employment rates of severely disabled people.

The least successful countries are Portugal, Poland and Slovakia. These are countries with medium to low employment rates also among non-disabled people. Denmark and Great Britain also have low employment rates among severely disabled people. These are, on the other hand, countries with above average employment rates among non-disabled people.

It is possible that overall employment rates vary between countries because attitudes towards mothers' and/or female employment vary. So we also compared employment

rates among disabled people in relation to male employment rates only rather than the overall employment rates as in Figure F1 and F2. But employment rates among disabled people are even less correlated with male employment rates than with overall employment rates for men and women combined (adjusted r = 0.42 compared to 0.69 in Figure F1).

Summing up, employment rates among mildly disabled people tend to reflect the overall employment situation of each country, even if there are some noticeable deviances from this general trend. But when limiting the analysis to more severely disabled people there is no correlation between the employment rates of disabled and non-disabled people when comparing 24 European countries.

Figure G1: Employment rates among people reporting (at least) some disability and overall unemployment rates in 23 countries (adjusted r = -0.43)

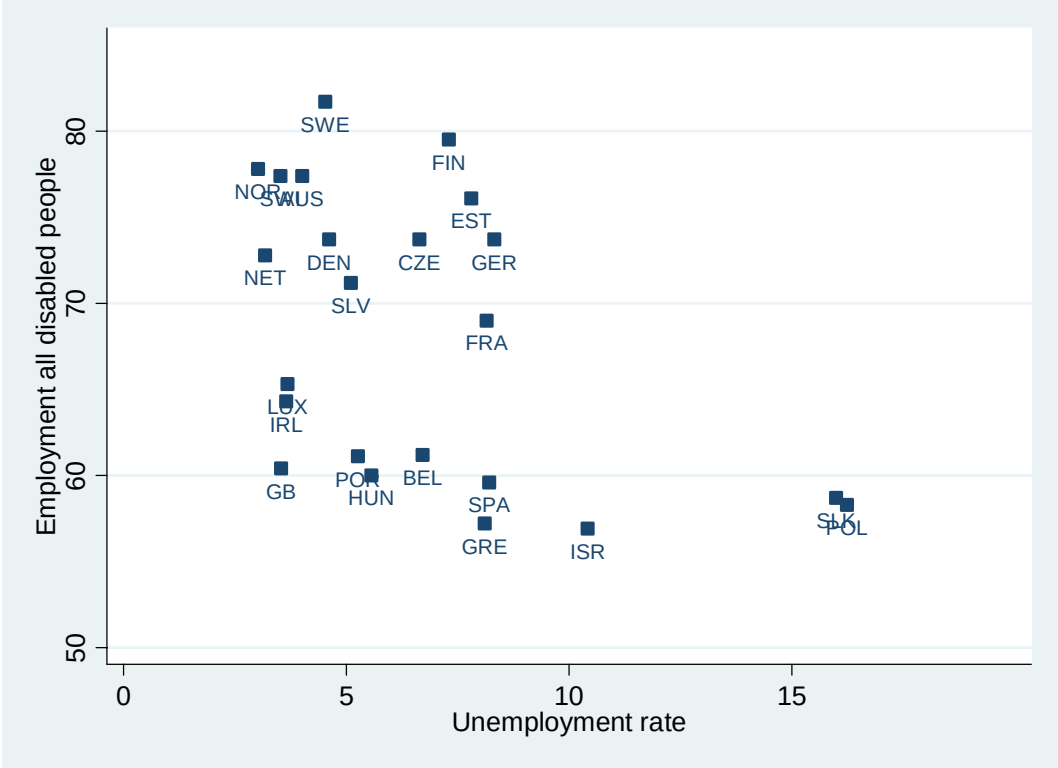
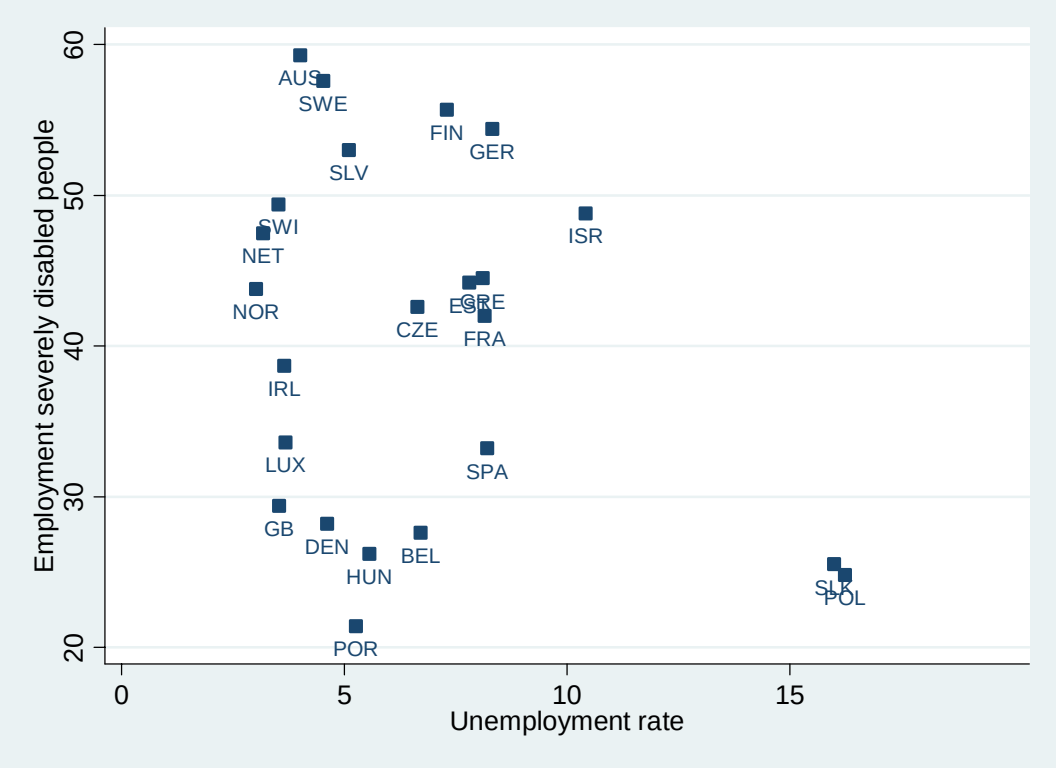


Figure G2: Employment rates among severely disabled people and overall unemployment rates in 23 countries (adjusted r = -0.19)



When looking at more severe forms of disability in Figure G2 the picture is much more blurred. The correlation between unemployment rates and employment among disabled people is lower and far from statistically significant. Poland and Slovakia, with the highest unemployment rates, still have low employment rates among severely disabled people, and Austria and Sweden have the highest employment rates among disabled people as well as low general unemployment rates. But on the negative side we find Portugal and Denmark together with Great Britain having both comparatively low unemployment rates and also low employment rates among people reporting severe disability.

Summing up this analysis, we find the expected correlation between low unemployment rates and high employment rates among disabled people when looking at any level of disability. But this result is less clear when looking at people with more severe forms of disability, chiefly because there are more countries with both low unemployment and low employment rates among disabled people.

3.5 Institutional context – disability policies

It is difficult to compare disability policies in a large number of countries because of the qualitative character of these policies. In this analysis, we have to rely on other studies making some quantification of these policies along a scale which we could compare the employment rates among disabled people in the ESS. The Organisation for Economic Co-operation and Development (OECD) provides one such scale in its report ‘Transforming disability to ability’ (OECD 2003). It argues that disability

policies face two potentially contradictory goals: one is to ensure that disabled people are not excluded from work, the second to secure income for those who are or become disabled. The report tries to measure how far these goals have been implemented in the disability policies of 20 OECD countries. Two indices were made on the basis of 10 sub-dimensions for each.

The *compensation* dimension refers to the main disability benefit scheme of each country. Its 10 sub-dimensions are: coverage (from total population to selected employees), minimum disability level for a full benefit, maximum benefit level (from strictly permanent to strictly temporary), medical assessment (from exclusive responsibility of treating doctors teams of insurance doctors), vocational assessment (from strict own-occupation assessment to open criterion), sickness benefit level (short and long term sickness absence), sickness benefit duration (including continued wage payment), and unemployment benefit level and duration (in comparison to disability benefit level).

The *integration* dimension refers to employment and rehabilitation measures. Its 10 sub-dimensions are: coverage consistency (access to different programs and possibility to combine them), assessment structure (responsibility and consistency), employer responsibility for work retention and accommodation, supported employment programme (extent, performance and flexibility), subsidised employment programme (extent, performance and flexibility), sheltered employment sector (extent and transitory nature), vocational rehabilitation programme (obligation and extent of spending), timing of rehabilitation (early versus late intervention), benefit suspension regulation (considerable versus non-existence), and additional work incentives (including possibility to combine work and benefit receipt).

The policies of each country were gives scores from 0 to 5 on each of the 10 plus 10 sub-dimensions, and the sum of these 10 scores make up each index. We expect the integration dimension to be positively correlated with employment of disabled people. The compensation dimension has less clear implications but the OECD report argues that there is a trade-off between employment and income security for disabled people. This argument implies an expected negative correlation between the compensation dimension and employment prospects among disabled people.

Unfortunately, the OECD report provides data for only 14 of the 24 countries investigated in this analysis. One consequence is that statistical power becomes rather weak. When correlating employment among disabled people with the two policy dimensions from OECD only one of four correlations is statistically significant, the one between work integration and employment among people with any level of disability (adjusted $r = 0.50$). The similar correlation with employment of severely disabled people is weaker (adjusted $r = 0.29$). The correlation between the compensation dimension and employment of (all) disabled people is weaker but positive (adjusted $r = 0.27$) whereas there is no correlation between the compensation dimension and employment of severely disabled people (an adjusted r cannot be calculated).

Given the potential conflict between assuring both income security and work integration of disabled people (as argued by the OECD) it is somewhat reassuring that

we find no tendency that high levels of income security are correlated with low employment rates among disabled people. The tendency in the data is rather in the opposite direction, that countries with high income security also have high employment rates among disabled people.

When looking at individual countries (in Figure H1) we find that a relatively strong emphasis on work integration policies in Sweden can potentially explain the relatively high employment rates among its disabled people. Denmark and Germany appear to have an even stronger emphasis on work integration policies but with comparatively less impressive results. Switzerland has a rather low emphasis on work integration policies but a relatively high employment rates among disabled people. It is possible, though, that this is due to a comparatively low unemployment rate in Switzerland (see Figure G1 & G2). Similarly, it is apparently not the lack of an emphasis on work integration policies which can explain why Spain and Britain have rather low employment rates among disabled people; both countries have an average emphasis on work integration of disabled people but still rather unimpressive results.

When looking at more severely disabled people (Figure H2) we find two deviating countries: Denmark and Portugal. Denmark appears to have a very strong policy emphasis on work integration but a comparatively low employment rate among severely disabled people. Portugal appears to have a very low policy emphasis on work integration and also very low employment rate among severely disabled people.

Figure H1: Employment rates among people reporting (at least) some disability and the OECD index on policy emphasis on work integration in 14 countries (adjusted r = 0.50)

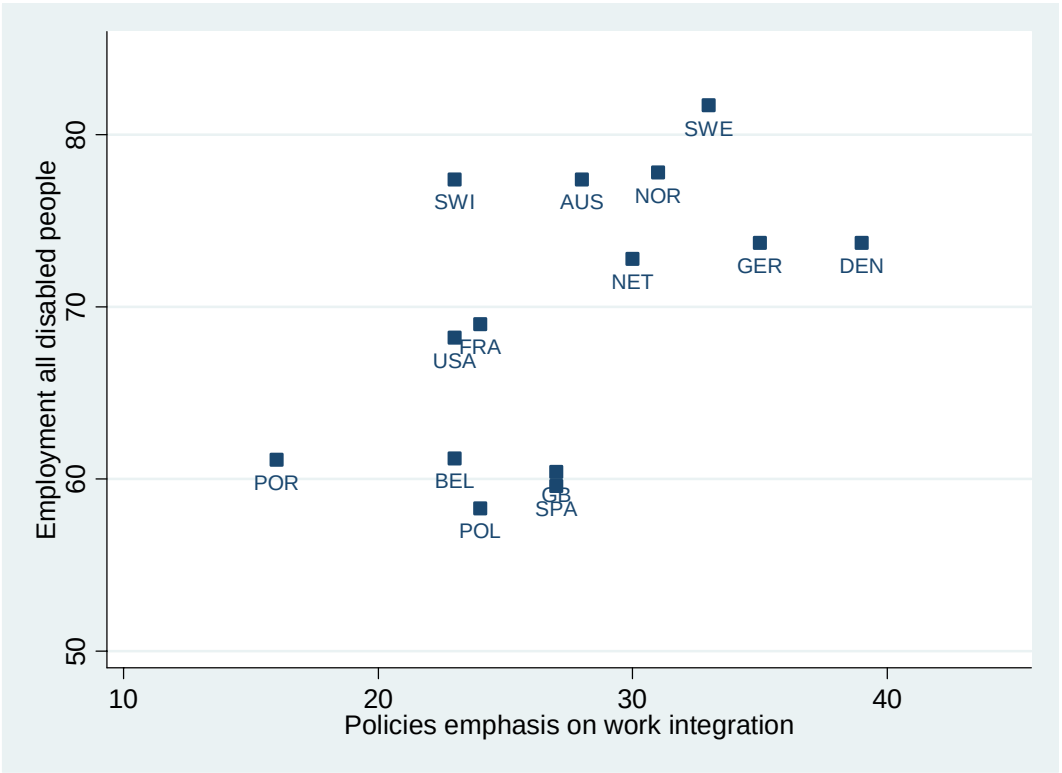
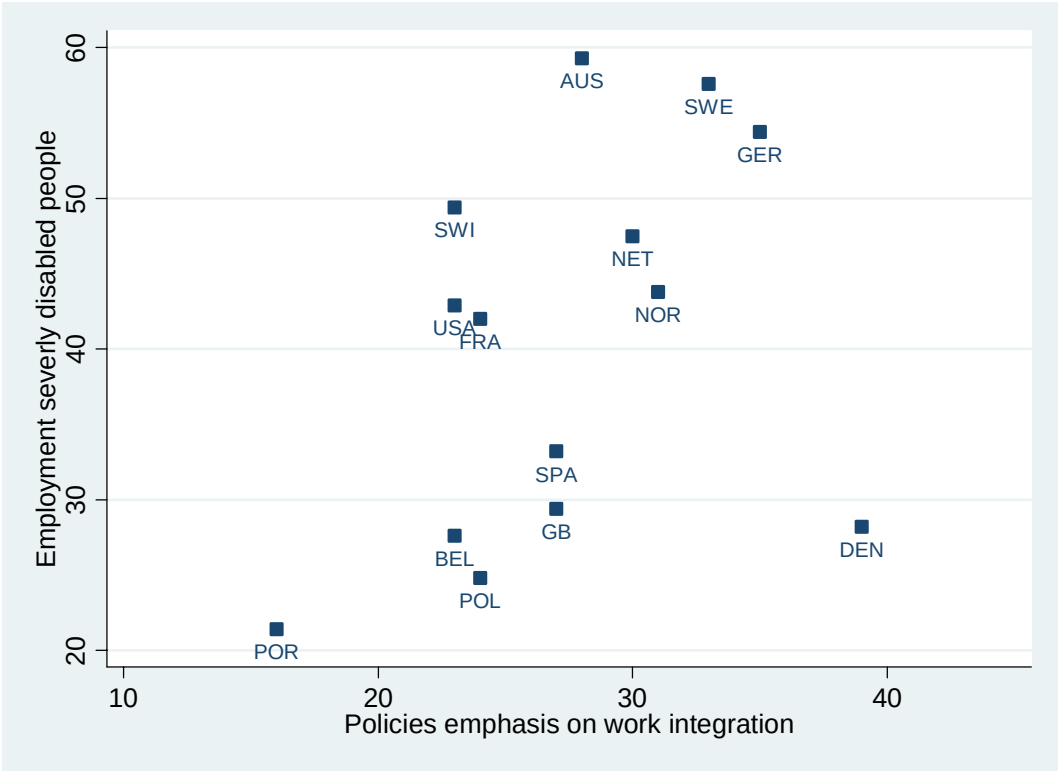


Figure H2: Employment rates among severely disabled people and the OECD index on policy emphasis on work integration in 14 countries (adjusted r = 0.29)



Thus, Portugal contributes to a general impression that ambitious employment policies are associated with high employment rates whereas Denmark seems to demonstrate that this may not be the case. Also Germany and Sweden contribute to an impression of a positive association between ambitious employment policies and employment rates among disabled people as they are ranked number 2 and 3 on both scales. Austria and Switzerland have, on the other hand, achieved respectable employment outcomes among disabled people in spite of comparatively low policy emphasis on the employment of this group as defined by the OECD.

3.6 General employment policies – objectively defined

Another policy dimension worth considering is the general employment policies of each country. One dimension is the degree of flexibility in establishing and cancelling job contracts versus job security. For disabled people the implications of these policies are far from certain. If is easy to sack people, it could be that people in poor health and/or limited working capability, including disability, face the highest risk of being sacked. But if it is difficult to sack people employers are likely to be more careful about whom they employ. In such situations employers could be particularly reluctant to employ people with visible health problems and disability. Most likely, both effects are real; the empirical question is probably about the balance between these two effects. The answer is likely to depend on how strong these effects are, the number of people developing health problems and disability while being in stable employment versus the number of people who have been disabled for large number of years. The International Labour Organization (ILO) has produced an Employment Protection Security Index (EPSI) indicating the degree of protection against unfair

and arbitrary dismissal from employment, and where workers can obtain redress if they are subject to unfair dismissal. It is also a function of the type of economy and structure of employment, being stronger where large-scale firms predominate and where the public sector is large. It is made up of eight items collected for 1999 (ILO 2000). Unfortunately, the EPSI does not include Poland and Slovenia, reducing this analysis to 22 countries.

The general tendency in the data is that countries with a strong protection for employment also have relatively high employment rates among disabled people (adjusted r = 0.30), as indicated by Figure I1. This correlation is only significant in a one-tailed test - if we had hypothesised such a positive correlation without allowing for the possibility of a negative one (which is not really the case here). Sweden and Finland clearly contribute to this positive correlation with employment protection as they are in the two top positions of both scales. Also Hungary falls into this picture having the lowest employment protection and also a low employment rate for disabled people. But there are many deviances as well. The Czech Republic, Estonia and Switzerland have all high employment rates among disabled people as well as low a low general job protection for employees.

Figure I1: Employment rates among people reporting (at least) some disability and the ILO employment security index in 24 countries (adjusted r = 0.30)

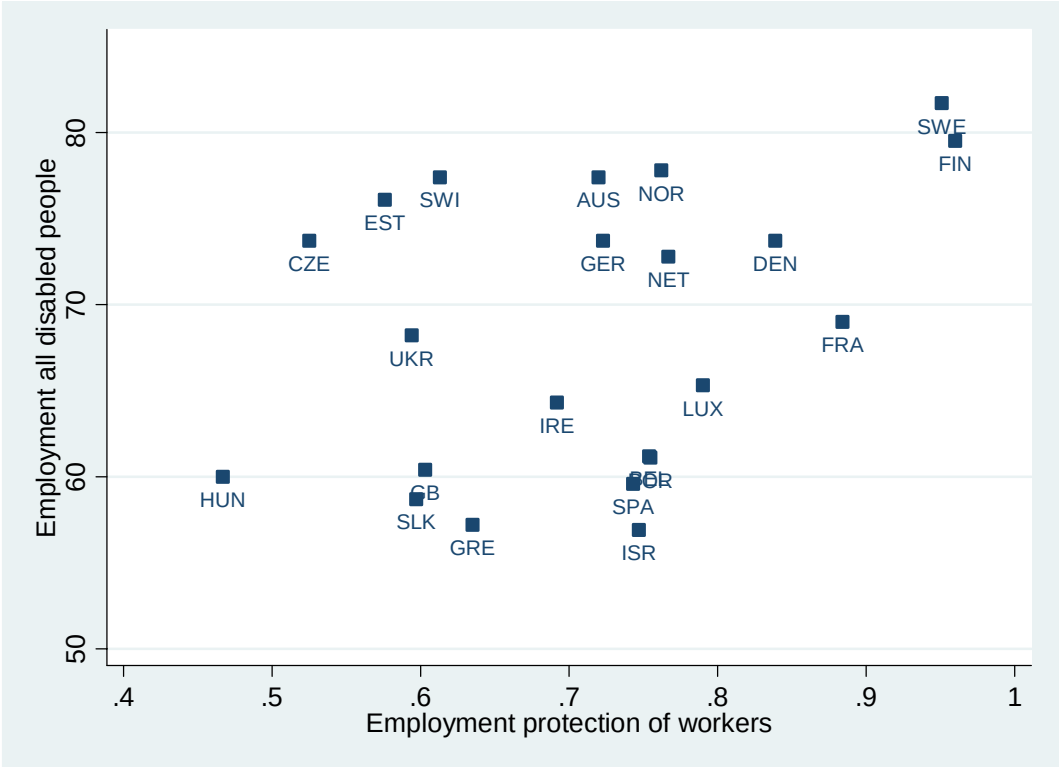
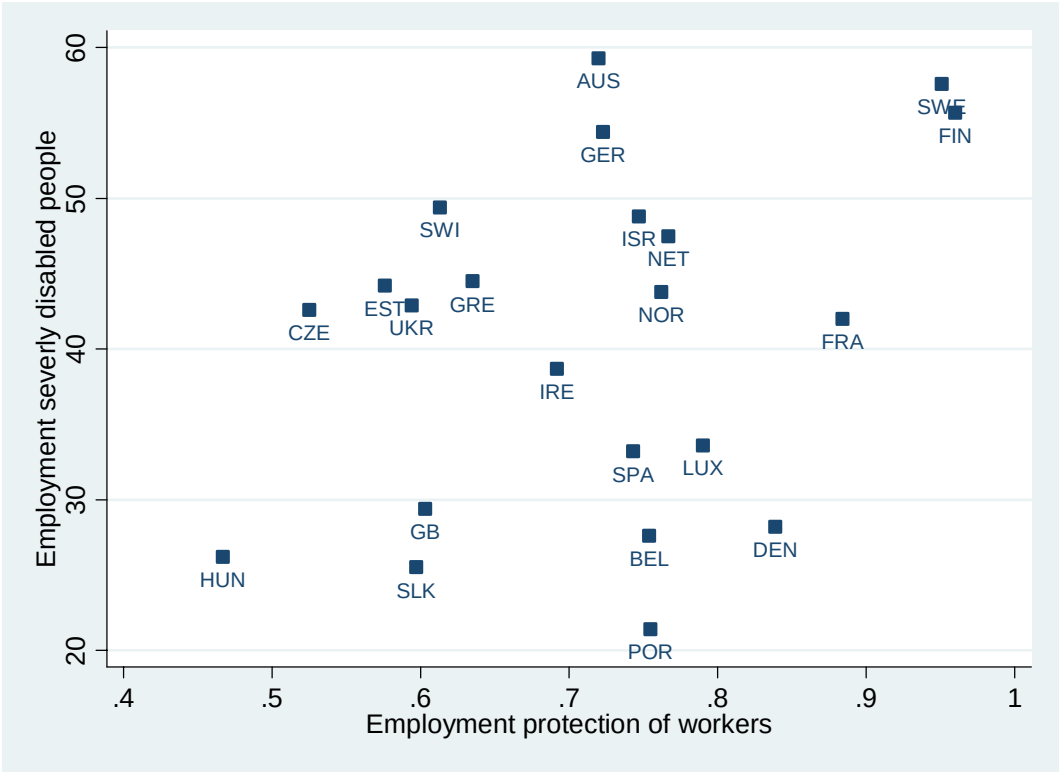


Figure I2: Employment rates among severely disabled people and the ILO employment security index in 24 countries (adjusted r = 0.24)



When looking at more severely disabled people, the advantages of employment protection policies is even less clear (adjusted r = 0.24), as indicated by Figure I2. There is still a slight (but far from significant) tendency in the data for a positive association between employment protection and employment among disabled people. Again, it is Sweden and Finland on the positive side and Hungary on the negative side who contribute to this trend, but the deviances now include more countries. Austria and Portugal have the highest and the lowest employment rates of severely disabled people but both countries are average in terms of employment protection. Denmark has a relatively strong employment protection (at least as classified by the ILO) but a low employment rate among disabled people.

3.7 Employment security – subjectively defined

There is considerable uncertainty about how far the measure of job security investigated in the previous analysis actually measures what we would like it to measure. People coming from various countries may not always agree with the position their own country has in this ILO index. An alternative approach is to measure job security more subjectively using survey data.

The ESS has one question about how secure each respondent regards his/her job. Respondents were asked: 'Please tell me how true each of the following statements is about your current job. … My job is secure'. Valid responses were (1) 'not at all true', (2) 'a little true', (3) 'quite true', and (4) 'very true'. When using the original values (in parenthesis) the mean value for the 23 countries included in the second

round of the ESS (excluding Israel) is 2.8, but this varies from just below 2 in Slovakia to 3.2 in Switzerland and Luxembourg, as indicated by Figure J1. Note there is a rather modest correlation between this subjective measure of job security in the ESS and the objective jobs security index from the ILO (adjusted r = 0.29).

Subjective job security is also positively correlated with employment rates for any disability (adjusted r = 0.29), as indicated by Figure J1. This result is statistically significant when using a one-tailed test (which would be appropriate at this stage since the previous analysis found a similar positive correlation between similar variables). But this positive correlation is to a considerable extent created by one deviant country: Slovakia has an exceptionally low subjective job security as well as a rather low employment rate among disabled people. Beyond Slovakia, there is no real correlation between subjective job security and employment among disabled people.

The same is true when also looking at people with more severe disability, in Figure J2. A relatively modest and far from significant correlation (adjusted r = 0.15) is largely a result of the deviant observation of Slovakia.

Figure J1: Employment rates among people reporting (at least) some disability and subjective job security in 23 countries (adjusted r = 0.29)

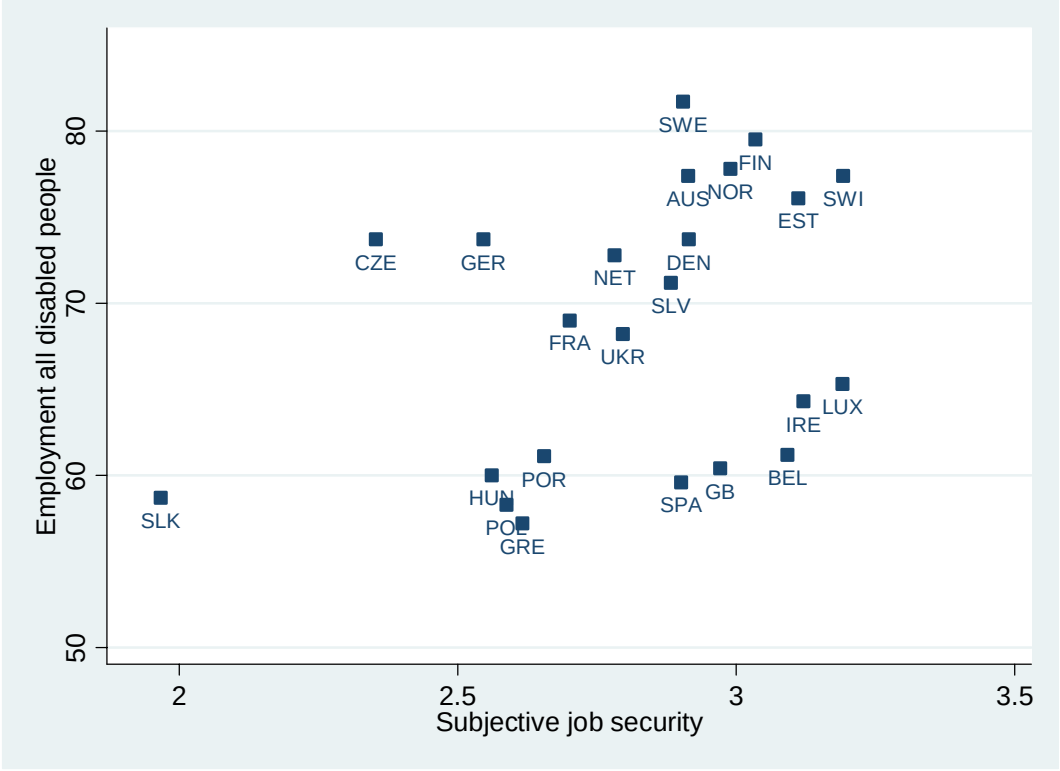
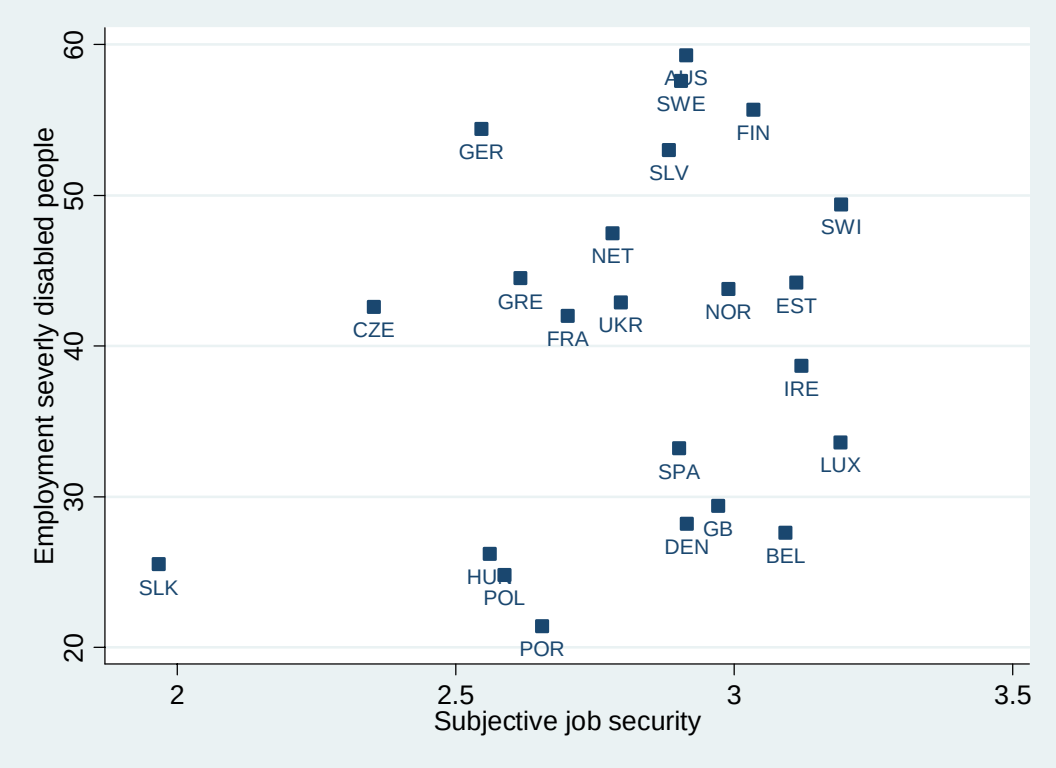


Figure J2: Employment rates among severely disabled people and subjective job security in 23 countries (adjusted r = 0.15)



4 Summary and conclusions

We find wide variation in the number of people reporting disability between European countries. This is the case for all five measures of disability being investigating from three different data sources. Disability rates typically vary by a factor of one to five from the lowest to the highest national prevalence rate. This country-level variation is much larger than expected, raising severe questions about how far available data about disability can be compared across European countries.

The further analysis of disabled people was restricted to one out of three data sources, the European Social Survey (ESS). This data source has the lowest country-level variation in disability rates; it has a high correlation between the two severity levels of disability available when comparing disability rates across countries; and it has a reasonably large number of countries that can be compared.

Employment rates among disabled people vary a lot between European countries. They are somewhat correlated with the number of people reporting being disabled in the country. This could indicate that people reporting disability in countries where few people report being disabled people tend to experience more severe forms of disability than in countries where more people report disability.

Employment rates among disabled people is also correlated with various other country characteristics such as the employment rates of non-disabled people, general unemployment rates, policy emphasis on work integration of disabled people, and

(when including all available evidence) even with job security. But this is only true when applying a rather broad definition of disability. When investigating more severely disabled people it appears that none of these general characteristics of employment markets or policies can help explain why employment rates among disabled people vary as much as they do between European countries. The large country-level variation in the employment of severely disabled people indicates that some countries have been more successful in employment integration of this group even if none of the investigated factors seem to explain why.

We find some correlation between general unemployment rates and the employment prospects of disabled people. But this is largely due to two deviating countries, Poland and Slovakia with very high unemployment rates and low employment rates among disabled people. Still, this is also an expected correlation, and even if the evidence is far from clear, it seems plausible that high unemployment would reduce the employment prospects of disabled people as well. We also find an expected correlation between employment rates of disabled and non-disabled people. But the rather astonishing thing is that neither unemployment nor general employment rates are correlated with the employment rates of people with more severe disability. For this group, the research presented here seems to trigger more questions than answers.

When looking at the larger group which in most cases experiences only some disability, we do find some indications that general employment policies affect the employment prospects of this group. There is some positive correlation between employment of disabled people and job security. This is the case when investigating job security as defined objectively by the ILO (2000) as well as when investigating job security defined subjectively by employees in various European countries. But this trend largely reflects only a few particular countries: Sweden and Finland versus Hungary on the ILO job security scale and Slovenia versus all other countries on the subjective measure of job security. Theoretically, it is possible to argue in favour of either a positive or a negative association between job security and employment of disabled people (OECD 2003). We can thus conclude that there is no evidence that high job security is associated with low employment rates among disabled people. Our data point, if anywhere, in the opposite direction.

There is also some evidence that a strong emphasis on work integration policies, as defined by an OECD report (2003), is associated with high employment rates among the wider group of disabled people. This is also an expected correlation. But there are a few notable exceptions from this expected finding as well. Austria and Switzerland have achieved very decent disability employment rates in spite of not having particularly ambitious policies in this field as defined by the OECD. On the rather negative side we find Denmark with a strong employment commitment but with comparatively less impressive results.

It is difficult to say which countries are the most and the least successful in employing disabled people. When looking at employment rates among people who classify themselves as severely disabled it appears that Austria and Sweden are the most successful whereas Portugal and Poland are the least successful. But these countries are also different in terms of general employment and unemployment rates, and they also vary in the number of people reporting severe disability. Portugal has the lowest

percentage reporting severe disability. It is thus likely that disabled people in Portugal could be more severely disabled than people reporting severe disability in other countries. Sweden also has one of the highest employment rates among non-disabled people and it has a low unemployment rate as well. It is thus unclear if the good performance of the Swedes reflects policies towards disabled people or a more prosperous employment situation more generally. Poland has the highest general unemployment rate whereas Austria benefits from a low unemployment rates. We could thus expect that it would be easier to employ disabled people in Austria than in Poland.

The answer would depend on which factors, other than policies towards disabled people, are the most decisive ones in predicting employment prospects. In several cases the answer would also vary if we are interested in people reporting any level of disability or more severely disabled people. If we are most concerned about disabled people in a more strict sense and we believe that unemployment is the most decisive factor to be controlled for, then Portugal and Great Britain have probably chosen the wrong policies, whereas it is hard to detect any particularly successful countries. If we believe that it is more important to control for employment rates among non-disabled people it appears that Austria has chosen the more appropriate policies whereas Denmark has not. If we believe that the number of disabled people is the most important factor to control for it once again appears that Austria has got it right whereas Hungary and Poland have not.

Finally, where does Britain fit into this picture? The answer is: not very well. Great Britain has relatively low employment rates among disabled people. This position is even less impressive when considering that Britain has one of largest number of people reporting disability. Further, Britain has a relatively low unemployment rate and high employment of non-disabled people. Taken together, it appears that Britain is among the less successful countries in employing disabled people in Europe.

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Appendix

Table A1: Age standardised rates of all-cause mortality in 24 European countries, WHO statistics for latest available year (2001-2005).

Country	Mortality rate	Country	Mortality rate
Latvia	1,091	United Kingdom	642
Romania	1,076	Finland	637
Lithuania	1,018	Netherlands	631
Hungary	1,015	Germany	629
Estonia	991	Luxembourg	615
Slovakia	971	Austria	608
Poland	862	Israel	606
Croatia	854	Norway	582
Czech Republic	838	Sweden	568
Denmark	749	Spain	565
Slovenia	739	France	561
Portugal	727	Iceland	522

Source: http://www.euro.who.int

Table A2: Employment among severely disabled people in 38 countries and waves in the European Social Survey round 1 and 2 with (model 2) and without (model 1) unemployment (in country and year). Logistic regression where countries and round (1 or 2) are represented with a random component. Unweighted data.

	Model 1		Model 2	
	Coeff.	S.E.	Coeff.	S.E.
Woman	-0.19	(.10)	-0.27	(.10)
Age 20–30	0.92	(.39)	0.99	(.43)
Age 30–40	-0.18	(.24)	-0.19	(.26)
Age 40–50	-0.50	(.18)	-0.52	(.20)
Age 50–60	-0.86	(.22)	-0.78	(.24)
Year (-2003)	0.00	(.07)	0.01	(.08)
Unemployment %			-0.05	(.03)
Constant	-0.96	(.31)	-0.67	(.38)
Sigma (country and year) S.D.	0.440	(.08)	0.417	(.08)
Rho (variance)	0.056	(.02)	0.050	(.02)