

Document de treball de l'IEB 2012/16

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EUROPE 2020 STRATEGY HEADLINE TARGETS

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ABSTRACT: In 2009 the European Council published its Europe 2020 Strategy in which it fixed a number of social, educational and economic targets to be achieved by 2020. However, given the current economic crisis, the majority of European countries are struggling to attain these goals. In this framework, this study seeks to quantify the potential contribution of one of the most disadvantaged groups, Europe's disabled, to the attainment of the Europe 2020 Strategy targets via the monitoring of a number of indicators. The impact of changes in the situation of the disabled is simulated using micro data drawn from the 2009 European Union Statistics on Income and Living Conditions. Our results show that improving the socioeconomic situation of the disabled could be crucial for attaining the Europe 2020 targets. However, future policy designs at the national level will need to take into account the actual definition of disability that is employed, the heterogeneity of circumstances to be found within such a definition, and the gap between the situation of the disabled and non disabled populations.

JEL Codes: I14, I24, I32

Keywords: Social inclusion, sustainable development, disability, education, European Union.

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1. Introduction

The European Union's (EU) Lisbon Strategy, drawn up in the year 2000, established various objectives for the economy, for the labour market, for education and for research and innovation for the year 2010. The European Commission subsequently extended this strategy by introducing a further set of five objectives to be reached by 2020 (European Commission, 2010a) in an effort to create a "smart, sustainable and inclusive society". Progress towards these five objectives is being monitored by the application of eight specific indicators (Table 1).

INSERT TABLE 1 AROUND HERE

One of the social groups encountering most difficulties in attaining the Europe 2020 targets is that of the disabled. In 2009, the number of people with disabilities in the EU ranged from 31.5 to 97.7 million (depending on which definition of disability is applied), that is, between 7.7 and 23.9% of the total adult population (aged 16 years and over)¹. Given these numbers, it is somewhat surprising that a strategy that seeks to promote an "inclusive society" fails to make any explicit mention of the disabled. Against this background, this article examines the potential contribution of the disabled to the achievement of the Europe 2020 objectives from both a national and supranational perspective.

This paper has two main aims. First, we analyze the situation in which Europe's disabled find themselves in relation to the Europe 2020 Strategy benchmarks. We complement this analysis by introducing additional indicators so as to obtain a more accurate picture of the situation. Second, we estimate the impact of improvements in the situation of the disabled on the overall indicators. To do so, we draw on micro data from the 2009 European Union Statistics on Income and Living Conditions (EU-SILC) and simulate, *ceteris paribus*, the changes in the situation of the disabled.

The rest of the study is organized as follows. In Section 2, we justify our selection of indicators. The methodology we employ and the data we draw on are described in Section 3. The current situation of the disabled is also presented in this Section. Our results are presented and discussed in Section 4 and the final section concludes.

2. EU 2020 Strategy and other selected indicators

This study focuses specifically on those Europe 2020 Strategy objectives that might be affected by improvements in the situation of the disabled. Thus, we are concerned with the following three targets: 1) increasing the employment-to-population ratio, 2) raising the level of human capital, and 3) reducing poverty and social exclusion. The evolution of each objective is monitored via a set of indicators, for which specific targets have been established for 2020.

The first objective of the Europe 2020 Strategy we focus our attention on is that of increasing the occupied population, defined by the European Council (EC) as the ratio between the employed population and the total population aged between 20 and 64. The EU has set itself the target of raising the occupation rate from 69 to 75% by 2020. The EC of 17 June 2010, in its conclusions, argued that this benchmark would be reached through the greater participation of young people, older workers, immigrant workers and low-skilled workers. However, it said nothing about the potential contribution of the disabled.

The second objective we examine is that of raising the level of human capital. To achieve this objective, the Europe 2020 Strategy established that the percentage of early school leavers – percentage of 18- to 24-year olds not in education and not having completed upper-secondary studies (15% in 2010) – should be reduced to 10% and that the proportion of 30- to 34-year olds with higher education studies should reach, at least, 40%. Currently, school failure and early school leaving are among the most severe problems afflicting some – primarily, Mediterranean – European countries, while increasing the number of higher education graduates on the

continent would serve to guarantee an adequate supply of highly skilled workers. In general, this strategy target seeks to confront the challenges posed by a changing society in which low-skilled workers face increasing unemployment rates, less job security, poorer working conditions and, consequently, greater risks of economic and social exclusion. In this context, the educational level of the disabled is consistently below the mean in all EU countries.

The third objective we concern ourselves with is achieving a 25% reduction (20 million people) in the population at risk of poverty or exclusion. The EC (2010a) gives Member States a certain degree of freedom in defining the part of their population at risk of poverty. This definition can incorporate three elements: those exposed to severe material deprivation; those living in households where all members are unemployed or work less than 20% of their potential; and those at risk of monetary poverty (i.e., those with a net equivalent income below the risk-of-poverty-threshold set at 60% of the national median after social transfers). The attainment of this third target is clearly largely dependent on the achievement of objectives one and two above.

Concurrent with the establishment of these targets, the Europe 2020 Strategic Framework for Education and Training (ET 2020) proposed a further eight indicators to monitor its evolution and established benchmarks for five. Of these five, two coincide with the indicators employed in the Europe 2020 Strategy (see the second objective above regarding human capital), one is related to the results obtained on the Programme for International Student Assessment (PISA)² another to enrolment rates in early childhood and, the fifth, to participation in lifelong learning activities.

Unfortunately, PISA does not provide any specific information about the academic abilities of the disabled³ and disability data are only specified by EU-SILC for individuals over the age of 15. For this reason, we select just one ET 2020 benchmark for our analysis of the situation in which Europe's disabled find themselves. This indicator, related to the second Europe 2020

Strategy target (raising the level of human capital), is defined as the percentage of 25- to 64-year-olds enrolled in vocational and occupational training activities. The ET 2020 Strategy establishes a benchmark for 2020 of at least 15% of this population. However, EU-SILC only identifies individuals enrolled on formal vocational training courses and so the eventual figures will be underestimated (given that they exclude non-formal vocational training).

Both the Europe 2020 and ET 2020 Strategies acknowledge the grave impact of the economic crisis on the occupation rates among young people. In response to these concerns, the European Commission (2011) proposed an additional benchmark, which we also adopt in this study, namely, a 5 per cent increase in the occupation rate of graduates (20- to 34-year-olds) who have left education.

In addition to the EU 2020 and ET 2020 benchmarks, we incorporate two further targets included among the Indicators of Disability Equality in Europe (IDEE) compiled by the Academic Network of European Disability Experts (ANED). These indicators, which are concerned with the match between labour supply and demand, are: the long-term (over 12 months) unemployment rate and the proportion of the population occupying managerial positions or working as professionals⁴. Both indicators are calculated for the population aged between 20 and 64. Therefore, in total, we estimate a set of eight indicators to diagnose the socioeconomic situation of Europe's disabled.

INSERT TABLE 2 AROUND HERE

3. Data description and methodology

The micro data base used in this analysis is the 2009 European Union Statistics on Income and Living Conditions (EU-SILC). This data base has been published each year by EUROSTAT since 2003 and includes transversal and longitudinal information on the characteristics and

living conditions of EU and other European countries. In this study, we draw on cross-sectional data for 27 EU countries (Table 3). EU-SILC provides rich information about the individual characteristics of people over the age of 16, their labour market status and their income and, as such, is a useful source for analyzing poverty, social exclusion and labour market issues.

INSERT TABLE 3 AROUND HERE

One of the key challenges we face in conducting this analysis is the identification of the disabled on the basis of the information provided by EU-SILC concerning an individual's degree of disability. Indeed, EU-SILC does not differentiate between different types of disability, which prevents us providing a definition based on the WHO International Classification of Functioning, Disability and Health (ICF). However, it is the only survey available that provides a homogeneous definition of disability for all EU countries. EU-SILC captures situations of disability using a variable that measures the degree of limitation a person presents in carrying out daily life activities as a result of health problems in the six months prior to the interview. The variable records three levels of limitation: severe, moderate and the absence of any limitations. However, given its format, the researcher is forced to choose between a narrow (severe limitations) and a broad (moderate limitations) definition of disability. Moreover, each criterion is fitted differently to the situation in each country. Thus, for example, an EU-SILC definition of moderate limitations overestimates the number of Spaniards (over the age of 15) with some kind of disability (24.3%), while a definition of severe limitations underestimates the proportion (5.5%)⁵. In the face of this dilemma, the broad EU-SILC definition is preferred here so as to enable us to take a Europe-wide comparative approach, since as we have seen the use of the narrow definition drastically reduces the sample size in certain countries. The broad EU-SILC definition of "disability" leads to the assumption that 97.7 million European citizens - that is, 23.9% of the population over the age of 15 - have some kind of disability.

In the tables in Section 4, we simulate the impact of changes in certain situations presented by the disabled on the aggregate country situation, *ceteris paribus* (including the situation of the non-disabled). Simulations were not performed when the sample size fell below 50 observations. Before discussing the results of these simulations, we provide a set of tables that use the broad and narrow definitions of disability to describe the distribution of the disabled in the EU-27 countries. Table 4, which shows the proportion of disabled in the EU-27 countries, reveals the existence of considerable cross-country differences. For example, when adopting the broad definition of disability, the proportion of disabled in Germany (30.4%) is nearly three times that in Sweden (12.2%). The situation of the disabled when adopting the narrow definition is always worse than that when using the broad definition. This should be borne in mind when interpreting the simulations presented below in Section 4 since two contrary effects are combined: on the one hand, the use of the narrow definition of disability would have meant working with a subpopulation that, in general, has a very negative standing on all the indicators; on the other hand, the impact associated with improvements in the situation of this subpopulation would have been weakened due to their small weight within the total population. The inverse occurs when using the broad definition of disability: while the standing of this subpopulation is better than that of the disabled population defined according to the narrow criterion (i.e. the impact of closing the gap with the non-disabled is not as great), the size of this subpopulation is larger.

The gender distribution of the disabled is presented in Table 5. That the proportion of disabled women is larger than that of men in all EU-27 countries is, in part, explained by the longer life expectancy of the former. These differences remain largely unchanged regardless of the definition of disability employed. Finally, as expected, the incidence of disability increases during an individual's lifespan. For example, 18.11% of 36- to 55-year-old Europeans present moderate or severe limitations, while the figure rises to over 63% in the case of Europeans aged between 66 and 75.

INSERT TABLES 4 AND 5 HERE

4. Results and discussion

Our results are presented in subsection 4.1 below in eight tables that contain the following information for each specific indicator: a) the situation of the disabled and non-disabled populations in the EU-27; and b) the impact of improvements in the situation of the disabled on the countries' indicator. The simulations were carried out assuming that the European population and its characteristics remained constant throughout the period. The results are discussed in subsection 4.2.

4.1. Results

Indicator 1: Occupation rates of 20- to 64-year-olds in the EU-27.

In 2009, only Sweden had attained the 75% benchmark established by the Europe 2020 Strategy for this indicator (Table 6). Other countries with rates close to 75% included Denmark, the Netherlands and the United Kingdom, while Ireland, Malta and Poland presented rates below 60%. Occupation rates are lower for the disabled population in all the EU countries: the highest being found in Cyprus, Denmark and Luxembourg (over 53%) and, the lowest, in Ireland and Romania (below 30%). The largest gap between the occupation rates of the disabled and non-disabled is found in Romania (40%), while Luxembourg presents the smallest gap (18%). The potential for improvement resulting from a rise in the occupation rate of the disabled is high: a one per cent increase would lead to a 0.17% rise in the aggregate EU occupation rate. This impact varies across the EU and ranges from a minimum of 0.08% (Greece) to 0.26% (Germany). It is noteworthy that the Netherlands, Denmark and the United Kingdom would achieve the Europe 2020 benchmark for this indicator if they were to improve the employment situation of their disabled by ten percentage points.

INSERT TABLE 6 AROUND HERE

Indicator 2: 18- to 24-year-olds in the EU-27 not in education and who have not completed upper secondary education.

In 2020, only seven EU countries had early school dropout rates below 10% (Table 7), while several countries, including Malta, Spain and Portugal, recorded rates that were some distance from this 10% benchmark (over 25%). The average dropout rate for the EU in 2009 was 12.1% while the rates for the population with and without disabilities were 20.9% and 11.5%, respectively. In fact, the dropout rates for the disabled exceed those of the rest of the population in 26 of the 27 member states. The situation is particularly grave in Spain, where nearly four of every ten individuals with disabilities experience early dropout. At the other end of the spectrum, the disabled in Slovenia and Slovakia had already attained the EU 2020 benchmark by 2009. The largest gap between the dropout rates of the disabled and non-disabled is found in Ireland (20.9 percentage points), and the narrowest in Estonia, Slovenia and Slovakia (below 2 percentage points).

A one per cent reduction in the early dropout rate of the disabled would reduce the aggregate rate of the EU by 0.06 points. The most marked impacts would be recorded in Austria, Ireland and Portugal (0.1 percentage points), while the smallest would be that recorded in Slovenia (0.03). Note, however, that some countries for which this impact would be small would continue to have very high dropout rates (the case, for example, of Spain) and because of the size of their overall population would hinder progress towards the attainment of the EU benchmark.

INSERT TABLE 7 AROUND HERE

Indicator 3: 30- to 34-year-olds in the EU-27 who have completed higher education.

In 2009, despite marked cross-country differences, the EU was close to attaining the higher

education objective (Table 8). Indeed, the non-disabled population had attained the 40% benchmark established by the EU 2020 Strategy by 2009, while the rate stood at 27.2% for the disabled. Likewise, there is a high degree of heterogeneity in this rate across countries. For example, the situation of the disabled is considerably better, as regards this indicator, in countries such as Denmark and Finland, than it is in Hungary, the Czech Republic and Portugal. The gap in the situation between the disabled and non-disabled populations ranges from 3% (Czech Republic) to 25.5% (Belgium). Our simulations indicate that the countries in which an improvement in the educational situation of the disabled would have the greatest impact would be Portugal, Germany and Latvia. The smallest impact would be found in Bulgaria and Romania. A 12 per cent increase in the higher education completion rates of the disabled would allow the EU to achieve the 40% benchmark.

INSERT TABLE 8 AROUND HERE

Indicator 4: EU-27 population under the poverty line.

Poverty is defined in this paper using a relative measure for each country (those with a net equivalent income below the risk-of-poverty-threshold set at 60% of the national median after social transfers), in line with the approach adopted by the European Commission. Therefore, a household recorded as being under the poverty line in one country might not be similarly defined in another. Bearing this distinction in mind, poverty rates vary markedly across the EU (Table 9). For example, the Czech Republic, the Netherlands and Slovakia have poverty rates around 10%, while five countries exceed 20%.

The average poverty rate of the disabled in the EU is 20.5%. These rates exceed those of the non-disabled in 25 of the 27 EU countries, showing the limited impact of monetary transfers. However, the poverty rates of the disabled differ greatly across countries. For example, the poverty rate of the disabled in Latvia is 41.4%, while the rate for this population subgroup in Slovakia is below 11%. The disparity between the poverty rates of the disabled and non-

disabled is especially high in Cyprus and Latvia (over 20 percentage points). In countries such as Slovakia and Luxembourg, disability does not seem to be such a relevant axis of inequality, as differences are lower than 1%.

On average, a one per cent reduction in the poverty rates of the disabled would lead to a 0.04% decrease in the overall poverty rate of the EU. The greatest impact of such a reduction would be recorded in Latvia and Estonia. Note that the standing of the disabled on this indicator is worse in countries such as Bulgaria and Cyprus than it is in Estonia, indicating that the greatest impact of these “pseudo-elasticities” is not necessarily found in the countries with the highest poverty rates.

INSERT TABLE 9 AROUND HERE

Indicator 5: 25- to 64-year-olds in the EU-27 enrolled in formal vocational training.

Recall that this indicator focuses solely on formal vocational training activities and, as such, uses a narrower definition than that adopted by the European Commission. Here again there is considerable heterogeneity in the situation across countries regarding this fifth indicator. The best positioned countries according to Table 10 are Finland and Slovenia, while Bulgaria, Greece, Luxembourg and Romania are the countries with the smallest proportions of their populations aged 25 to 64 enrolled on formal vocational training courses (under 2%).

With the exception of Sweden, elsewhere in Europe the disabled participate less frequently than the non-disabled in formal vocational training activities. This is significant given that the disabled have lower occupation rates and, consequently, a greater need for participating in vocational training to enhance their labour market opportunities. The participation rates of the disabled in formal vocational training in the EU range from a maximum of 7.76% (Finland) to a minimum of 0.25% (Bulgaria).

The largest gaps between the participation rates of the disabled and non-disabled in formal vocational training activities are found in Estonia and Slovenia (over 3.5 percentage points). The narrowest gaps (under 1%) are recorded in Belgium, Finland, France, Greece and Luxembourg. However, with the exception of Finland, the participation rates of these countries are well below the EU average (3.81%).

Our simulations show that a one-point increase in the participation rates of the disabled would raise the overall EU participation rate by 0.05 per cent. The greatest impact of such an improvement in the situation of the disabled would be recorded in Germany (0.08%), while the lowest would be found in Bulgaria and Malta (0.02%).

INSERT TABLE 10 AROUND HERE

Indicator 6: Occupation rates of 20- to 34-year olds in the EU-27.

In 2009, the occupation rates among Europe's young population ranged from 57.6% (Italy) to 76.4% (Netherlands). In general, the Mediterranean countries and Baltic States record occupation rates below the EU mean (65.1%). A comparison of this indicator with indicator 1 shows that occupation rates are lower for the population under the age of 34 in a total of 17 EU countries, with the largest gap being found in Malta.

Occupation rates for the young disabled are likewise consistently lower in the 27 EU states (an average of 51.5%). Nevertheless, there are significant cross-country differences, with occupation rates ranging from 36.7% (Ireland) to 68.5 (Luxembourg). The largest gaps between the occupation rates of the young disabled and non-disabled are found in Ireland and Lithuania (over 25 percentage points). Raising the occupation rate of the young disabled by one percentage point would lead, on average, to a 0.08% increase in the EU occupation rates. Impacts by country would range from 0.12 (Austria and Denmark) to 0.03% (Malta).

INSERT TABLE 11 AROUND HERE

Indicator 7: Long-term unemployment rates of 20- to 64-year-olds in the EU-27.

Indicator 7 is concerned with long-term unemployment rates. As with the previous indicators, there is considerable cross-country variation in the EU. In 2009, the countries facing the highest long-term unemployment rates were Bulgaria and Ireland (10.3% and 8.5%, respectively). Cyprus, Denmark and Netherlands had long-term unemployment rates under 2%.

The indicator shows that the disabled are among the most severely affected by long-term unemployment. In countries such as Bulgaria, Germany and Ireland, their long-term unemployment rates exceed 15%. By contrast, at the other end of the spectrum, long-term unemployment rates of the disabled remain under 4% in Cyprus and Romania.

The negative situation faced by the German and Belgian disabled populations, in comparison with that of the non-disabled, is particularly striking with the disparity in their respective long-term unemployment rates rising to above 11 per cent. By contrast, disability does not seem to be such an important factor of inequality in Cyprus, Italy, Romania and Slovakia, where the long-term unemployment rate gap between the disabled and non-disabled is below 2.5 percentage points.

The greatest reductions in long-term unemployment associated with improvements in these rates among the disabled would be found in Germany and Slovakia, while the smallest would be recorded in Cyprus, Greece, Malta and Sweden. In aggregate terms, a two-point improvement in the long-term unemployment rates of the EU's disabled would allow the EU to reduce its total rate by just under 5%.

INSERT TABLE 12 AROUND HERE

Indicator 8: 20- to 64-year-olds in the EU-27 in managerial positions and working as professionals.

The final indicator provides information about the quality of the occupations held by Europeans. This indicator is closely linked to the institutions, sectorial distribution and educational structure of each country and, as such, provides an eclectic mix of situations across the EU. In countries such as Belgium, Ireland and the United Kingdom, over one quarter of the population is a manager or professional. This rate is under 15% in the Czech Republic, Portugal and Romania.

Disabled people are less likely to work as professionals or in managerial positions throughout the EU. In six countries, the number of disabled individuals occupied in managerial positions or working as professionals does not even reach one in ten. The relevance of disability as a factor of inequality is especially obvious in countries such as Belgium, Greece, Ireland and Sweden, where the gap between the disabled and non-disabled occupied in managerial positions or working as professionals is over 12 percentage points.

A one per cent increase in the proportion of disabled people occupying managerial positions or working as professionals would have the greatest impact in Germany and Slovakia. For example, a four-point increase in the rate of German disabled people working as managers or professionals would lead to a one-point increase in the overall rate for the country. By contrast, Greece, Malta and Sweden would record the smallest impacts (below 0.1 percentage points).

INSERT TABLE 13 AROUND HERE

4.2. Discussion

The Netherlands, the United Kingdom, Finland and Estonia are the countries in which the disabled have the best chances for accessing the labour market. At the opposite end of the scale are to be found the Mediterranean countries, Ireland, Hungary, the Czech Republic and Poland.

Interestingly, although there seems to be a close correspondence between countries with better labour market situations and a greater likelihood of the disabled accessing them, this correspondence is not perfect, and disability is in some countries a significant discrimination factor.

The second objective of the Europe Strategy analysed in this study, namely enhancing human capital, is controlled through indicators 2, 3 and 5. In general, the United Kingdom, Germany, the Netherlands and the Scandinavian countries are well positioned in these indicators, although few countries present excellent figures for all three (the United Kingdom being the main exception) as they focus on different stages in the educational process (secondary education, higher education and formal vocational training, respectively). This is interesting as it enables us to identify the shortcomings in countries' educational systems. For instance, the Mediterranean countries tend to experience both high rates of early school dropout and low rates – with the exception of Spain – of participation in higher education. Bulgaria and Romania present low participation rates in both higher education and in formal vocational training, while the shortcomings in Central European countries and France seem to concentrate in their formal vocational training systems. Even Sweden, the only country to have attained the three Europe 2020 benchmarks analysed by this study in 2009 (Table 14), shows weaknesses in its participation rates in vocational education.

INSERT TABLE 14 AROUND HERE

The educational reality of Europe's disabled varies across countries. The disabled in the United Kingdom and the Scandinavian countries enjoy greater educational opportunities than their counterparts in most other European countries. Interestingly, early school dropout rates and higher education participation rates among the disabled are high in countries such as Ireland and Spain. Poland and Slovenia the opposite occurs: dropout rates are low, as are follow-up rates into higher education.

Finally, in the case of the last Europe 2020 objective analysed in this paper, namely poverty and social exclusion, the Baltic States, Bulgaria, Romania and Greece present the worst figures for indicator 4, with Scandinavia and the Central European countries presenting the best. Poverty rates for the disabled in the Czech Republic, Slovakia, Hungary, the Netherlands and France are relatively low in comparison with the high rates observed in Bulgaria and the Baltic States. Interestingly, once again, there is no perfect correspondence between the situation of the whole population and that of the disabled. For example, disability seems to be a clear poverty factor in Scandinavian countries such as Finland and Sweden.

The links between the three objectives discussed should be stressed. Problems in the educational system generate dysfunctions in the labour market, while access to the labour market is in turn a key factor in determining the risks of economic and social exclusion. At the same time, low occupation rates and rising poverty rates place public budgets under increasing pressure owing to the surge in demand for social expenditure and reductions in revenues. This is particularly true at times of economic crisis. Therefore, the current level of the indicators of objectives 1 and 2 may well be forecasting the future evolution of indicator 4 (poverty rates).

The results described in this section show the heterogeneous yet, generally, negative situation faced by the disabled in the EU-27, which on its own should have been sufficient to justify their inclusion as a priority subgroup in the Europe 2020 Strategy. In addition, there are efficiency reasons for considering the disabled a priority, since the simulations reported here demonstrate their potential contribution to the attainment of the Europe 2020 targets. More specifically, the impact of improvements in the situation of the disabled population (as described in subsection 4.1) depends on the general level attained by a country for a specific indicator, the proportion of population with disabilities and the gap between their situation and that of the non-disabled population.

The simulations carried out in this section have enabled us to conduct country-level analyses. Although of interest and necessary for the design of specific policies, this discussion falls outside the scope of the present paper. Moreover, policies drafted at the country level need to target different types and degrees of disability. On this point, we acknowledge the limitations of the disability definition provided by EU-SILC, since people in very different situations are included within the very broad definition adopted. Future efforts, therefore, should be made to supply more readily comparable information on the life conditions of the disabled across the EU. However, all in all, this paper has presented compelling evidence to show that, for reasons of both equity and efficiency, including the continent's disabled as a priority group in the EU's efforts to attain the 2020 Strategy headline targets would be a good starting point.

5. Conclusions

By monitoring a set of eight indicators, this study has estimated the potential contribution of Europe's disabled to the attainment of the Europe 2020 Strategy targets. Our results show that, while cross-country variation is great, Europe would appear to be closer to meeting its human capital objectives than it is to fulfilling its labour market and poverty benchmarks, above all at a time of economic crisis. However, the same conclusions cannot be drawn for the disabled populations in most EU countries, who remain some distance from attaining the 2020 objectives.

The size of the disabled population, its negative standing in relation to most of the indicators and the wide gap separating it from the non-disabled population, mean that this social group could make a major contribution to the achievement of the EU 2020 targets. The disparities between disabled and non-disabled populations are especially marked in the case of indicators 2 (early school dropout), 5 (formal vocational training) and 7 (long-term unemployment). Those who do not succeed in completing at least secondary education (2) or have been unemployed for a long period of time (7) are among the ones that encounter most difficulties in finding a job.

People with low levels of educational attainment are also at greater risk of unemployment. At the same time, vocational training (5) is a potential tool for softening labour market transitions. Thus, it seems clear that European countries should prioritise the design of policies aimed at reducing these inequalities.

Spending on education and on active labour market programs are typically analysed in terms of investment. Such an approach is especially relevant for the disabled as, apart from the conventional benefits linked to improvements in educational and occupational levels, it would enable savings to be made on public subsidies and benefits.

Identifying the policies to be applied in each country would require a disaggregated study of each national situation (an exercise which falls beyond the scope of this paper) and the collection of more detailed, comparative data on Europe's disabled population, especially as the term "disabled" incorporates various disabilities, and degrees of disability and limitation. Despite current data restrictions, our results clearly point to the potential of the disabled to contribute to the attainment of the EU 2020 benchmarks and, consequently, the need for the European Union to identify the disabled as a priority group for reasons of both equity and efficiency.

Acknowledgments

This research has received financial support from the ONCE Foundation.

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Endnotes

¹ Estimates based on 2009 *European Union Statistics on Income and Living Conditions* (EU-SILC). The definitions of disability adopted in EU-SILC are outlined in Section 3.

² Percentage of students failing to attain level 2 on the competence scales as evaluated by PISA-2009. By way of example, in 2009, the EU average (excluding Cyprus and Malta) failing to attain this level of reading competence was 19.6%.

³ See OECD (2009) for a discussion of the PISA sample.

⁴ Managerial positions and professionals: codes 11 to 24 in the ISCO-88 (COM) classification. These include legislators, senior officers and managers.

⁵ More accurate calculations based on the 2008 Spanish Survey on disability, personal autonomy and dependency situations (EDAD-2008) suggest that the disabled population in Spain represents around 9.7%.

Table 1. Objectives and related indicators of Europe 2020

2020 Objectives	Indicators
75% of the population aged 20-64 to be employed	Employment rate by gender, age group 20-64
3% of the EU's GDP to be invested in R&D	Gross domestic expenditure on R&D
The fight against climate change to be continued: 20/20/20 targets	Greenhouse gas emissions, base year 1990
	Share of renewable sources in gross final energy consumption
	Energy intensity of the economy
The share of early school leavers to be under 10% and at least 40% of 30-34 years old to have completed tertiary education or the equivalent	Early leavers from education and training by gender
	Tertiary educational attainment by gender, age group 30-34
Poverty to be reduced by 25%, aiming to lift at least 20 million people out of the risk of poverty and social exclusion	People at risk of poverty or social exclusion, that is: living in households with very low work intensity; or being at-risk-of-poverty after social transfers (below 60% of the median per capita income); or being severely materially deprived*

Source: EUROSTAT

Note: The expression “material deprivation” covers issues relating to economic strain, durables, housing and environment of the dwelling. Severely materially deprived persons have living conditions greatly constrained by a lack of resources, and cannot afford at least four of the following: i) to pay rent or utility bills, ii) to keep their home adequately warm, iii) to pay unexpected expenses, iv) to eat meat, fish or a protein equivalent every second day, v) a week's holiday away from home, vi) a car, vii) a washing machine, viii) a colour TV, or ix) a telephone.

Table 2. Description of key indicators

Definition	Target population (age)	Source	Benchmark	Europe 2020 Target
1. Occupation rate	20-64	EU 2020	75%	1
2. Early school leaving rate	18-24	EU 2020	10%	2
3. Population with higher education	30-34	EU 2020	40%	2
4. Population under the poverty line	All	EU 2020	-25%	3
5. Percentage of population engaged in formal vocational training activities.	25-64	Modified ET 2020	NO	2
6. Occupation rate of young population not in the educational system	30-34	ET 2020	NO	1
7. Long-term unemployment rates	20-64	IDEE	NO	1
8. Population in managerial positions or working as professionals	20-64	IDEE	NO	1

Note: Europe 2020 target codes: 1) increasing occupied population, 2) raising the level of human capital and 3) reducing poverty and social exclusion.

Table 3. EU-27 country codes

Code	Country	Code	Country	Code	Country
AT	Austria	FI	Finland	MT	Malta
BE	Belgium	FR	France	NL	Netherlands
BG	Bulgaria	GR	Greece	PL	Poland
CY	Cyprus	HU	Hungary	PT	Portugal
CZ	Czech Republic	IE	Ireland	RO	Romania
DE	Germany	IT	Italy	SE	Sweden
DK	Denmark	LT	Lithuania	SI	Slovenia
EE	Estonia	LU	Luxembourg	SK	Slovakia
ES	Spain	LV	Latvia	UK	United Kingdom

Source: European Commission

Table 4. Total population and disabled population over the age of 15 in the EU-27 (2009)

Country	Population over the age of 15	1. Severe disability		2. Severe or moderate disability	
		Disabled population	% Disabled population	Disabled population	% Disabled population
AT	6,932,601	671,778	9.69	1,918,858	27.68
BE	8,694,293	649,120	7.47	1,984,874	22.83
BG	6,536,387	290,420	4.44	1,083,230	16.57
CY	646,531	40,485	6.26	112,683	17.43
CZ	8,776,925	450,161	5.13	1,695,715	19.32
DE	69,107,737	6,518,012	9.43	21,024,754	30.42
DK	4,410,279	245,003	5.56	766,755	17.39
EE	1,119,108	84,712	7.57	314,782	28.13
ES	38,511,430	2,134,481	5.54	9,354,204	24.29
FI	4,303,503	230,906	5.37	821,002	19.08
FR	49,172,673	4,372,390	8.89	11,758,600	23.91
GR	9,241,015	723,223	7.83	1,719,626	18.61
HU	8,308,334	678,143	8.16	2,307,160	27.77
IE	3,418,522	190,292	5.57	667,436	19.52
IT	50,916,899	3,916,689	7.69	13,241,059	26.01
LT	2,786,206	190,950	6.85	608,184	21.83
LU	383,623	23,352	6.09	76,381	19.91
LV	1,877,509	118,100	6.29	565,475	30.12
MT	341,020	13,067	3.83	42,091	12.34
NL	13,164,079	468,055	3.56	2,198,427	16.70
PL	31,369,933	2,099,064	6.69	6,608,212	21.07
PT	8,915,273	957,553	10.74	2,822,972	31.66
RO	17,728,870	1,190,382	6.71	3,664,237	20.67
SE	7,466,122	318,187	4.26	763,689	10.23
SI	1,667,311	84,486	5.07	200,477	12.02
SK	4,655,860	490,218	10.53	1,527,541	32.81
UK	48,937,050	4,306,119	8.08	9,838,348	20.10
EU-27	409,389,092	31,455,348	7.68	97,686,773	23.86

Source: Based on EU-SILC 2009.

Table 5. Total population and disabled population, by gender, over the age of 15 in the EU-27 (2009)

Country	Population over the age of 15	1. Severe disability		2. Severe or moderate disability	
		% Women	% Men	% Women	% Men
AT	6,932,601	57.88	42.07	55.08	44.92
BE	8,694,293	56.55	43.37	57.51	42.49
BG	6,536,387	57.57	42.43	58.47	41.53
CY	646,531	53.64	46.36	54.14	45.86
CZ	8,776,925	56.79	43.19	58.92	41.08
DE	69,107,737	51.80	48.21	53.24	46.76
DK	4,410,279	59.38	40.49	58.12	41.88
EE	1,119,108	60.77	39.21	60.20	39.80
ES	38,511,430	56.08	43.93	57.91	42.09
FI	4,303,503	58.62	41.25	58.50	41.50
FR	49,172,673	55.71	44.32	57.87	42.13
GR	9,241,015	58.58	41.39	57.56	42.44
HU	8,308,334	59.19	40.86	58.66	41.34
IE	3,418,522	51.47	48.46	52.98	47.02
IT	50,916,899	59.15	40.87	59.00	41.00
LT	2,786,206	59.76	40.30	63.73	36.27
LU	383,623	52.93	46.97	54.93	45.07
LV	1,877,509	60.73	39.23	60.45	39.55
MT	341,020	52.74	47.31	55.44	44.56
NL	13,164,079	56.89	43.01	59.84	40.16
PL	31,369,933	54.66	45.40	57.33	42.67
PT	8,915,273	59.79	40.21	59.73	40.27
RO	17,728,870	58.37	41.69	59.82	40.18
SE	7,466,122	63.24	36.86	62.46	37.54
SI	1,667,311	62.35	37.61	61.15	38.85
SK	4,655,860	59.30	40.65	58.37	41.63
UK	48,937,050	54.77	45.19	54.98	45.02
EU-27	409,389,092	55.89	44.14	56.93	43.07

Source: Based on EU-SILC 2009.

Table 6. Indicator 1: Occupation rates of 20- to 64-year-olds in the EU-27 in 2009 and the potential contribution of the disabled.

Country	Occupation rate of 20- to 64-year-olds				
	Occupation rate (non-disabled population)	Occupation rate (disabled population)	2009	If the disabled increased their occupation rate by 10%	If the disabled attained Europe 2020 benchmark
AT	73.34	48.04	67.81	70.00	73.70
BE	72.08	42.50	66.64	68.48	72.61
BG	71.76	38.84	68.32	69.37	72.10
CY	73.32	53.15	70.79	72.05	73.53
CZ	73.98	38.62	68.91	70.34	74.13
DE	74.71	49.77	68.72	71.12	74.78
DK	78.03	53.79	74.26	75.81	77.56
EE	74.10	50.75	69.57	71.51	74.27
ES	68.59	42.84	64.11	65.85	69.71
FI	74.06	52.61	70.80	72.32	74.20
FR	71.67	49.57	67.94	69.63	72.23
GR	67.44	31.16	64.62	65.40	68.03
HU	68.83	32.06	60.98	63.12	70.15
IE	65.33	28.54	59.22	60.88	66.94
IT	63.96	43.84	60.78	62.36	65.70
LT	73.04	37.89	68.04	69.46	73.31
LU	70.00	55.52	67.62	69.26	70.82
LV	68.71	44.86	63.30	65.57	70.13
MT	61.54	31.97	59.17	59.97	62.63
NL	77.57	50.32	73.75	75.15	77.21
PL	62.60	33.23	58.11	59.64	64.50
PT	74.47	46.16	67.93	70.24	74.59
RO	69.20	29.18	63.53	64.95	70.02
SE	79.77	48.58	77.30	78.09	79.39
SI	67.00	48.80	65.34	66.25	67.73
SK	74.68	52.14	68.89	71.46	74.76
UK	79.14	43.50	73.38	74.99	78.47
EU-27	71.33	44.41	66.64	68.38	71.96

Source: Based on EU-SILC 2009.

Table 7. Indicator 2: 18- to 24-year-olds in EU-27 not in education and who have not completed upper secondary education (2009).

Country	Early school leavers				
	Early school leavers (non-disabled population)	Early school leavers (disabled population)	2009	If the disabled reduced their rate by 1%	If the disabled attained Europe 2020 benchmark
AT	8.60	26.24	10.31	10.21	8.74
BE	11.48	24.22	12.36	12.29	11.38
BG	16.75	21.53	16.96	16.92	16.46
CY	5.29		6.23		
CZ	6.10	12.08	6.38	6.33	6.28
DE	6.99	17.84	7.85	7.77	7.23
DK	21.26	14.14	20.51	20.41	20.08
EE	15.46	16.97	15.56	15.49	15.10
ES	25.19	39.34	26.15	26.08	24.16
FI	9.56	16.48	10.03	9.96	9.59
FR	12.63	18.79	13.10	13.02	12.42
GR	6.48		6.59		
HU	11.14	22.34	11.62	11.58	11.09
IE	8.19	29.07	10.23	10.13	8.37
IT	19.02	21.69	19.17	19.11	18.50
LT	8.70		9.06		
LU	14.35	17.38	14.51	14.45	14.12
LV	16.56	31.57	17.91	17.82	15.97
MT	30.95		31.73		
NL	11.98	18.37	12.44	12.37	11.84
PL	3.82	13.36	4.30	4.25	4.13
PT	28.69	37.87	29.57	29.48	26.91
RO	14.68		15.33		
SE	6.04	15.03	6.47	6.43	6.23
SI	4.66	6.33	4.71	4.68	4.82
SK	2.95	4.41	3.08	2.99	3.56
UK	5.63	14.51	6.21	6.14	5.92
EU-27	11.46	20.86	12.07	12.00	11.37

Source: Based on EU-SILC 2009.

Note: Sample size does not allow us to obtain consistent estimates of this indicator for CY, GR, LT, MT or RO.

Table 8. Indicator 3: 30- to 34-year-olds in the EU-27 who have completed higher education (2009).

Country	30- to 34-year-olds with higher education (%)				
	Non-disabled population with higher education studies	Disabled population with higher education studies	2009	If the disabled increased their rate by 1%	If the disabled attained Europe 2020 benchmark
AT	39.34	25.83	37.55	37.68	39.43
BE	51.99	24.51	48.44	48.57	50.44
BG	23.98	18.08	23.64	23.70	24.91
CY	44.17		43.52		
CZ	18.03	15.02	17.83	17.89	19.50
DE	56.82	34.71	53.81	53.95	54.53
DK	42.41	34.99	41.61	41.71	42.15
EE	41.79	24.33	39.91	40.02	41.60
ES	45.01	31.71	43.61	43.71	44.48
FI	47.19	36.01	46.14	46.24	46.52
FR	46.11	31.36	44.67	44.77	45.52
GR	40.58		39.54		
HU	30.71	17.54	29.72	29.80	31.41
IE	57.94	45.36	56.38	56.50	55.71
IT	26.39	16.34	25.46	25.55	27.65
LT	49.55		47.33		
LU	43.14	30.41	41.75	41.86	42.80
LV	34.07	20.68	32.20	32.34	34.89
MT	27.49		26.41		
NL	44.65	25.09	42.81	42.90	44.21
PL	34.84	24.37	34.11	34.17	35.20
PT	21.65	6.42	19.31	19.46	24.48
RO	23.83	12.20	23.40	23.43	24.43
SE	50.47		49.93		
SI	29.35	23.21	28.95	29.02	30.05
SK	29.97	24.72	29.38	29.49	31.08
UK	43.86	30.44	42.40	42.51	43.44
EU-27	40.13	27.18	38.87	38.97	40.11

Source: Based on EU-SILC 2009.

Note: Sample size does not allow us to obtain consistent estimates of this indicator for CY, GR, LT, MT or SE.

Table 9. Indicator 4: EU-27 population under the poverty line (2009).

Country	Poverty rate (total population)				
	Poverty rate (non-disabled population)	Poverty rate (disabled population)	2009	If the disabled reduced their rate by 5%	If the disabled attained Europe 2020 benchmark
AT	10.26	16.62	11.74	11.55	10.77
BE	12.89	21.67	14.53	14.33	13.52
BG	20.29	32.79	22.07	21.84	20.91
CY	13.06	35.44	16.24	15.99	14.98
CZ	7.83	11.78	8.48	8.38	7.99
DE	13.71	21.75	15.79	15.51	14.38
DK	12.32	17.96	13.11	12.99	12.48
EE	16.00	31.37	19.64	19.27	17.78
ES	18.09	24.72	19.45	19.20	18.18
FI	11.76	26.57	14.08	13.87	13.04
FR	12.12	14.26	12.54	12.40	11.84
GR	19.24	25.74	20.26	20.06	19.25
HU	12.50	11.05	12.16	12.03	11.52
IE	13.57	20.24	14.56	14.41	13.81
IT	17.48	20.62	18.17	17.94	17.03
LT	18.40	29.00	20.33	20.07	19.01
LU	14.74	14.96	14.77	14.65	14.17
LV	20.24	41.41	25.61	25.09	22.99
MT	18.56	25.94	19.33	19.20	18.66
NL	10.53	13.81	10.97	10.88	10.51
PL	16.40	19.34	16.91	16.74	16.06
PT	16.50	23.60	18.39	18.07	16.82
RO	23.17	21.58	22.90	22.71	21.96
SE	12.94	23.78	13.85	13.75	13.35
SI	9.39	26.59	11.13	11.00	10.46
SK	10.80	10.83	10.81	10.65	10.04
UK	16.34	22.17	17.29	17.11	16.39
EU-27	15.25	20.45	16.28	16.08	15.27

Source: Based on EU-SILC 2009.

Table 10. Indicator 5: 25- to 64-year-olds in the EU-27 enrolled in formal vocational training (2009).

Country	25- to 64-year-olds enrolled in formal vocational training activities				
	Non-disabled population	Disabled population	2009	If the disabled increased their rate by 1%	If the disabled increased their rate by 5%
AT	3.52	1.34	3.02	3.09	3.37
BE	2.77	1.97	2.61	2.68	2.93
BG	1.62	0.25	1.47	1.49	1.59
CY	4.24	2.07	3.94	3.98	4.15
CZ	2.69	0.78	2.40	2.43	2.58
DE	5.18	2.11	4.39	4.47	4.79
DK	4.96	3.33	4.70	4.75	4.96
EE	5.25	1.61	4.48	4.52	4.69
ES	5.44	3.00	4.99	5.02	5.16
FI	8.57	7.76	8.44	8.48	8.63
FR	2.28	1.53	2.15	2.20	2.44
GR	1.44	0.87	1.39	1.42	1.54
HU	3.58	1.07	2.99	3.05	3.28
IE	6.29	3.73	5.84	5.89	6.08
IT	3.90	1.90	3.57	3.61	3.76
LT	3.14	0.63	2.75	2.79	2.97
LU	1.31	0.53	1.18	1.23	1.43
LV	3.83	1.61	3.28	3.32	3.48
MT	3.24	2.13	3.14	3.16	3.26
NL	5.93	4.73	5.75	5.78	5.90
PL	2.53	0.77	2.24	2.28	2.46
PT	5.54	2.61	4.82	4.89	5.17
RO	1.52	0.27	1.32	1.37	1.54
SE	3.53	4.71	3.62	3.66	3.79
SI	8.70	4.86	8.32	8.36	8.51
SK	3.95	1.36	3.22	3.29	3.57
UK	6.39	4.24	6.02	6.09	6.37
EU-27	4.17	2.24	3.81	3.86	4.08

Source: Based on EU-SILC 2009.

Table 11. Indicator 6: Occupation rate of 20- to 34-year-olds in the EU-27 (2009).

Country	Non-disabled population	Disabled population	Occupation rate of 20- to 34-year-olds			
			2009	If the disabled increased their occupation rate by 1%	If the disabled increased their occupation rate by 5%	
AT	67.08	53.83	65.52	65.64	66.11	
BE	70.67	55.51	69.18	69.28	69.67	
BG	67.29	55.42	66.64	66.70	66.92	
CY	66.05	54.52	65.37	65.43	65.66	
CZ	67.99	50.49	66.97	67.03	67.26	
DE	64.28	51.88	62.92	63.03	63.47	
DK	68.38	57.69	67.13	67.25	67.71	
EE	63.16	59.44	62.80	62.90	63.29	
ES	65.72	51.44	64.44	64.53	64.89	
FI	67.32	63.94	66.99	67.09	67.47	
FR	70.42	59.64	69.59	69.66	69.97	
GR	62.57		61.84			
HU	62.00	40.36	60.71	60.77	61.01	
IE	63.34	36.70	60.55	60.66	61.07	
IT	58.10	51.23	57.60	57.67	57.96	
LT	64.10	38.19	62.74	62.79	63.00	
LU	70.15	68.53	70.00	70.09	70.44	
LV	61.11	46.06	59.45	59.56	60.00	
MT	76.74	55.61	75.99	76.02	76.16	
NL	77.92	60.78	76.42	76.51	76.86	
PL	59.40	39.49	58.23	58.29	58.53	
PT	72.13	50.74	69.65	69.76	70.23	
RO	66.44	46.20	65.67	65.71	65.86	
SE	71.79	49.66	70.72	70.76	70.96	
SI	62.36	57.36	62.13	62.18	62.36	
SK	66.05	58.30	65.30	65.40	65.79	
UK	74.37	49.41	72.32	72.40	72.73	
EU-27	66.29	51.50	65.11	65.19	65.51	

Source: Based on EU-SILC 2009.

Note: Sample size does not allow us to obtain consistent estimates of this indicator for GR.

Table 12. Indicator 7: Long-term unemployment rates of 20- to 64-year-olds in the EU-27 (2009).

Long-term unemployment rates of 20- to 64-year-olds						
Country	Unemployment rate (non-disabled population)	Unemployment rate (disabled population)	2009	If the disabled reduced their rate by 1%	If the disabled reduced their rate by 2%	
AT	2.11	10.14	3.51	3.34	3.16	
BE	6.12	17.70	7.71	7.57	7.43	
BG	9.88	16.25	10.29	10.23	10.16	
CY	1.20	0.47	1.13	1.08	1.08	
CZ	3.73	12.96	4.61	4.51	4.42	
DE	4.49	17.84	7.17	6.97	6.77	
DK	1.28	6.52	1.94	1.82	1.69	
EE	2.44	5.84	2.94	2.79	2.65	
ES	5.84	13.16	6.78	6.65	6.52	
FI	3.04	8.84	3.76	3.64	3.51	
FR	4.11	10.13	4.91	4.78	4.65	
GR	5.24	11.35	5.49	5.45	5.41	
HU	4.15	13.08	5.27	5.14	5.02	
IE	7.67	16.94	8.52	8.43	8.34	
IT	6.79	8.99	7.05	6.93	6.81	
LT	4.15	6.97	4.38	4.30	4.22	
LU	2.00	8.37	2.92	2.77	2.63	
LV	6.76	11.83	7.66	7.48	7.31	
MT	3.37	12.58	3.82	3.77	3.72	
NL	0.65	4.50	1.03	0.93	0.83	
PL	3.47	6.54	3.76	3.66	3.57	
PT	6.38	11.09	7.17	7.01	6.84	
RO	3.20	3.80	3.24	3.17	3.11	
SE	2.00	6.04	2.21	2.16	2.11	
SI	4.58	13.48	5.26	5.18	5.11	
SK	4.84	7.13	5.29	5.10	4.90	
UK	1.91	5.52	2.27	2.17	2.07	
EU-27	4.29	11.71	5.24	5.11	4.98	

Source: Based on EU-SILC 2009.

Table 13. Indicator 8: 20- to 64-year-olds in the EU-27 in managerial positions or working as professionals (2009).

Country	20- to 64-year olds in managerial positions or working as professionals				
	Non-disabled population	Disabled population	2009	If the disabled increased their rate by 1%	If the disabled increased their rate by 2%
AT	16.27	12.04	15.34	15.56	15.78
BE	29.81	16.85	27.47	27.65	27.83
BG	17.25	13.08	16.82	16.93	17.03
CY	19.46	8.64	18.09	18.21	18.34
CZ	14.53	8.57	13.66	13.81	13.95
DE	25.53	14.27	22.76	23.01	23.25
DK	21.60	15.68	20.69	20.84	20.99
EE	28.29	16.42	25.95	26.15	26.35
ES	18.30	12.03	17.22	17.39	17.56
FI	27.24	19.06	25.99	26.14	26.30
FR	21.66	14.12	20.40	20.56	20.73
GR	24.11	11.66	23.21	23.28	23.36
HU	19.11	9.90	17.07	17.29	17.51
IE	32.66	19.65	30.65	30.80	30.96
IT	16.36	13.22	15.87	16.03	16.18
LT	26.51	15.53	24.98	25.12	25.26
LU	23.38	15.34	22.01	22.18	22.35
LV	23.11	15.51	21.35	21.58	21.81
MT	18.90	9.63	18.20	18.28	18.35
NL	32.29	24.99	31.30	31.44	31.57
PL	20.32	11.94	18.91	19.08	19.25
PT	15.89	8.28	14.14	14.37	14.60
RO	13.04	5.37	11.91	12.05	12.20
SE	25.89	13.57	24.85	24.94	25.02
SI	18.99	10.61	18.18	18.28	18.37
SK	19.27	14.47	17.98	18.25	18.52
UK	29.21	19.12	27.60	27.76	27.92
EU-27	22.17	13.97	20.73	20.90	21.08

Source: Based on EU-SILC 2009.

Table 14. Countries attaining the EU 2020 benchmarks (2009)

	Total population	Disabled population
Indicator 1 (75%)	SE	
Indicator 2 (10%)	CY*, GR*, CZ, LT*, DE, PL, SE, SI, SK and UK	SI and SK
Indicator 3 (40%)	BE, CY*, DE, DK, ES, FI, FR, IE, LT*, LU, NL, SE and UK	IE

Source: Based on EU-SILC 2009.

2010

- 2010/1, **De Borger, B., Pauwels, W.:** "A Nash bargaining solution to models of tax and investment competition: tolls and investment in serial transport corridors"
- 2010/2, **Chirinko, R.; Wilson, D.:** "Can Lower Tax Rates Be Bought? Business Rent-Seeking And Tax Competition Among U.S. States"
- 2010/3, **Esteller-Moré, A.; Rizzo, L.:** "Politics or mobility? Evidence from us excise taxation"
- 2010/4, **Roehrs, S.; Stadelmann, D.:** "Mobility and local income redistribution"
- 2010/5, **Fernández Llera, R.; García Valiñas, M.A.:** "Efficiency and elusion: both sides of public enterprises in Spain"
- 2010/6, **González Alegre, J.:** "Fiscal decentralization and intergovernmental grants: the European regional policy and Spanish autonomous regions"
- 2010/7, **Jametti, M.; Joanis, M.:** "Determinants of fiscal decentralization: political economy aspects"
- 2010/8, **Esteller-Moré, A.; Galmarini, U.; Rizzo, L.:** "Should tax bases overlap in a federation with lobbying?"
- 2010/9, **Cubel, M.:** "Fiscal equalization and political conflict"
- 2010/10, **Di Paolo, A.; Raymond, J.L.; Calero, J.:** "Exploring educational mobility in Europe"
- 2010/11, **Aidt, T.S.; Dutta, J.:** "Fiscal federalism and electoral accountability"
- 2010/12, **Arqué Castells, P.:** "Venture capital and innovation at the firm level"
- 2010/13, **García-Quevedo, J.; Mas-Verdú, F.; Polo-Otero, J.:** "Which firms want PhDs? The effect of the university-industry relationship on the PhD labour market"
- 2010/14, **Calabrese, S.; Epple, D.:** "On the political economy of tax limits"
- 2010/15, **Jofre-Monseny, J.:** "Is agglomeration taxable?"
- 2010/16, **Dragu, T.; Rodden, J.:** "Representation and regional redistribution in federations"
- 2010/17, **Borck, R.; Wimbersky, M.:** "Political economics of higher education finance"
- 2010/18, **Dohse, D.; Walter, S.G.:** "The role of entrepreneurship education and regional context in forming entrepreneurial intentions"
- 2010/19, **Åslund, O.; Edin, P-A.; Fredriksson, P.; Grönqvist, H.:** "Peers, neighborhoods and immigrant student achievement - Evidence from a placement policy"
- 2010/20, **Pelegrín, A.; Bolance, C.:** "International industry migration and firm characteristics: some evidence from the analysis of firm data"
- 2010/21, **Koh, H.; Riedel, N.:** "Do governments tax agglomeration rents?"
- 2010/22, **Curto-Grau, M.; Herranz-Loncán, A.; Solé-Ollé, A.:** "The political economy of infrastructure construction: The Spanish "Parliamentary Roads" (1880-1914)"
- 2010/23, **Bosch, N.; Espasa, M.; Mora, T.:** "Citizens' control and the efficiency of local public services"
- 2010/24, **Ahamdanech-Zarco, I.; García-Pérez, C.; Simón, H.:** "Wage inequality in Spain: A regional perspective"
- 2010/25, **Folke, O.:** "Shades of brown and green: Party effects in proportional election systems"
- 2010/26, **Falck, O.; Heblich, H.; Lameli, A.; Südekum, J.:** "Dialects, cultural identity and economic exchange"
- 2010/27, **Baum-Snow, N.; Pavan, R.:** "Understanding the city size wage gap"
- 2010/28, **Molloy, R.; Shan, H.:** "The effect of gasoline prices on household location"
- 2010/29, **Koethenbuerger, M.:** "How do local governments decide on public policy in fiscal federalism? Tax vs. expenditure optimization"
- 2010/30, **Abel, J.; Dey, I.; Gabe, T.:** "Productivity and the density of human capital"
- 2010/31, **Gerritse, M.:** "Policy competition and agglomeration: a local government view"
- 2010/32, **Hilber, C.; Lyytikäinen, T.; Vermeulen, W.:** "Capitalization of central government grants into local house prices: panel data evidence from England"
- 2010/33, **Hilber, C.; Robert-Nicoud, F.:** "On the origins of land use regulations: theory and evidence from us metro areas"
- 2010/34, **Picard, P.; Tabuchi, T.:** "City with forward and backward linkages"
- 2010/35, **Bodenhorn, H.; Cuberes, D.:** "Financial development and city growth: evidence from Northeastern American cities, 1790-1870"
- 2010/36, **Vulovic, V.:** "The effect of sub-national borrowing control on fiscal sustainability: how to regulate?"
- 2010/37, **Flamand, S.:** "Interregional transfers, group loyalty and the decentralization of redistribution"
- 2010/38, **Ahlfeldt, G.; Feddersen, A.:** "From periphery to core: economic adjustments to high speed rail"
- 2010/39, **González-Val, R.; Pueyo, F.:** "First nature vs. second nature causes: industry location and growth in the presence of an open-access renewable resource"
- 2010/40, **Billings, S.; Johnson, E.:** "A nonparametric test for industrial specialization"
- 2010/41, **Lee, S.; Li, Q.:** "Uneven landscapes and the city size distribution"
- 2010/42, **Ploeckl, F.:** "Borders, market access and urban growth; the case of Saxon towns and the Zollverein"
- 2010/43, **Hortas-Rico, M.:** "Urban sprawl and municipal budgets in Spain: a dynamic panel data analysis"
- 2010/44, **Koethenbuerger, M.:** "Electoral rules and incentive effects of fiscal transfers: evidence from Germany"

- 2010/45, Solé-Ollé, A.; Viladecans-Marsal, E.:** "Lobbying, political competition, and local land supply: recent evidence from Spain"
- 2010/46, Larcinese, V.; Rizzo, L.; Testa, C.:** "Why do small states receive more federal money? Us senate representation and the allocation of federal budget"
- 2010/47, Patacchini, E.; Zenou, Y.:** "Neighborhood effects and parental involvement in the intergenerational transmission of education"
- 2010/48, Nedelkoska, L.:** "Occupations at risk: explicit task content and job security"
- 2010/49, Jofre-Monseny, J.; Marín-López, R.; Viladecans-Marsal, E.:** "The mechanisms of agglomeration: Evidence from the effect of inter-industry relations on the location of new firms"
- 2010/50, Revelli, F.:** "Tax mix corners and other kinks"
- 2010/51, Duch-Brown, N.; Parellada-Sabata M.; Polo-Otero, J.:** "Economies of scale and scope of university research and technology transfer: a flexible multi-product approach"
- 2010/52, Duch-Brown, N.; Vilalta M.:** "Can better governance increase university efficiency?"
- 2010/53, Cremer, H.; Goulão, C.:** "Migration and social insurance"
- 2010/54, Mittermaier, F.; Rincke, J.:** "Do countries compensate firms for international wage differentials?"
- 2010/55, Bogliacino, F.; Vivarelli, M.:** "The job creation effect or R&D expenditures"
- 2010/56, Piacenza, M.; Turati, G.:** "Does fiscal discipline towards sub-national governments affect citizens' well-being? Evidence on health"

2011

- 2011/1, Oppedisano, V.; Turati, G.:** "What are the causes of educational inequalities and of their evolution over time in Europe? Evidence from PISA"
- 2011/2, Dahlberg, M.; Edmark, K.; Lundqvist, H.:** "Ethnic diversity and preferences for redistribution "
- 2011/3, Canova, L.; Vaglio, A.:** "Why do educated mothers matter? A model of parental help"
- 2011/4, Delgado, F.J.; Lago-Peñas, S.; Mayor, M.:** "On the determinants of local tax rates: new evidence from Spain"
- 2011/5, Piolatto, A.; Schuett, F.:** "A model of music piracy with popularity-dependent copying costs"
- 2011/6, Duch, N.; García-Estévez, J.; Parellada, M.:** "Universities and regional economic growth in Spanish regions"
- 2011/7, Duch, N.; García-Estévez, J.:** "Do universities affect firms' location decisions? Evidence from Spain"
- 2011/8, Dahlberg, M.; Mörk, E.:** "Is there an election cycle in public employment? Separating time effects from election year effects"
- 2011/9, Costas-Pérez, E.; Solé-Ollé, A.; Sorribas-Navarro, P.:** "Corruption scandals, press reporting, and accountability. Evidence from Spanish mayors"
- 2011/10, Choi, A.; Calero, J.; Escardíbul, J.O.:** "Hell to touch the sky? private tutoring and academic achievement in Korea"
- 2011/11, Mira Godinho, M.; Cartaxo, R.:** "University patenting, licensing and technology transfer: how organizational context and available resources determine performance"
- 2011/12, Duch-Brown, N.; García-Quevedo, J.; Montolio, D.:** "The link between public support and private R&D effort: What is the optimal subsidy?"
- 2011/13, Breuillé, M.L.; Duran-Vigneron, P.; Samson, A.L.:** "To assemble to resemble? A study of tax disparities among French municipalities"
- 2011/14, McCann, P.; Ortega-Argilés, R.:** "Smart specialisation, regional growth and applications to EU cohesion policy"
- 2011/15, Montolio, D.; Trillas, F.:** "Regulatory federalism and industrial policy in broadband telecommunications"
- 2011/16, Pelegrín, A.; Bolancé, C.:** "Offshoring and company characteristics: some evidence from the analysis of Spanish firm data"
- 2011/17, Lin, C.:** "Give me your wired and your highly skilled: measuring the impact of immigration policy on employers and shareholders"
- 2011/18, Bianchini, L.; Revelli, F.:** "Green polities: urban environmental performance and government popularity"
- 2011/19, López Real, J.:** "Family reunification or point-based immigration system? The case of the U.S. and Mexico"
- 2011/20, Bogliacino, F.; Piva, M.; Vivarelli, M.:** "The impact of R&D on employment in Europe: a firm-level analysis"
- 2011/21, Tonello, M.:** "Mechanisms of peer interactions between native and non-native students: rejection or integration?"
- 2011/22, García-Quevedo, J.; Mas-Verdú, F.; Montolio, D.:** "What type of innovative firms acquire knowledge intensive services and from which suppliers?"

- 2011/23, Banal-Estañol, A.; Macho-Stadler, I.; Pérez-Castrillo, D.: "Research output from university-industry collaborative projects"
- 2011/24, Lighthart, J.E.; Van Oudheusden, P.: "In government we trust: the role of fiscal decentralization"
- 2011/25, Mongrain, S.; Wilson, J.D.: "Tax competition with heterogeneous capital mobility"
- 2011/26, Caruso, R.; Costa, J.; Ricciuti, R.: "The probability of military rule in Africa, 1970-2007"
- 2011/27, Solé-Ollé, A.; Viladecans-Marsal, E.: "Local spending and the housing boom"
- 2011/28, Simón, H.; Ramos, R.; Sanromá, E.: "Occupational mobility of immigrants in a low skilled economy. The Spanish case"
- 2011/29, Piolatto, A.; Trotin, G.: "Optimal tax enforcement under prospect theory"
- 2011/30, Montolio, D.; Piolatto, A.: "Financing public education when altruistic agents have retirement concerns"
- 2011/31, García-Quevedo, J.; Pellegrino, G.; Vivarelli, M.: "The determinants of YICs' R&D activity"
- 2011/32, Goodspeed, T.J.: "Corruption, accountability, and decentralization: theory and evidence from Mexico"
- 2011/33, Pedraja, F.; Cordero, J.M.: "Analysis of alternative proposals to reform the Spanish intergovernmental transfer system for municipalities"
- 2011/34, Jofre-Monseny, J.; Sorribas-Navarro, P.; Vázquez-Grenno, J.: "Welfare spending and ethnic heterogeneity: evidence from a massive immigration wave"
- 2011/35, Lyytikäinen, T.: "Tax competition among local governments: evidence from a property tax reform in Finland"
- 2011/36, Brühlhart, M.; Schmidheiny, K.: "Estimating the Rivalness of State-Level Inward FDI"
- 2011/37, García-Pérez, J.I.; Hidalgo-Hidalgo, M.; Robles-Zurita, J.A.: "Does grade retention affect achievement? Some evidence from Pisa"
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- 2011/41, Di Pietro, G.; Mora, T.: "The effect of the l'Aquila earthquake on labour market outcomes"
- 2011/42, Brueckner, J.K.; Neumark, D.: "Beaches, sunshine, and public-sector pay: theory and evidence on amenities and rent extraction by government workers"
- 2011/43, Cortés, D.: "Decentralization of government and contracting with the private sector"
- 2011/44, Turati, G.; Montolio, D.; Piacenza, M.: "Fiscal decentralisation, private school funding, and students' achievements. A tale from two Roman catholic countries"

2012

- 2012/1, Montolio, D.; Trujillo, E.: "What drives investment in telecommunications? The role of regulation, firms' internationalization and market knowledge"
- 2012/2, Giesen, K.; Suedekum, J.: "The size distribution across all "cities": a unifying approach"
- 2012/3, Foremny, D.; Riedel, N.: "Business taxes and the electoral cycle"
- 2012/4, García-Estévez, J.; Duch-Brown, N.: "Student graduation: to what extent does university expenditure matter?"
- 2012/5, Durán-Cabré, J.M.; Esteller-Moré, A.; Salvadori, L.: "Empirical evidence on horizontal competition in tax enforcement"
- 2012/6, Pickering, A.C.; Rockey, J.: "Ideology and the growth of US state government"
- 2012/7, Vergolini, L.; Zanini, N.: "How does aid matter? The effect of financial aid on university enrolment decisions"
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- 2012/10, Mantovani, A.; Vandekerckhove, J.: "The strategic interplay between bundling and merging in complementary markets"
- 2012/11, Garcia-López, M.A.: "Urban spatial structure, suburbanization and transportation in Barcelona"
- 2012/12, Revelli, F.: "Business taxation and economic performance in hierarchical government structures"
- 2012/13, Arqué-Castells, P.; Mohnen, P.: "Sunk costs, extensive R&D subsidies and permanent inducement effects"
- 2012/14, Boffa, F.; Piolatto, A.; Ponzetto, G.: "Centralization and accountability: theory and evidence from the Clean Air Act"
- 2012/15, Cheshire, P.C.; Hilber, C.A.L.; Kaplanis, I.: "Land use regulation and productivity – land matters: evidence from a UK supermarket chain"



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