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Developing a Regional Inclusive Society Index in the EU: Literature review and proposals from existing practices and experiences

Marcos Domínguez-Torreiro

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Contact information

Name: Marcos Domínguez-Torreiro

Address: European Commission - Joint Research Centre, 21027 Ispra, Italy E-mail: marcos.dominguez-torreiro@jrc.ec.europa.eu

Tel.: +39 0332 78 6192

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Abstract

This work reviews the relevant literature and distils ideas and suggestions for developing a comprehensive index of social inclusion at EU regional level. The new composite indicator (a "Regional Inclusive Society Index") is expected to contribute with relevant inputs and insights to the policy debates and decision making processes related to:

- i) tackling social disparities at regional level; and
- ii) promoting social cohesion alongside economic cohesion.

The final objective of this document is to come up with a proposal of recommended dimensions and key indicators to populate the conceptual framework of the index. A first outline of an indicator framework has been proposed, which draws heavily upon existing practices and experiences related to measuring social cohesion and inclusive societies, along with highly relevant policy and research documents. The findings and conclusions discussed herein are presented alongside the conceptual and practical challenges encountered throughout the process.

1 Introduction

The present document is the result of the request from DG REGIO to the JRC to contribute to the development of a “Regional Inclusive Society Index” for monitoring social inclusion across EU regions. This new composite indicator is expected to provide relevant inputs and insights that could feed into policy debates and decision making processes related to:

- i) tackling social disparities at regional level; and
- ii) promoting social cohesion alongside economic cohesion.

The present report discusses the first steps towards setting-up this new monitoring tool on social cohesion at EU regional level. The final objective of the document is to come up with a proposal of recommended dimensions and key indicators to populate the conceptual framework of the index. The findings and conclusions discussed herein will be presented alongside the conceptual and practical challenges encountered throughout the process.

As regards the difficulties encountered, one of the most relevant has to do with clarifying the conceptual boundaries of the underlying concept or phenomenon to be measured and monitored. The World Bank defines social inclusion as “the process of improving the terms for individuals and groups to take part in society”. Hence, the main aims of social inclusion would comprise among others the empowerment of poor and marginalized people to take advantage of quickly developing global opportunities, and also to ensure that people have a voice in decisions which affect their lives. Moreover, social inclusion should guarantee equal access of disadvantaged groups to markets and services, as well as to political, social and physical spaces. Another useful working definition is the one proposed by United Nations (2007), which states that social inclusion is “a process aimed at lowering economic, social and cultural boundaries”, or equivalently “the process by which efforts are made to ensure equal opportunities—that everyone, regardless of their background, can achieve their full potential in life”. Therefore, such processes should involve policies and actions promoting equal access to (public) services and enabling citizen’s full and active participation in all aspects of life—including civic, social, economic, and political activities, as well as decision-making processes. Given the complex, multidimensional—and dynamic —nature of the underlying concept covered by the working definitions presented above, it follows straight that the attempts to measure this concept should go beyond focusing on a single specific indicator or dimension alone. Finally, once the object of measurement has been defined, a second related challenge has to do with the selection of the indicators more fit for this purpose. In this respect, one of the main issues to be tackled is the extent and reliability of the data available for analysis at EU regional level.

In light of the above, some general guidelines to develop the conceptual framework and to select the actual dimensions and indicators might be suggested a priori. For example, with regard to data collection, the recommended strategy would be to resort to quality assured existing indicators, primarily drawn from Eurostat. Hence, gathering existing data would be a preferred strategy to generating new data. For the sake of completeness, employment and income indicators should be deemed as necessary building blocks for the construction of the social inclusion index. Also for the sake of parsimony, the different topics to be covered by the indicators should be grouped into a limited number of dimensions, for which sub-indices could be calculated. When it comes to the aggregation of the constituent indicators into dimensions and sub-indices, a weighting mechanism should be devised and implemented. Another desirable feature of the indicator framework would be that of being able to monitor regions over time, in order to shed light on the prevalence of strong social cohesion or disparities. Finally, the index should also be able to expose and monitor gender imbalances.

The sections below will elaborate further on the questions above. Insights from the literature review and from the analysis of selected composite indicators have been split into the two chapters following. The first one looks at the dimensions to be included in the conceptual framework, trying to identify the most salient topics which could be taken on board as pillars underpinning the index. The second delves into the finer-grain level of analysis, proposing candidate indicators suitable for populating the pillars. Lastly, the final section presents a summary of findings and conclusions, and outlines the further steps to be followed to advance in the development of the index.

2 A review of concepts, indices and dimensions to be considered for monitoring social cohesion and inclusive societies

The creation of a composite indicator to monitor social progress and inclusion goes beyond drawing up a list of indicators. It needs to be based on a sound conceptual framework which offers a comprehensive picture of the phenomenon to be studied. Moreover, we need to bear in mind that social progress and inclusion are concepts inextricably related to the policy goal of promoting the wellbeing of people, which turns out to be the common thread—and ultimate aim—of all EU social and economic policies (Eurostat 2015, p. 238).

In the present study, several approaches have been followed to help us identify the most relevant dimensions behind a regional inclusive society index. Firstly, existing indices on related topics have been mapped and shortlisted for analysis. Secondly, a review of relevant policy and research documents has also been undertaken. In addition, each of the dimensions selected for inclusion in the index have been critically assessed under the light of the criteria outlined in United Nations (2007), i.e. to be comprehensive—in the sense that they should aim to cover a wide range of agreed social inclusion objectives—, equally balanced in terms of their relative importance, and to enable a synthetic and transparent assessment of a situation in relation to the common objectives.

One of the most salient examples of social indices considered during the exploratory phase is the Social Progress Index (SPI), developed by the Social Progress Imperative. The SPI is intended to complement social progress measures based on GDP, income or employment. Conceptually, the SPI breaks down social progress into three main dimensions: basic human needs, foundations of wellbeing, and opportunity. Along these lines, the SPI considers social progress as “the capacity of a society to meet the basic human needs of its citizens, establish the building blocks that allow citizens and communities to enhance and sustain the quality of their lives, and create the conditions for all individuals to reach their full potential” (Porter et al. 2015, p. 14). As regards the methodological framework underpinning the SPI—described in detail in Stern et al. (2015)—, its main features and aims could be summarised as follows:

- i) to measure outcomes that matter to the lives of real people, and not inputs;
- ii) to measure social progress directly, isolating social and environmental indicators, and deliberately excluding economic proxies such as income or employment;
- iii) to provide a robust and holistic measurement framework for national social and environmental performance, as well as a systematic and empirical foundation to guide a strategy for inclusive growth;
- iv) to use a benchmarking approach to communicate the results, comparing each country with its relevant economic peers (e.g. using the median scores of the most similar countries in terms of GDP per capita).

The 'EU Regional Social Progress Index' is a joint research project undertaken by the Social Progress Imperative and the Basque Institute for Competitiveness. The main objective of this project is to translate the SPI conceptual framework to the EU regional grounds. Therefore, the EU regional SPI mirrors the structure of the global SPI in terms of the dimensions and the components considered, but using a different set of indicators to account for the specific social conditions in the EU regions. As a result of these adaptations, some of the dimensions in the SPI were redesigned and populated with indicators more closely related to individual wellbeing. For example, in the foundations of wellbeing dimension, the indicator on greenhouse emissions was replaced by an indicator on pollution levels. Moreover, the opportunity dimension was also populated with employment related indicators such as young people not in education, employment or training (NEET), and the gender employment gap.

Within the realm of the political debate on GDP and beyond, the Committee of the Regions has recently recommended that policy-making should be deeply rooted in comprehensive measures of wellbeing, "including economic issues (inter alia productivity, innovation, exports), labour (inter alia indicators on employment and the quality of employment), environmental issues (inter alia energy intensity and efficiency of the economy, protected natural spaces and biodiversity, share of renewable energy, CO2 emissions), demographic issues (including indicators on the current demographic situation and any movements), social inclusion (inter alia people at risk of poverty or social exclusion, distribution of income) and territorial issues (including accessibility and carrying capacity)" (Committee of the Regions, 2016). This document also supports the idea that the choice of a selected pool of indicators for monitoring wellbeing should be oriented towards those indicators that measure the results and impacts of the policies, as well as the costs. Finally, a bottom up approach has been recommended for the selection of key indicators measuring sustainable progress and complementing data on economic growth (GDP), as well as to establish the territorially differentiated headline targets that might supersede the Europe 2020 strategy.

The issue of income inequality poses a serious threat to social inclusion, since it increases the risk of people being left behind in the margins of society. As explained by Deaton (2013), inequality of opportunity and inequality of outcomes tend to go together. As a general result, in those countries where inequality is high, father's and son's earnings tend to be closely related, which suggests that inequality of income is in itself a barrier to equal opportunity. Furthermore, in the most extreme cases inequality of income might lead to plutocracy—a political system where the rich become richer and more influential, whereas those who are not rich are effectively disenfranchised. Atkinson (2015) also favours shifting the focus from equality of opportunity to enquire into the outcomes. One of the main arguments behind the concern about outcomes is once again the extent to which inequality of outcome among today's generation might be the source of an unfair advantage to be received by the next generation. Some other reasons need to be factored into the picture as well, such as the implications of having high inequality embedded in the socially agreed structure of ex-post prizes and rewards, or the fact that people might be subject to back luck—that could make them "trip and fall into poverty". On a related note, Atkinson (2015) argues that the final policy goal relating inequality should be reducing inequality in its current level and not aiming for total equality—since indeed certain differences in economic rewards might be justifiable to incentivise the efforts of individuals. Accordingly, although the direction of movement should be easily agreed upon, the ultimate destination—how much inequality is acceptable in a society—remains a debatable issue.

Along the same lines, additional evidence of the difficulties to achieve greater equality of opportunities without tackling increasing inequality in incomes is shown in OECD (2015b). Measures extracted from PIAAC data—such as average numeracy score by parent educational background—illustrate the negative relationship between inequality and skills for children from the poorer families. In addition, OECD (2015b) shows that the long-term rise in inequality of disposable incomes does not only affect social

cohesion, but also drags down long-term growth—confirming similar results from Ostry et al. (2014). At the heart of the transmission mechanism between inequality and growth stays the fact that inequality lowers the skills of the poor by severely curtailing their opportunities to access higher education and developing their human capital. Another key message from this report is that it is the position of the bottom 40% of the distribution (i.e. the situation of the broad group of working and lower middle class people) which matters the most for economic growth. From this perspective, a well-designed redistribution policy directed towards the bottom 40% could yield a “double dividend”, in terms of boosting GDP per capita and reducing income inequality.

The OECD’s Better Life Index has been recently singled out by the Committee of the Regions (2016) as an example of good practice in measuring social progress and wellbeing. In its latest edition (OECD 2015a), the index presents a wide selection of indicators capturing different dimensions of wellbeing outcomes at national level. The indicators are grouped into two basic domains: material conditions and quality of life. Subjective measures of wellbeing have been included in the latter group to reflect people’s own views and evaluations of their lives. OECD (2013) identifies three major components of subjective wellbeing. Each one of them offers a different and complementary perspective. The first one relates to each person’s overall assessment of life satisfaction. The second refers to the individual assessment of life feeling worthwhile (i.e. eudaimonia). Lastly, the third one corresponds to whether individuals perceive that they have a positive affect balance.

OECD (2015a) also emphasizes the concept of “social capital” as a facilitator of collective action, which in turn contributes to the formation and maintenance of human, natural and economic capital. However, social capital is a term that might be used differently in different contexts. According to Scrivens and Smith (2013), there are four possible aspects—or interpretations—of social capital: personal relationships; civic engagement; social network support; and trust and cooperative norms. In particular, the notion of trust captures some of the persistent features that regulate how people live together in a community. Hence, trust and cooperative norms are considered as the components of social capital most pertinent to assessing well-being over time.

In the last edition of the Better Life Index report (OECD 2015a), a dedicated chapter deals specifically with the analysis of wellbeing at sub-national (regional) level. Wellbeing dimensions considered for regional analysis are the same as those used in the country-level framework—subject to data availability. As a result, material wellbeing at regional level includes such dimensions as jobs, income and housing. On the other hand, the broader non-material dimensions of wellbeing related to the quality of people’s life include elements such as health, education, safety, civic engagement, environment and access to services. Regional differences within countries are found to be large in most of the well-being dimensions considered, sometimes even larger than the differences observed across countries. Those spatial disparities may have significant implications for people’s overall well-being. Another example of sheer regional disparities in the OECD area comes from the comparison between the highest and lowest unemployment rates at regional level. Finally, it is also worth noting that, from the perspective of the index, and as explained for example in the case of education, having a good education and the opportunity to learn new skills should be regarded as intrinsically rewarding, i.e. an outcome in its own right and not just as a passport to getting a better job.

Eurostat has recently developed its own framework to complement the GDP as the indicator traditionally used to measure economic and social development (Eurostat 2015). The conceptual framework focuses on 8+1 dimensions related to the concept of quality of life. The selected dimensions encompass both objective factors and subjective perceptions on wellbeing. In detail, the first eight dimensions relate to the functional capabilities citizens should have available (i.e. people’s capabilities) to pursue their self-defined wellbeing, according to their own values and priorities. They include material living conditions, employment, health, education, social relations and leisure, economic

and physical safety, governance and basic rights and, lastly, natural and living environment. The ninth dimension refers to the subjective assessment of life satisfaction and wellbeing. As recommended by OECD (2013), subjective wellbeing encompasses the three complementary sub-dimensions mentioned before: life satisfaction, affects and eudaimonics. The most prominent indicator of subjective wellbeing included in the framework is general life satisfaction, which refers to the individual's evaluation of all subjectively relevant life domains and is therefore considered as an overall measure for subjective wellbeing (Eurostat 2015).

There seems to be a close link between the abovementioned efforts made by Eurostat to measure quality of life and the strand of work related to the different "beyond GDP" initiatives. At the EU level, in a communication released back in 2009, the European Commission strongly advocated for developing indicators that could complement GDP. Scholars like Deaton (2013) have also contributed to the discussion by arguing that GDP might be regarded as a good starting point, but a very poor place to stop as a measure of (material) wellbeing—or even as a measure of income. It is expenditure—what people spend their money on—the stuff that material wellbeing and prosperity is made of. In a stocktaking article on the issue of dethroning GDP—given its alleged inadequacy as a measure of quality of life—, Costanza et al. (2014) used the following business world analogy: a country focusing on GDP growth is equivalent to a firm aiming to maximise gross revenue—even at the expense of profitability, efficiency, sustainability or flexibility. In light of this, Costanza et al. (2014) divide the alternative measures of societal progress and sustainable well-being into three broad groups. The first one relates to adjusting macroeconomic measures to reflect social and environmental factors. The second relies on collecting information on subjective measures of well-being through surveys. And the third option consists of composite measures of sustainable well-being, which integrate subjective and objective indicators on a wide range of themes such as income, housing, jobs, health, civic and democratic engagement, safety, leisure time and life satisfaction. On the issue of subjective indicators of well-being, a cautionary note is made by the authors with regard to the comparability of self-reported measures within countries but not across countries, due to cultural and societal differences. An additional pitfall of subjective measures is that people might not necessarily be well aware of the things that contribute positively to their own wellbeing.

Deaton (2013) also discusses the validity and usefulness of self-reported measures of wellbeing, and differentiates between the subjective assessment of life satisfaction and the subjective assessment of happiness (or other emotions). For instance, when surveying people around the world, it is not uncommon to find happiness alongside poor health and material poverty. In this regard, life evaluation measures should be considered as much better measures of overall wellbeing. Moreover, the author points out that there is on average a linear relationship between percentage differences in income—on which material wellbeing depends—across countries and shifts in life evaluation measures. On a similar note, besides the positive relationship between income and life evaluation measures, the latter measures have also been found to be in close accord with other indicators of what living a good life means, such as measures of health or political freedom.

The Sustainable Society Index (SSI), published by the Sustainable Society Foundation, tries to assess societal progress beyond GDP by setting up a comprehensive quantitative method to monitor the health of coupled human-environmental systems at national level worldwide (Saisana and Philippas, 2012). According to the definition adopted by the developers of the index, a sustainable society should be regarded as one: i) that meets the needs of the present generation, ii) which does not compromise the ability of future generations to meet their own needs, and iii) in which each human being has the opportunity to develop itself in freedom, within a well-balanced society and in harmony with its surroundings (Sustainable Society Foundation, 2014). The index framework is currently built up by 21 indicators, clustered in 7 categories and 3 overall dimensions. These dimensions are human well-being, environmental well-being and economic well-

being. Conceptually, human and environmental wellbeing are considered to be the ultimate goals to be pursued. Accordingly, economic well-being should not be considered a goal in itself, but a precondition or a safeguard for the achievement of the latter two. Given the trade-offs observed between the environmental dimension and the human and economic dimensions, one lesson to be learned from the index is that societal wellbeing results might be better communicated in terms of the individual categories and dimensions, instead of being aggregated into a single overall index (Saisana and Philippas, 2012).

At the European Union level, the Social Protection Committee (SPC) has developed a portfolio of indicators to monitor progress towards a set of overarching objectives in the fields of social protection and social inclusion (Social Protection Committee 2015). The field of social protection includes issues related to pensions, healthcare and long-term care, while social inclusion concerns the eradication of poverty and social exclusion. More precisely, the jointly agreed—by the EU Member States and the European Commission—overarching objectives for social protection and social inclusion are to promote:

- i) social cohesion, equality between men and women and equal opportunities for all through adequate, accessible, financially sustainable, adaptable and efficient social protection systems and social inclusion policies;
- ii) effective and mutual interaction between the Europe 2020 objectives of smart, sustainable and inclusive growth, taking full account of the relevant social provisions of the Lisbon Treaty;
- iii) good governance, transparency and the involvement of the stakeholders in the design, implementation and monitoring of policy.

Most of the indicators covering the overarching objectives are based on data from the 'EU Statistics on Income and Living Conditions' survey (EU-SILC) and the 'EU Labour force survey' (EU-LFS). The information condensed in the lead indicators of the overarching portfolio is accompanied by context information referring to past or expected future trends. The purpose of this background information is to help frame and better understand the socio-economic context of the different countries. Finally, the Social Protection Performance Monitor (SPPM) dashboard, which summarises the major social trends in EU countries, has also been populated with selected indicators from the overarching portfolio (Social Protection Committee 2012).

The systematic use of complementary information to overcome the limited ability of indicators to represent topics which are broad in scope has been further explored by the Swiss Federal Statistical Office when developing a "cluster approach" to indicator systems (Pedrini and de Montmollin, 2015). The cluster approach as defined therein refers to the additional statistical information that serves to enhance the explanatory power of the selected indicators by measuring those missing aspects of the underlying concept which have been identified but cannot be covered by the indicator. The use of this additional information should help provide a bigger picture of the topic or objective covered by the indicator. The rationale behind the cluster approach is the need to cope with one of the big issues to be considered when devising an indicator framework: the inescapable trade-off between parsimony and superficiality in the analysis. The developers of any indicator system will always have to choose between keeping the system small and easy to communicate or creating a larger system which would allow for a more in-depth analysis—at the expense of being more difficult to interpret and communicate. As a getaway from this situation, textual or graphical descriptions and commentaries based on the cluster components could be used to provide the supplementary information needed to broaden the scope and explanatory power of the indicators included in the monitoring framework.

On the issue of measuring acute poverty and human development, a sound—and highly influential—methodology has been proposed by the Oxford Poverty and Human Development Initiative (OPHI). The family of measurements based on headcounts

developed by OPHI includes among others the adjusted headcount ratio. The adjusted headcount ratio constitutes the basis for the calculation of the Multidimensional Poverty Index (MPI) (Alkire et al. 2015). As a first step in the calculation, the unit of analysis has to be determined (e.g. household level). Secondly, its poverty profile is analysed by means of a set of indicators covering different deprivation dimensions. Measuring multidimensional poverty implies first identifying for which indicators at the same time households are deprived, and then calculating a weighted average deprivation score. Being deprived in an indicator means not reaching the poverty cutoff defined for that indicator. Aggregation in the MPI is undertaken assigning equal weights across the three dimensions of the index—education, health and living standard; equal weights are also assigned for each indicator within dimensions. A final cross-dimensional poverty cutoff of 33.33% identifies as multidimensionally poor households those whose aggregate deprivation score meets or exceed this threshold. The MPI value for the overall population is calculated by multiplying the population that is multidimensionally poor by the intensity of their poverty, expressed as the average proportion of indicators in which poor people are deprived. In case the indicator poverty cutoffs are modified to become more restrictive, the same headcount methodology could be used to calculate stricter poverty measures (e.g. destitution measures). Although theoretically appealing, an important downside to be taken into account when trying to implement a headcount approach for monitoring progress at regional level has to do with the limited access to detailed micro-data from representative surveys (or census).

Along the same lines of the OPHI MPI, Ivanov et al. (2012) have also advocated for an individualised approach to social exclusion. The result of their work is a Social Exclusion Index to measure individual exclusion in six countries from Europe and Central Asia. The three dimensions included in the latter index are economic life, social services and civic and social participation dimensions. Eight indicators populate each of the dimensions. The indicators have been selected based on research findings, expert opinion and data availability. The aim of this index is to provide an objective and multidimensional measure of social exclusion, which allows identifying the breadth (Social Exclusion Headcount) and the depth of exclusion (Average Share of Deprivations among Excluded). In addition, once the index has been defined and calculated, the authors also analyse how the three main elements in the social exclusion chain (individual risks, local conditions and drivers of exclusion) might influence the final outcome of social exclusion.

The United Nations Development Programme (UNDP) delivers on an annual basis its report on human development (see e.g. UNDP 2015). The concept of human development presented in the successive editions of this report is based on a simple but powerful people-centred approach: human development should be viewed as the process and the outcome of enlarging people's choices—as they acquire more capabilities and enjoy more opportunities to use those capabilities. As such, economic growth and boosting incomes are only one small part of the overall picture. More precisely, it is the richness of human lives and not the richness of economies what is brought to the forefront. According to the UNDP approach, the true aim of development should be to maximise human choices by enhancing human rights, freedoms, capabilities and opportunities, and by enabling people to lead long, healthy and creative lives. This comprehensive approach to human progress is translated into the Human Development Index (HDI), a composite indicator that aims to measure human well-being from a broad perspective. The HDI measures achievements in three basic dimensions of human development: living long and healthy lives, having access to education and knowledge, and achieving a decent standard of living. A narrow set of indicators has been chosen to illustrate the relevant dimensions, with two indicators monitoring the education and knowledge dimension, and one indicator accompanying each of the other two dimensions.

In addition to the HDI, the UNDP (2015) report presents other composite indices in order to provide a more comprehensive insight on human development. For instance, the Inequality Adjusted HDI draws on Atkinson's family of inequality measures and discounts

the HDI according to the extent of inequality computed at country level for each of the three HDI dimensions. The Gender Inequality Index reflects gender-based disadvantage by focusing on three dimensions: reproductive health, empowerment and the situation of women in the labour market. Note that the results of the Multidimensional Poverty Index are also included in the annual report to highlight non-income dimensions of poverty.

When reflecting on how to adapt the United Nations human development assessment framework to the European context, two aspects are of the utmost importance. On the one hand, UN-HDI measures development at country level only, whilst in the EU disparities within countries might be larger than disparities across countries. On the other hand, the UN-HDI is based on a concept of human development that is especially suited to describe the performance of developing countries, but it might not suffice to reveal heterogeneity and gain insights on human development across countries and regions in Europe. To overcome the limitations of the UN-HDI approach and to account for the specificities of the European regional level, a new composite indicator has been proposed and developed: the EU Regional Human Development Index (Bubbico and Dijkstra 2011, Hardeman and Dijkstra 2014). The conceptual framework behind this indicator hinges on the recognition that human development is an essentially contested concept, which might be better grasped by combining three different perspectives. Firstly, the basic needs perspective relates to the absolute and concrete requirements for human beings to stay alive. Secondly, the utilitarian perspective focuses on mental achievements such as happiness. And lastly, the freedom perspective deals with the substantive freedoms that allow people to live the life they choose to live. To illustrate the different perspectives of human wellbeing, six variables have been selected from an initial pool of candidates. Each variable is associated with one of the three dimensions of human development included in the conceptual framework, which once again correspond to the three-partite structure underpinning the UN-HDI: health, knowledge and income.

The EU Social Justice Index (SJI) is a composite indicator that purportedly measures the progress made—or the ground lost—on issues of social justice in EU member states. The SJI helps policymakers identify policy areas essential to advancing social justice, facilitating inclusive growth, unveiling social conditions and participation opportunities for people (Schraad-Tischler 2015). The SJI comprises 35 indicators—27 quantitative and eight qualitative—which have been grouped into the six dimensions of social justice underpinning the conceptual framework: poverty prevention, equitable education, labour market access, social cohesion and non-discrimination, and intergenerational justice. Three of the dimensions in the index—poverty, education and labour markets—have been singled out by the developers because of their especial relevance in the conceptual framework. Accordingly, the dimension of poverty is given triple weight when calculating the aggregate index; the dimensions of education and labour market are weighted doubly.

The SJI framework incorporates the issue of social mobility into the equitable education dimension by means of a PISA related indicator: the relationship between a standardised measure of performance and the students' socioeconomic background. The importance of the issue of inter-generational and intra-generational social mobility has also been highlighted in other studies. For instance, OECD (2010) assessed cross-country patterns in inter-generational social mobility, focusing on the mobility of wages, earnings and education across generations. Another study by GHK (2010) analysed inter- and intra-generational social mobility at national and regional EU level, using EU Statistics and Living Conditions (EU-SILC) micro-data as the main dataset. Finally, in Member States such as the UK, a comprehensive framework of indicators has been put in place as part of a national strategy to promote improved social mobility (UK Government, 2011).

Table 1: Summary of selected indicator frameworks and dimensions measuring social cohesion and inclusiveness

Indicator framework	Objective	Dimensions/Sub-indices
<p>Social Progress Index</p> <p>Note: Regional EU version to be made available in 2016, using the same dimensions and components, but differing in some indicators</p> <p>Note: Provides a matching between SPI/SDGs</p>	<p>Social progress - independent of GDP and economic dimensions</p>	<ul style="list-style-type: none"> · Basic human needs: nutrition, basic medical care, water and sanitation, shelter, personal safety. · Foundations of well-being: access to basic knowledge, access to information and communications, health and wellness, ecosystem sustainability · Opportunity: personal rights, personal freedom and choice, tolerance and inclusion, access to advanced education
<p>OECD Better Life Index</p> <p>Note: Regional version available using the same dimensions - subject to data availability (e.g. subjective well-being is excluded from Quality of people's lives)</p>	<p>Measuring well-being</p>	<ul style="list-style-type: none"> · Material well-being: income and wealth, jobs and earnings, housing · Quality of people's lives: health status, work-life balance, education and skills, social connections, civic engagement and governance, environmental quality, personal security, subjective well-being
<p>Eurostat Quality of life in Europe</p>	<p>8+1 dimensions that represent the complementary aspects of quality of life in the EU - complementing GDP as a measurement of economic and social development.</p>	<ul style="list-style-type: none"> · Functional capabilities available to citizens: material living conditions, employment, health, education, social relations and leisure, economic and physical safety, governance and basic rights, natural and living environment · Subjective assessment of well-being
<p>Sustainable Society Index</p>	<p>To measure the level of sustainability of a country and to monitor progress to sustainability</p>	<ul style="list-style-type: none"> · Human well-being · Environmental well-being · Economic well-being
<p>Overarching portfolio of indicators for social protection and social inclusion</p> <p>Note: Main source of indicators for monitoring social trends in the EU through the Social Protection Performance Monitor (SPPM) dashboard</p>	<p>To monitor the jointly agreed (Commission and Member States) overarching objectives in the fields of social protection and social inclusion</p>	<ul style="list-style-type: none"> · Social protection: pensions, healthcare, long-term care · Social inclusion: eradication of poverty and social exclusion
<p>OPHI - Multidimensional Poverty Index</p> <p>Note: Results presented also in the Human Development Report</p>	<p>To develop a measure of acute global poverty and deprivation</p>	<ul style="list-style-type: none"> · Health · Education · Living standards
<p>Social Exclusion Index</p> <p>Note: For 6 countries of the Europe and CIS region</p>	<p>Objective and multidimensional measure of individual exclusion</p>	<ul style="list-style-type: none"> · Economic life · Social services · Civic and social participation
<p>Human Development Index (HDI)</p>	<p>To measure basic human development achievements</p>	<ul style="list-style-type: none"> · To lead a long and healthy life · Ability to acquire knowledge · Ability to achieve a decent standard of living
<p>EU Regional Human Development Index</p> <p>Note: Follows the three-partite structure of the HDI in terms of dimensions, but not in terms of indicators (selects EU relevant indicators)</p>	<p>To measure human development at EU regional level combining three different perspectives simultaneously: basic needs, utilitarian approach and freedom</p>	<ul style="list-style-type: none"> · Health · Education · Living standards
<p>Gender Inequality Index</p> <p>Note: Included in the Human Development Report</p>	<p>To reflect gender-based disadvantage</p>	<ul style="list-style-type: none"> · Reproductive health · Empowerment · Labour market

Social Justice Index	To monitor progress on issues of social justice	<ul style="list-style-type: none"> · Poverty prevention · Equitable education · Labour market access · Social cohesion and non-discrimination · Health · Intergenerational justice
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Based on the conceptual frameworks and empirical approaches discussed above, a first proposal on the tentative dimensions to be considered when developing a regional inclusive society index is presented in Table 2.

Table 2: Tentative dimensions to be considered in developing a regional inclusive society index

Dimension	Description/rationale for inclusion in the conceptual framework
Income distribution and well-being	Many factors beyond GDP are contributing to deliver more inclusive growth and improved well-being. International comparisons have shown that well-being outcomes can be very different in countries with very similar levels of GDP per capita. Moreover, special attention should be given to issues of acute poverty (incomes at the bottom of the distribution) and inequality (how incomes are spread across the population) and subjective perceptions of well-being.
Access to employment and good quality jobs	Aspects such as long-term and youth unemployment should be put at the forefront of the picture of social cohesion, since they originate vicious cycles of labour market and social exclusion.
Access to knowledge	It is particularly important to account for the role of education and training as a pathway to better paid jobs and reduced inequality. Significant improvements in social cohesion draw upon acquiring basic skills in a high quality initial education, school retention until upper secondary education, and lifelong learning incentives and opportunities throughout the life course.
Access to health	Access to healthcare is key to living long and healthy lives. This dimension should reflect actual limitations of access to and unmet needs for health care and wellness. It should also provide insights on the extent to which people might expect to live additional years of life in a healthy condition.
Social protection performance	Legitimate concerns about inequality of outcomes lead to the establishment of an efficient and effective system of social protection, including safety nets and income replacement. Tax and transfer systems for efficient distribution can curb inequality without hindering growth. Targeted measures and policies should aim to protect vulnerable segments of the population, such as the children and the elderly.
Social capital and governance	Social infrastructure and behavioural norms, perceptions of trust and social connections play a decisive role as facilitators of cooperation and social inclusiveness.
Vertical social mobility	Advances in social cohesion are inextricably related to the fight against hereditary social exclusion and the entrenchment of poverty and inequality in future generations.
Gender equality	Women tend to be underrepresented both in the labour market and in decision-making positions. Gender equality should be fostered, addressing issues of equal pay and removing barriers for women participation in the economic life and political arena.
Non-discrimination and tolerance	Policies fostering the integration of socially disadvantaged groups and minorities should ensure that no one is left behind. In this respect, it is key to secure equal opportunities in the access to labour market and education, as well as effective pathways to nationality in the case of migrants.
Personal security	People living in high crime environments not only lose their freedom, but also have fewer opportunities to expand their capabilities. Physical and psychological insecurity undermines social structures, political institutions and social cohesion. Furthermore, violence targeted at particular groups, as is the case of violence against women, can magnify existing societal cleavages.

3 Selection of candidate indicators

Once the fundamental concepts and tentative dimensions to measure social cohesion and inclusive societies have been identified, what follows next is to discuss which, why and to what extent individual variables should be deemed relevant to populate the composite indicator framework. In this regard, several aspects and criteria need to be considered. A wish list of general recommendations and criteria for the selection of social inclusion indicators—which draws heavily on United Nations (2007)—could be summarised as follows:

- quality assurance: robustness, validity and reliability of the sources, favouring the use of Eurostat data;
- availability and accessibility: the underlying data should allow granular analyses and comparisons across cultures and territories; more precisely, data breakdowns should be available at EU regional level;
- timeliness: data sources should be updated at least on a yearly basis;
- responsiveness and actionability: the indicators should be closely related to the policy levers, covering matters that can be nailed down to policy interventions;
- policy relevance: the indicators should capture the essence of the problem, having a direct linkage to—and showing progress towards—the higher level policy objectives and outcomes;
- simplicity: measurements provided by the indicators should have a clear, easy to understand and accepted normative interpretation;
- parsimony: to identify a realistically small number of key and leading indicators in all the main dimensions, as large numbers might obscure the development of meaningful measures.

Notwithstanding the simplicity and common-sense appeal of the criteria above, some severe trade-offs may appear when trying to implement them on the ground. One of the most relevant trade-offs refers to the challenge of identifying indicators closely related to higher level objectives, while at same time pointing towards concrete policy levers which might be considered to improve performance. As indicators combining both features will not always be readily available, a possible workaround to this restriction would be to look for both performance (outcome) and policy indicators complementing each other within the framework. A second trade-off is related to the limited scope and coverage of the quality-assured regional social inclusiveness data provided by Eurostat, which might require searching for alternative data sources subject to inferior quality standards. On a similar note, the criterion of setting up a conceptual framework based on already available and accessible indicators and data sources might be relaxed at an early stage, as a means to open up and put to the fore a discussion on the extent of the current informational needs. In this particular study, we have opted not to exclude currently unavailable indicators at regional level from the pool of candidate indicators, in order to expose present caveats and provide stronger arguments for collecting better data at regional level. In addition to this, the need to reinforce the conceptual framework with people-centred measures of experiences, beliefs and attitudes might also be deemed necessary. The latter indicators are usually built upon costly and one-off (or low-frequency) ad-hoc surveys, circumstances that happen to be in conflict with the timeliness and periodicity requisites.

Some additional elements need to be factored in when selecting the pool of candidate indicators for measuring social cohesion and inclusive societies. It is particularly important that the indicator framework should be able to monitor cohesion and

disparities over time, rather than just comparing regions at a given moment. Furthermore, the index/indicators should also aim to take into account gender differences. Finally, it should be borne in mind that the overall goal of the proposed framework is to establish clear policy links between the indicators and the policies, in order to feed into policy-making and trigger policy responses.

A proposal of indicators to be included in the conceptual framework of the regional inclusive society index is presented in Table 3. A detailed explanation of the selected indicators is included in Section 3.1.

Table 3: Proposal of indicators to be included in the conceptual framework

Dimension	Indicator	Source/Compiling agency	Regional breakdowns	Frequency of dissemination - At least annual
Income distribution and well-being	People at risk of poverty or social exclusion (AROPE) by NUTS 2 regions	Eurostat [tgs00107]	yes	yes
Income distribution and well-being	Persistent-at-risk-of-poverty rate	Eurostat [tsdsc210]	?	yes
Income distribution and [material] well-being	Relative median at-risk-of-poverty risk gap - %	Eurostat [tesov016]	?	yes
Income distribution and [material] well-being	Income quintile share ratio (S80/S20)	Eurostat [tessi180]	?	yes
Income distribution and [material] well-being	Overall life satisfaction	Eurostat [ilc_pw01]	?	Not applicable ¹
Access to employment and good quality jobs	Long-term unemployment rate (12 months and more) by NUTS 2 regions - % of active population	Eurostat [tgs00053]	yes	yes
Access to employment and good quality jobs	Youth unemployment rate, age group 15-24, by NUTS 2 regions	Eurostat [yth_empl_110]	yes	yes
Access to employment and good quality jobs	Young temporary employees as percentage of the total number of employees, age group 15-24	Eurostat [yth_empl_050]	?	yes
Access to employment and good quality jobs	Young people neither in employment nor in education and training, age group 15-24, by NUTS 2 regions (NEET rates) - %	Eurostat [edat_lfse_22]	yes	yes
Access to knowledge	Early leavers from education and training, by NUTS 2 regions - %	Eurostat [edat_lfse_16]	?	yes

Access to knowledge	At least upper secondary educational attainment, age group 25-64, by NUTS 2 regions - %	Eurostat [edat_lfse_04]	yes	yes
Access to knowledge	Pupil/teacher ratio in primary education	Eurostat [tps00054]	?	yes
Access to knowledge	Lifelong learning - %	Eurostat [tsdsc440]	?	yes
Access to knowledge	Individuals regularly using the internet by NUTS 2 regions	Eurostat [tgs00050]	yes	yes
Access to health	Life expectancy at birth by sex and NUTS 2 region	Eurostat [tgs00101]	yes	yes
Access to health	Healthy life years at 65 - males	Eurostat [tespm120]	?	yes
Access to health	Healthy life years at 65 - females	Eurostat [tespm130]	?	yes
Access to health	Self-reported unmet need for medical care - %	Eurostat [tespm110]	?	yes
Access to health	Self-reported unmet needs for dental examination	Eurostat [hlth_silc_09]	?	yes
Social protection performance	Impact of social transfers (excluding pensions) on poverty reduction (%) - %	Eurostat [tespm050]	?	yes
Social protection performance	Impact of social transfers (other than pensions) in reducing child poverty	Eurostat [ilc_li10, ilc_li02]	?	yes
Social protection performance	Children at risk of poverty or social exclusion - %	Eurostat [tespm040]	?	yes
Social protection performance	Median relative income of elderly people	Eurostat [tespn020]	?	yes
Social protection performance	Aggregate replacement ratio - %	Eurostat [tespn030]	?	yes
Social capital and governance	Trust in the police	Eurostat [ilc_pw03]	?	Not applicable ¹
Social capital and governance	Trust in the legal system	Eurostat [ilc_pw03]	?	Not applicable ¹
Social capital and governance	Trust in the political system	Eurostat [ilc_pw03]	?	Not applicable ¹
Social capital and governance	Level of citizens' confidence in EU institutions - %	Eurostat [tsdgo510]	?	yes
Social capital and governance	Perceived independence of courts and judges among the general public	Eurostat [Flash Eurobarometer FL435]	?	Not applicable ²
Social capital and governance	Trust in others	Eurostat [ilc_pw03]	?	Not applicable ¹

Social capital and governance	Having someone to rely on in case of need	Eurostat [ilc_pw06]	?	Not applicable ¹
Vertical social mobility	Relationship between mathematics performance and elements of socioeconomic status-total explained variance	OECD PISA	?	no
Vertical social mobility	Persistence of households remaining in the lowest income quintile with respect to year t-s	EU SILC (To be compiled from)	?	no
Gender equality	Gender activity rate gap - %	Eurostat [lfsa_argacob]	?	yes
Gender equality	Gender unemployment rate gap - %	Eurostat [lfsa_urgacob]	?	yes
Gender equality	Gender pay gap in unadjusted form - %	Eurostat [tsdsc340]	?	yes
Gender equality	Share of parliamentary seats held by women	(To be compiled)	yes	Not applicable
Non-discrimination and tolerance	Gap in people at risk of poverty or social exclusion (AROPE) by broad group of country of birth (population aged 18 and over)	Eurostat [ilc_peps06]	?	yes
Non-discrimination and tolerance	Gap in activity rates by country of birth (%)	Eurostat [lfsa_argacob]	?	yes
Non-discrimination and tolerance	Gap in unemployment rates by country of birth (%)	Eurostat [lfsa_urgacob]	?	yes
Non-discrimination and tolerance	Gap in early leavers from education and training by country of birth	Eurostat [edat_lfse_02]	?	yes
Non-discrimination and tolerance	Gap in young people neither in employment nor in education and training (NEET rates) by country of birth	Eurostat [edat_lfse_28]	?	yes
Non-discrimination and tolerance	Residents who acquired citizenship as a share of resident non-citizens by former citizenship (%)	Eurostat [migr_acqs]	?	yes
Non-discrimination and tolerance	Percentage of votes cast for political parties with a hostile attitude against migrants by NUTS 2 regions	(To be compiled)	yes	Not applicable
Personal security	Crime, violence or vandalism in the area	Eurostat [ilc_mddw03]	?	yes

Personal security	Victims of intentional homicide – per hundred thousand	Eurostat [crim_hom_soff]	?	yes
Personal security	Female victims of sexual assault – per hundred thousand	Eurostat [crim_hom_soff]	?	yes
Personal security	Female victims of rape – per hundred thousand	Eurostat [crim_hom_soff]	?	yes
Personal security	Female victims of intentional homicide victims by intimate partner – per hundred thousand	Eurostat [crim_hom_vrel]	?	yes

¹ One time only data collection - 2013

² One time only data collection - 2016

3.1 Description of the selected indicators

DIMENSION 1: Income distribution and well-being

D.1.1. People at risk of poverty or social exclusion (AROPE) by NUTS 2 regions - % of total population

AROPE is a comprehensive and multi-dimensional indicator of social cohesion, which has been selected as one of the headline indicators in the Europe 2020 (EU2020) strategy. EU2020 aims to promote social inclusion by setting the goal of lifting at least 20 million people out of the risk of poverty and social exclusion by 2020. By construction, this indicator sums up the number of persons who are at risk of poverty, severely materially deprived or living in households with very low work intensity. Persons present in several sub-indicators are counted only once. Persons at risk of poverty have an equivalised disposable income below 60 % of the national median equivalised disposable income after social transfers. Material deprivation covers indicators relating to economic strain and durables. Severely materially deprived persons have living conditions severely constrained by a lack of resources, they experience at least four out of nine following deprivations items: cannot afford i) to pay rent or utility bills, ii) keep home adequately warm, iii) face unexpected expenses, iv) eat meat, fish or a protein equivalent every second day, v) a week holiday away from home, vi) a car, vii) a washing machine, viii) a colour TV, or ix) a telephone. Persons are considered living in households with very low work intensity if they are aged 0-59 and the working age members in the household worked less than 20 % of their potential during the past year.

D.1.2. Persistent-at-risk-of-poverty rate - %

The indicator is defined as the share of persons with an equivalised disposable income below the risk-of-poverty threshold in the current year and in at least two of the preceding three years. The threshold is set at 60 % of the national median equivalised disposable income.

D.1.3. Relative median at-risk-of-poverty risk gap - %

The relative median at-risk-of-poverty gap is calculated as the difference between the median equivalised total net income of persons below the at-risk-of-poverty threshold

and the at-risk-of-poverty threshold, expressed as a percentage of the at-risk-of-poverty threshold (cut-off point: 60% of median equivalised income). The EU aggregate is a population weighted average of individual national figures. In line with decisions of the European Council, the risk-of-poverty rate is measured relative to the situation in each country rather than applying a common threshold to all countries.

D.1.4. Income quintile share ratio (S80/S20)

This indicator measures the spread in the distribution of income within a population. It is calculated as the ratio of total income received by the 20 % of the population with the highest income (top quintile) to that received by the 20 % of the population with the lowest income (lowest quintile). Income must be understood as equivalised disposable income.

D.1.5. Overall life satisfaction

The unit of measure is for this indicator the average of all individuals' ratings on a scale from 0 ("not satisfied at all") to 10 ("fully satisfied").

DIMENSION 2: Access to employment and good quality jobs

D.2.1. Long-term unemployment rate (12 months and more) by NUTS 2 regions - % of active population

The share of long-term unemployment is the share of unemployed persons since 12 months or more in the total active population, expressed as a percentage. The total active population (labour force) is the total number of the employed and unemployed population. The duration of unemployment is defined as the duration of a search for a job or as the period of time since the last job was held (if this period is shorter than the duration of the search for a job).

D.2.2. Youth unemployment rate, age group 15-24, by NUTS 2 regions

Youth unemployment shows the proportion of the labour force (aged 15-24) that is unemployed (i.e. those who are out of work, actively searching and able to start working). The youth unemployment rate is calculated by dividing the number of unemployed persons aged 15 to 24 by the total active population of the same age group. The indicator is based on the EU Labour Force Survey.

D.2.3. Young temporary employees as percentage of the total number of employees, age group 15-24

The relevance of this indicator is related to the fact that young people are typically over-represented in temporary work. This situation can reflect segmented labour markets, with young people occupying relatively few permanent jobs.

D.2.4. Young people neither in employment nor in education and training, age group 15-24, by NUTS 2 regions (NEET rates) - %

The indicator on young people neither in employment nor in education and training (NEET) provides information on young people aged 15 to 24 who meet the following two conditions: (a) they are not employed (i.e. unemployed or inactive according to the International Labour Organisation definition) and (b) they have not received any

education or training in the four weeks preceding the survey. Data are expressed as a percentage of the total population in the same age group, excluding the respondents who have not answered the question 'participation to education and training'. Data come from the European Union Labour Force Survey.

DIMENSION 3: Access to knowledge

D.3.1. Early leavers from education and training, by NUTS 2 regions - %

The indicator is defined as the percentage of the population aged 18-24 with at most lower secondary education and who were not in further education or training during the last four weeks preceding the survey. Lower secondary education refers to ISCED (International Standard Classification of Education) 2011 level 0-2 for data from 2014 onwards and to ISCED 1997 level 0-3C short for data up to 2013. The indicator is based on the EU Labour Force Survey.

D.3.2. At least upper secondary educational attainment, age group 25-64, by NUTS 2 regions - %

The indicator aims to measure the share of the population that is likely to have the minimum necessary qualifications to actively participate in social and economic life. It should be noted that completion of upper secondary education can be achieved in European countries after varying lengths of study, according to different national educational systems. The indicator is defined as the percentage of people aged 25-64 who have successfully completed at least upper secondary education. This educational attainment refers to ISCED (International Standard Classification of Education) 2011 level 3-8 for data from 2014 onwards and to ISCED 1997 level 3-6 for data up to 2013. The indicator is based on the EU Labour Force Survey.

D.3.3. Pupil/teacher ratio in primary education

This input indicator acts as a proxy of the quality of early childhood education. The ratio of children to staff is assumed to be linked to having better chances for a good start in education, and to being in a better disposition to attend to children with special needs or from disadvantaged backgrounds. The pupil-teacher ratio is calculated by dividing the number of full-time equivalent pupils by the number of full-time equivalent teachers teaching at ISCED level 1 (Primary education). Only teachers in service (including special education teachers) are taken into account. The pupil-teacher ratio should not be confused with average class size as it does not take into account special cases, like the small size of groups of special needs pupils or specialised/minority subject areas, or the difference between the number of hours of teaching provided by teachers and the number of hours of instruction prescribed for pupils for example in the case a teacher is working in a shift system.

D.3.4. Lifelong learning - %

Lifelong learning refers to persons aged 25 to 64 who stated that they received education or training in the four weeks preceding the survey (numerator). The denominator consists of the total population of the same age group, excluding those who did not answer to the question 'participation in education and training'. Both the numerator and the denominator come from the EU Labour Force Survey. The information collected relates to all education or training whether or not relevant to the respondent's current or possible future job.

D.3.5. Individuals regularly using the internet by NUTS 2 regions

Regular users of the internet are persons who use the internet on average at least once a week, every day or almost every day. This indicator is based on the statistics on individuals on the use of Information and Communication Technologies.

DIMENSION 4: Access to health

D.4.1. Life expectancy at birth by sex and NUTS 2 region

This variable informs about the mean number of years that a newborn child can expect to live if subjected throughout his life to the current mortality conditions (age specific probabilities of dying).

D.4.2. Healthy life years at 65

D.4.2.1. Healthy life years at 65 - males

D.4.2.2. Healthy life years at 65 - females

Information about living longer lives needs to be complemented with information about the health status of the individuals during the years of life gained. Healthy life years (HLY) at 65 is a composite indicator that measures the number of remaining years that a person aged 65 is expected to live in a healthy condition. It is calculated separately for women and men by combining mortality data from Eurostat's demographic database with data on self-perceived activity limitations from the European Statistics of Income and Living Condition survey. The notion of health used therein hinges on a disability dimension, and is based on a self-perceived question which aims to measure the extent of any limitations because of a health problem that may have affected respondents as regards activities they usually do. That is why the indicator is also called disability-free life expectancy (DFLE). A healthy condition is thus defined by the absence of longstanding severe or moderate limitations in usual activities because of a health problem. Longstanding refers to a period of more than 6 months.

D.4.3. Self-reported unmet need for medical care - %

Medical care refers to individual healthcare services (medical examination or treatment excluding dental care) provided by or under direct supervision of medical doctors or equivalent professions according to national healthcare systems. Self-reported unmet needs for medical care concern a person's own assessment of whether he or she needed examination or treatment for a specific type of health care, but did not have it or did not seek it because of the following three reasons: 'Financial reasons', 'Waiting list' and 'Too far to travel'. Data are collected from the European Statistics of Income and Living Condition survey and refer to such needs during the previous 12 months. Data are expressed as percentages within the population aged 16 years old and over living in private households.

D.4.4. Self-reported unmet needs for dental examination - %

Dental care refers to individual health care services provided by or under direct supervision of dentists. Health care provided by orthodontists is included. The reasons reported for the unmet medical needs which are considered for the calculation of this indicator are the same as the ones considered in the indicator above: too expensive or too far to travel or waiting list.

DIMENSION 5: Social protection performance

D.5.1. Impact of social transfers (excluding pensions) on poverty reduction (%) - %

This variable measures the reduction in the at-risk-of-poverty rate in % due to social transfers, calculated as the percentage difference between the at-risk-of-poverty rate before and after social transfers. The poverty threshold is set at 60% of median equivalised income after social transfers.

D.5.2. Impact of social transfers (other than pensions) in reducing child poverty

Reduction in the at-risk-of-poverty rate in % due to social transfers for the age class less than 18 years, calculated as the percentage difference between the at-risk-of-poverty rate before and after social transfers. The poverty threshold is set at 60% of median equivalised income after social transfers.

D.5.3. Children at risk of poverty or social exclusion - %

The sum of children (0-17) who are: at-risk-of-poverty or severely materially deprived or living in (quasi-)jobless households (i.e. households with very low work intensity (below 20%)) as a share of the total population in the same age group.

D.5.4. Median relative income of elderly people

The indicator is defined as the ratio between the median equivalised disposable income of persons aged 65 or over and the median equivalised disposable income of persons aged between 0 and 64.

D.5.5. Aggregate replacement ratio - %

The indicator is defined as the ratio of the median individual gross pensions of 65-74 age category relative to median individual gross earnings of 50-59 age category, excluding other social benefits. Pension income covers pensions from basic (first pillar) schemes, means-tested welfare scheme, early retirement, widow's (first pillar) and other old age-related schemes. Other social benefits includes unemployment-related benefits, family-related benefits, benefits relating to sickness or invalidity, education-related allowances and any other personal social benefits. Work income includes income from wage and salary employment and income from self-employment. EU aggregate figures are calculated as population-weighted averages of national values.

DIMENSION 6: Social capital and governance

D.6.1. Trust in institutions

D.6.1.1. Trust in the police

D.6.1.2. Trust in the legal system

D.6.1.3. Trust in the political system

These indicators look into the level of trust of EU residents in three major institutions (the police, the legal system and the political system). Trust in institutions should be understood as of a general nature, i.e. not applying to any specific institution within the

three categories considered. Therefore, the legal and political system should encompass all institutions in the respective categories, whether local, national or transnational. The unit of measure is the average of all individuals' ratings on a scale from 0 ("not satisfied at all") to 10 ("fully satisfied").

D.6.2. Level of citizens' confidence in EU institutions - %

The level of citizens' confidence in EU institutions (Council of the European Union, European Parliament and European Commission) is expressed as the share of positive opinions (people who declare that they tend to trust) about these specific European institutions. The results are based on the autumn survey of the Eurobarometer, a survey which has been conducted twice a year since 1973 to monitor the evolution of public opinion in the Member States. Potential replies to the question on the level of confidence include 'tend to trust', 'tend not to trust' and 'don't know' or 'no answer'. Trust is not precisely defined and could leave some room for interpretation to the interviewees. For the sake of simplicity, a synthetic indicator could be calculated as the simple arithmetic average of the three independent assessments considered.

D.6.3. Perceived independence of courts and judges among the general public

This indicator presents the percentage of 'very good' and 'fairly good' answers to the question: 'From what you know, how would you rate the justice system in (our country) in terms of the independence of courts and judges? Would you say it is very good, fairly good, fairly bad or very bad?'.

D.6.4. Trust in others

Within Eurostat's "Quality of life" framework, social cohesion (covering interpersonal trust, perceived tensions and inequalities) is measured using an indicator on trust in others (collected in the 2013 ad-hoc module). Therefore, trust in others could be considered as a reasonable proxy of the level of social cohesion of all people living in society. The unit of measure is the average of all individuals' ratings on a scale from 0 ("not satisfied at all") to 10 ("fully satisfied").

D.6.5. Having someone to rely on in case of need

This indicator measures the existence of supportive relationships and social interactions. More precisely, the indicator underscores the importance of having someone (a relative, friend or neighbour) to ask for help, or to discuss personal matters. Having someone to rely on in case of need has been chosen as a headline indicator for the United Nations World Happiness Report, highlighting its importance for any individual's well-being.

DIMENSION 7: Vertical social mobility

D.7.1. Relationship between mathematics performance and elements of socioeconomic status-total explained variance

This indicator can be calculated using the results from the PISA survey. It measures the percentage of total explained variance in mathematics performance associated with the following factors: i) parents' highest occupational status, ii) parents' highest level of education, iii) index of cultural possessions, iv) index of home educational resources, v) number of books at home, and vi) wealth.

D.7.2. Persistence of households remaining in the lowest income quintile with respect to year t-s

This measure of intra-generational income mobility could be constructed from the SILC panel micro data. It involves comparing the income of those households that were in the lowest quintile in the initial year t-s with their situation in the final year t.

DIMENSION 8: Gender equality

D.8.1. Gender activity rate gap - %

Percentage difference between the activity rates registered for male and female, for the age group 15-64.

D.8.2. Gender unemployment rate gap - %

Percentage difference between the unemployment rates registered for male and female, for the age group 15-64.

D.8.3. Gender pay gap in unadjusted form - %

The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. The population consists of all paid employees in enterprises with 10 employees or more in NACE Rev. 2 aggregate B to S (excluding O – 'Public administration and defence; compulsory social security'). The GPG is not adjusted by individual characteristics of employed men and women and by sectoral and occupational gender segregations that may explain part of the earnings difference. As an unadjusted indicator, the GPG gives an overall picture of the differences between men and women in terms of pay and measures a concept which is broader than the concept of equal pay for equal work.

D.8.4. Share of parliamentary seats held by women

This indicator would be based on the figures corresponding to the number of seats currently filled by women in regional Parliaments.

DIMENSION 9: Non-discrimination and tolerance

D.9.1. Gap in people at risk of poverty or social exclusion (AROPE) by broad group of country of birth (population aged 18 and over)

Percentage difference between the AROPE rate of individuals aged 18 and over born in the reporting country and those born in a foreign country.

D.9.2. Gap in activity rates by country of birth (%)

Percentage difference between the activity rate of individuals from the age group 15-64 born in the reporting country and those born in a foreign country.

D.9.3. Gap in unemployment rates by country of birth (%)

Percentage difference between the unemployment rate of individuals from the age group 15-64 born in the reporting country and those born in a foreign country.

D.9.4. Gap in early leavers from education and training by country of birth

Percentage difference between the early leavers rate of individuals (aged 18-24) born in the reporting country and those born in a foreign country.

D.9.5. Gap in young people neither in employment nor in education and training (NEET rates) by country of birth

Percentage difference between the NEET rate of individuals born in the reporting country and those born in a foreign country.

D.9.6. Residents who acquired citizenship as a share of resident non-citizens by former citizenship (%)

Share of foreign citizens who have acquired citizenship in EU countries. Foreign citizens should include both EU and non-EU citizens.

D.9.7. Percentage of votes cast for political parties with a hostile attitude against migrants by NUTS 2 regions

The percentage of votes for political parties hostile to migrants could be calculated as the simple arithmetic average of votes cast in the last National - European - Local elections. The criteria for a political party to qualify as hostile to migrants is yet to be defined.

DIMENSION 10: Personal security

10.1. Crime, violence or vandalism in the area

The indicator refers to the percentage of total population who feel crime, violence or vandalism in the area to be a problem for the household (not on the fact to be bothered by the problem). For the purpose of this indicator, crime is to be defined as a deviant behaviour that violates prevailing norms, specifically, cultural standards prescribing how humans ought to behave normally. A legalistic approach is not to be used.

10.2. Victims of intentional homicide – per hundred thousand

Intentional homicide is defined as unlawful death purposefully inflicted on a person by another person. Data on intentional homicide includes also serious assault leading to death and death as a result of a terrorist attack.

10.3. Violence against women

10.2.1. Female victims of sexual assault – per hundred thousand

10.2.2. Female victims of rape – per hundred thousand

10.2.3. Female victims of intentional homicide victims by intimate partner – per hundred thousand

For statistical purposes, rape is defined as sexual intercourse without valid consent. In the current classification used by the UNODC, offences of statutory rape where the victim is below the age of consent are classified separately as sexual offences against children. Sexual assault is defined as sexual violence not amounting to rape. Intentional homicide is defined as unlawful death purposefully inflicted on a person by another person. Data on intentional homicide should also include serious assault leading to death and death as a result of a terrorist attack.

4 Concluding remarks

This document reviews the relevant literature and distils ideas and suggestions for developing a comprehensive index of social inclusion at EU regional level. A first outline of an indicator framework has been proposed, which draws heavily upon existing practices and experiences related to measuring social cohesion and inclusive societies, along with highly relevant policy and research documents. The JRC proposal discusses a series of criteria to select candidate dimensions, as well as to screen and pool potential indicators together. The aim is to arrive at a comprehensive, balanced and synthetic indicator framework. Accordingly, a number of dimensions and indicators have been identified, described in detail and proposed for inclusion in the framework.

Further discussion on the development of the index should be nurtured by statistical analyses. Correlation based analysis will help uncover the extent to which individual indicators fit into the overall conceptual framework. For example, a correlation matrix with too strong correlations among the indicators means that there is a risk of redundancy of information or “double-counting” in the framework. On the contrary, having too poor (random) or negative correlations is also indicative of a lack of consistency between the conceptual framework and the actual data.

Clearly, the relevance of the quantitative analysis—and of the index itself—will be dependent upon data availability. In our case, this means having access to high quality and reliable data on social inclusion at EU regional level. However, fine-grained regional level data is usually scarce. This particular aspect has been highlighted throughout the text as one of the main caveats of the proposed conceptual framework—as well as of any other alternative framework aiming to deal with the measurement of cohesion and social inclusion at regional level. On a related note, given that indicators cannot capture the full reality and its complexity, a reasonable strategy would be to carry out more descriptive and qualitative assessments in parallel, in order to present them alongside the quantitative and statistical analyses.

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