

**Using well-being indicators for policy making:
Region of Sardinia, Italy**

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Executive summary

Overview of well-being outcomes

- In international comparisons, Sardinia ranks high in environment, health and safety; civic engagement; and access to services, but low in income, jobs, housing and education.
- Rural internal areas suffer from ageing and depopulation. Inequalities among different territories of the region can be high in terms of well-being outcomes: income, education and access to services.

Framework for measuring well-being in Sardinia

- Well-being measures are being introduced in the regional programming of the 2014-20 European and national Cohesion Policy that foresees approximately EUR 4 490 million of public investment in Sardinia. The regional development plan covers virtually all of the well-being dimensions, with a focus on improving jobs and the competitiveness of firms.
- Sardinia can make use of past practices of using well-being indicators to improve the delivery of results and increase the accountability of policy making. It can also rely on statistics and knowledge on well-being outcomes and ways to improve them, coming from different national and regional initiatives (*Obiettivi di servizio*).

Strengths and opportunities for using well-being metrics in Sardinia

- Good institutional dialogue has been established with socio-economic partners, who can help gather citizens' needs and expectations.
- Sardinia has experienced innovative practices in the regional public administration (budget rules, one-stop shop for enterprises) and positive results in improving service delivery (for example, waste management and broadband connections). Lessons learnt from these experiences should more clearly be part of the *ex ante* evaluation of the well-being agenda.

Challenges and constraints for using well-being metrics in Sardinia

- Aligning objectives and responsibilities across the different levels of government remains challenging. A re-organisation of responsibilities and functions between the region and the municipalities should be considered, in particular given the small size of municipalities.
- A stronger political engagement for achieving some measurable objectives of well-being could strengthen the process and help overcome the difficulty for engaging citizens.
- Some bottlenecks in the internal process of the public administration may reduce the efficiency of a result-oriented public policy. For example, a reform of the regional public administration structure has not followed the budget reform, and the management of the incentives to firms remains fragmented.

What's next

- Sardinia needs to build a shared ownership of its well-being agenda. In order to do so, many stakeholders should be on board – to integrate technical capacity, local knowledge, policy and programming responsibility. Finally, engaging citizens and bringing the well-being metrics to the political agenda will be crucial to increase the legitimacy of the well-being agenda.

Introduction¹

The region of Sardinia has started measuring well-being to support regional policy, in particular to improve the design and implementation of the EU and national Cohesion Policy. While the experience is still at its inception, it illustrates the ways in which regional well-being metrics can help OECD regions to improve the design and delivery of public policy. First, well-being indicators provide a comprehensive picture of material and quality of life in Sardinia, showcasing the region's strengths – for example environment – and weaknesses – for example jobs – compared to the other OECD regions. Second, well-being measures can raise social awareness of policy objectives or specific issues. Third, they can help prioritise policy, highlighting where interventions are needed, as is the case of education in Sardinia. Finally, using well-being measures can help build more coherent policies across sectors, through more effective co-ordination and citizen engagement.

The experience of Sardinia in the use of well-being indicators to guide public choices can highlight common challenges in policy implementation and can serve as input for other regions, in particular in the programming of the 2014-20 EU Cohesion Policy (Box 1).

Sardinia is one of the two main islands in Italy and hosts around 1.6 million people. It is characterised by low population density (around one-third of the national value), and is home to two cities with a population larger than 50 000 and many small municipalities. Internal rural areas experience ageing, de-population and low accessibility to transport and services. The regional GDP per capita is around 76% of the national value and both output and employment have decreased since 2008. The economy of the region relies mainly on the tertiary sector (80% of regional GDP), and the public sector alone represented almost 30% of the regional GDP. The industrial base is characterised by a large number of micro firms (less than ten employees) oriented towards traditional sectors and low propensity to innovation: R&D expenditure and patents represented less than 1% of the national values in 2010 (OECD, 2013a). As other regions in the southern part of Italy, the economic trajectory of the region was heavily influenced by national and European public incentive schemes. However, public direct investment represented only 2.8% of the regional GDP in 2011 (Department for Economic Development and Cohesion, 2013).

The administrative structure of Sardinia has 3 tiers of government: the region, 8 provinces and 377 municipalities. The region is governed by an elected body, the regional government, which holds a five-year mandate (the most recent elections were held in February 2014). The region has substantial strategic autonomy and political power to play an important role in the economy by shaping local institutions and allocating the financial resources it directly and indirectly commands.²

Previous experiences of using outcomes indicators to measure the results of public policy in Sardinia suggest that the availability of socio-economic measures that are comparable across areas and regions can act as a catalyst for policy makers, spur public support for action and create a mechanism for prioritising resources. At the same time, great importance should be given to understanding the conditions for sound policy implementation and the ways to intervene, including through public deliberation and alignment of objectives among different levels of government.

Box 1. How can the measurement of regional well-being improve policy making?

Adopting well-being metrics can improve the design and delivery of policies in regions and cities along four directions.

First, they provide a comprehensive picture of material conditions and quality of life in regions, making it possible to assess whether economic growth translates also into better non-economic outcomes (in terms of health, environmental quality, education, etc.) and whether progress is shared across population groups and places. Spatial concentration of advantages or disadvantages varies strongly at various territorial scales and different sources of inequality can reinforce one another, locking households and communities into circumstances that make it particularly hard for them to improve their life chances.

Second, well-being metrics can raise social awareness on policy objectives or specific issues, promote policy change and increase accountability of governments.

Third, they can help prioritise policy interventions by recognising where improvements are needed; knowledge of local conditions can also help policy makers to identify potential synergies among different dimensions that can be leveraged by policy and to better understand citizens' preferences.

Fourth, well-being metrics can improve the coherence of policies. Many of the important interactions among sectoral policies are location specific. For instance, integrating land-use, transport and economic development planning can contribute to outcomes that are greener (increasing reliance on public transport), more equitable (improving access to labour markets for disadvantaged areas) and more efficient (reducing congestion, commuting times, etc.). The complementarities among different strands of policy are likely to be most evident – and the trade-offs among them most readily manageable – where they occur, in specific places. More coherent policies can be designed and implemented through effective co-ordination across different levels of government and jurisdictions. They also need to engage citizens in the design (to better understand their needs) and in the implementation (to use citizens' capacity to bring change), in turn to increase the legitimacy of policies and support of policy objectives. Designing coherent policies requires policy makers to consider the trade-offs and complementarities involved in both the objectives they aim to target and the channels through which they do so.

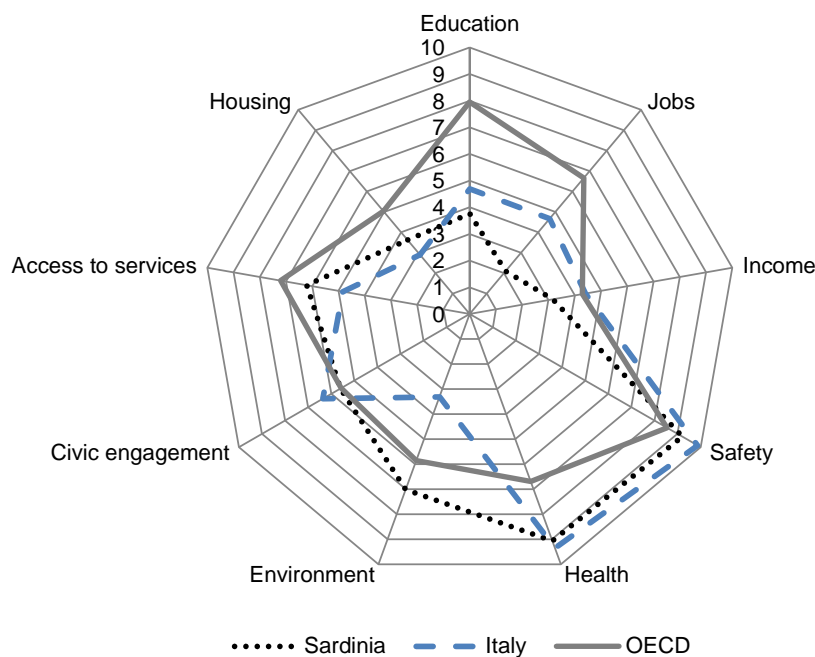
*Source: OECD (2014) *How's Life in Your Region? Measuring Regional and Local Well-Being for Policy Making*, OECD Publishing, Paris.*

This case study is organised in four sections. First, it offers an overview of well-being outcomes in Sardinia, according to the common OECD *How's Life in Your Region* framework complemented with further analysis (OECD, 2014a). Second, it describes the well-being framework developed by Sardinia and puts forward some features that could be included to strengthen it. Third, it explores how regional well-being indicators are being developed, communicated and used for policy design and implementation in Sardinia. It concludes with a set of possible recommendations for strengthening the regional well-being measurement initiative in Sardinia that could be useful to other Italian regions wanting to develop well-being metrics for policy making.

Overview of well-being outcomes in Sardinia

Sardinia's well-being outcomes have been assessed along the nine dimensions of the OECD regional well-being indicator set that includes both material conditions and quality of life (OECD, 2014a). Sardinia scores lower than the OECD and national averages in material conditions, such as income, jobs and housing, but also in education. Regarding quality of life, however, environment and access to services (broadband connection) are above the national values; outcomes in health and civic engagement are above the OECD average although below the national one; and safety is below the national average and very close to the OECD average (Figure 1 and Table 1).

Figure 1. Sardinia's well-being outcomes, 2013



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Notes: Each well-being dimension is measured by one or the average of two indicators. Indicators are normalized to range between 10 (best) and 0 according to the following formula: (indicator value – minimum value across all OECD regions)/(maximum value across all OECD regions – minimum value across all OECD regions) multiplied by 10. In cases where high values of an indicator mean worse well-being (for example unemployment), the indicator is normalized with the same formula subtracted to 10.

Source: OECD (2014), Regional Well-Being (database), [www.oecdregionalwellbeing.org](http://dx.doi.org/10.1787/region-data-en); <http://dx.doi.org/10.1787/region-data-en>.

With respect to the early 2000s, the relative position of Sardinia *vis-a-vis* the other 361 OECD regions has improved in most of the well-being categories, the only exceptions are income and civic engagement, where the regional ranking has gotten worse (Table 1). Table 1 provides a snapshot of well-being outcomes using a limited set of indicators; the following paragraphs will delve into each well-being category to provide a more detailed picture of well-being outcomes in Sardinia.

Table 1. **How does Sardinia rank in well-being in Italy and among OECD regions?**

	Score (out of 10)	Rank among 21 Italian regions	Rank among 362 OECD regions	Change in the ranking among OECD regions since 2000	Indicators used
Income	3.2	16	Bottom 36%	Worsened	Household disposable income
Jobs	2.1	16	Bottom 8%	Improved	Employment rate Unemployment rate
Health	9.1	14	Top 13%	Improved	Mortality rate Life expectancy
Education	3.8	21	Bottom 20%	Improved	Labour force with at least secondary education
Environment	7	1	Top 35%	Improved	Air quality
Access to services	6.2	9	Bottom 33%	Improved	Household broadband access
Safety	9.2	17	Top 35%	Improved	Murder rate
Civic engagement	5.6	18	Top 50%	Worsened	Voter turnout
Housing	3.6	3	Bottom 43%	Not available	Number of rooms per person

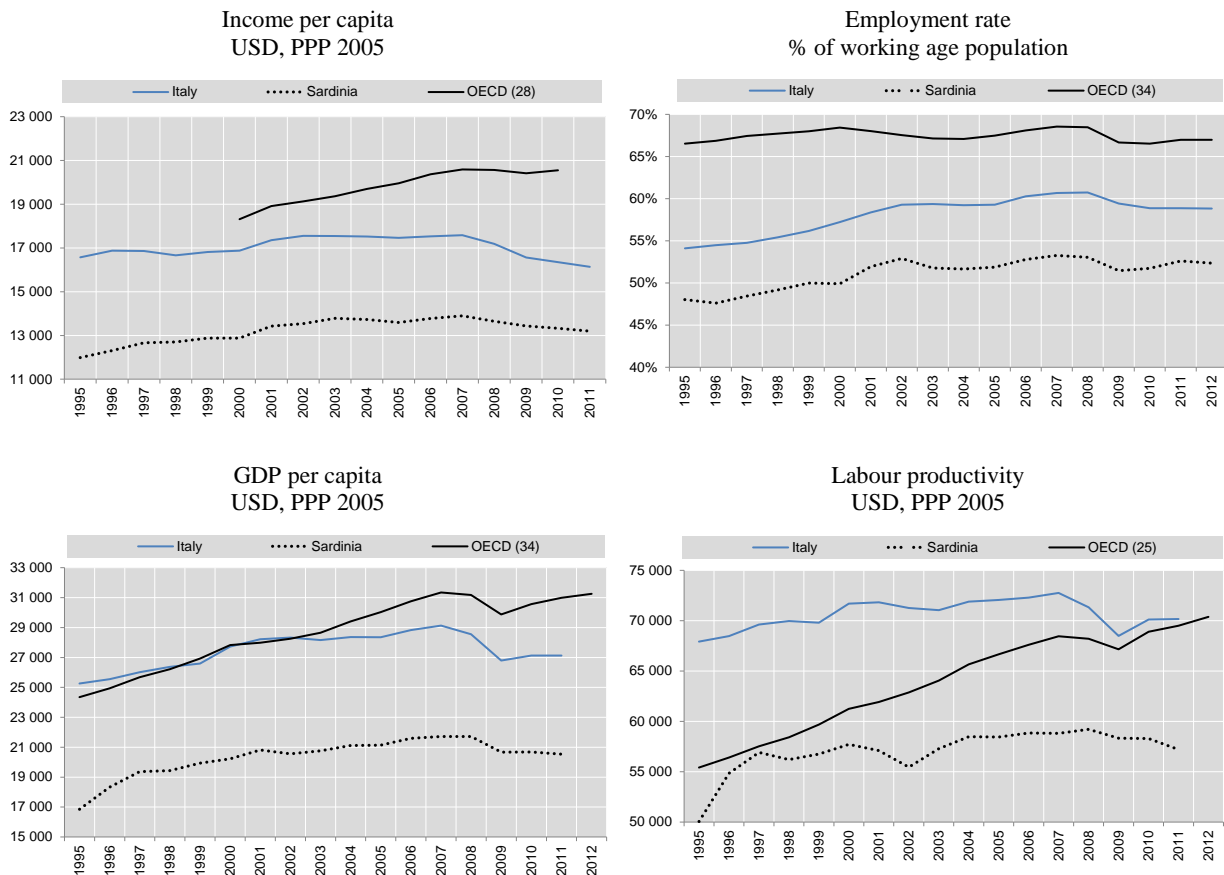
Source: OECD (2014), Regional Well-Being (database), www.oecdregionalwellbeing.org; <http://dx.doi.org/10.1787/region-data-en>.

Income levels in Sardinia are lower than the national average

Real gross domestic product (GDP) per capita growth in Sardinia averaged 0.16% per year in the period 2001-11. Even if growth in Italy was, on average, negative in the same period, Sardinia has not reduced its gap with the rest of the country significantly since the early 2000s: the GDP per capita of the region was 73% of the national average in 2002 and 76% in 2011. Gains in labour productivity (measured as the ratio between GDP and total employment at place of work) were registered between 2003 and 2008 but were lost in the following years. The labour productivity in 2011 stood at USD 57 200, very close to the value in 2003, and the employment rate in 2011 was only 0.8% higher than in 2003 (Figure 2). In 2012, export in Sardinia increased, essentially due to the increases both in the value and the quantity of products from oil refining (Banca d'Italia, 2013). However, the value added of industry, excluding the oil sector, has been steadily decreasing since 2008, at 10% in 2011. Regional and domestic demand has worsened in recent years following the economic crisis, revealing the long-standing crisis of industry in Sardinia.

Income levels in Sardinia are low compared to the country and OECD averages. Compared to GDP per capita, household disposable income is a more appropriated measure of the maximum amount that a household can afford to spend on consumption goods or services without having to reduce its financial or non-financial assets or by increasing its liabilities.³ As such, income is an important component of individual well-being as it allows people to satisfy their basic needs and meet other purposes that are important for their lives. In 2011, the average household disposable income per capita in Sardinia stood at USD 13 200, the 6th worst among Italian regions, below the national average (USD 16 139 at constant prices and constant PPP) and the OECD average (USD 20 553)⁴ (Figure 2). Compared to 2009, the household disposable income in Sardinia has decreased by 1.7%, less than the decrease of 2.7% in Italy (Istat, 2014). The relative ranking of Sardinia compared to the OECD regions has remained the same since the early 2000s.

Figure 2. Material conditions in Sardinia, Italy and OECD (1995-2012)

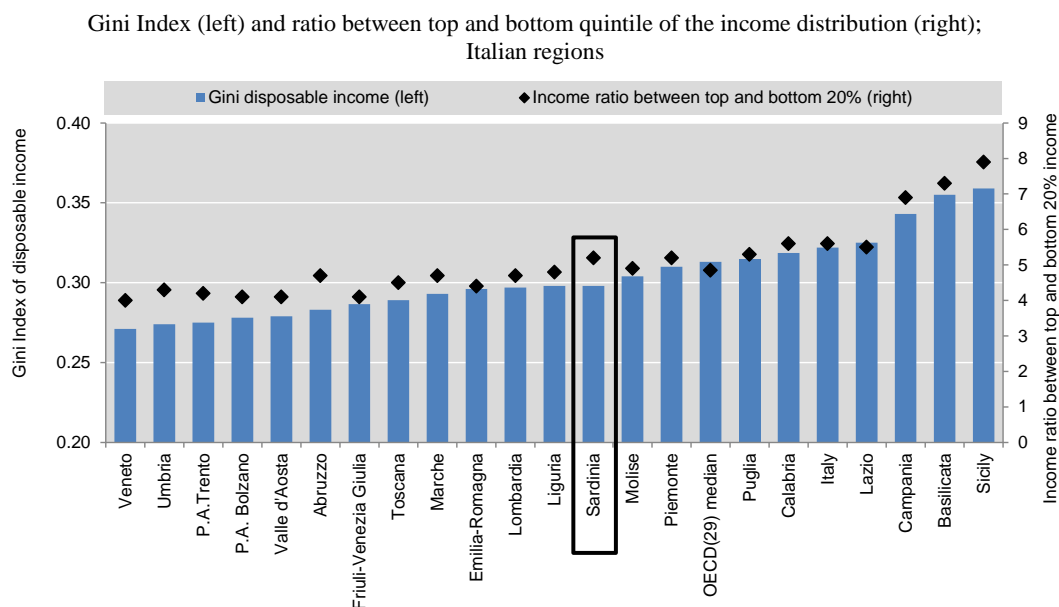


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Notes: Real GDP per capita is converted in USD using constant 2005 PPP. Labour productivity is computed as the ratio between GDP and total employment by place of work. The OECD figure of labour productivity includes 25 countries for lack of comparable data on employment at place of work in the remaining nine countries. The OECD figure on income includes 28 countries.

Source: OECD (2014), *OECD Regional Statistics* (database), <http://dx.doi.org/region-data-en>; and Istat.

Income inequalities within the region are in line with the national ones. In addition to the average material living standards, household income inequalities are another element that can affect the overall level of cohesion and well-being in places. Income inequality is high in Italy. Based on international comparisons, it has the 6th highest value among OECD countries (OECD, 2011a). Moreover, income disparities are also high between and within regions in Italy, especially in the south of Italy, which is characterised by lower levels of income and higher inequalities. However, in Sardinia, the Gini Index of disposable income is slightly below the national and the OECD median values. When considering another measure of income distribution, the disposable income of the 20% richest households in Sardinia is five times higher than the income of the poorest 20%, in line with the OECD median value and below the national value (Figure 3).

Figure 3. **Income inequality in Sardinia, 2011**

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Note: OECD median includes 29 countries.

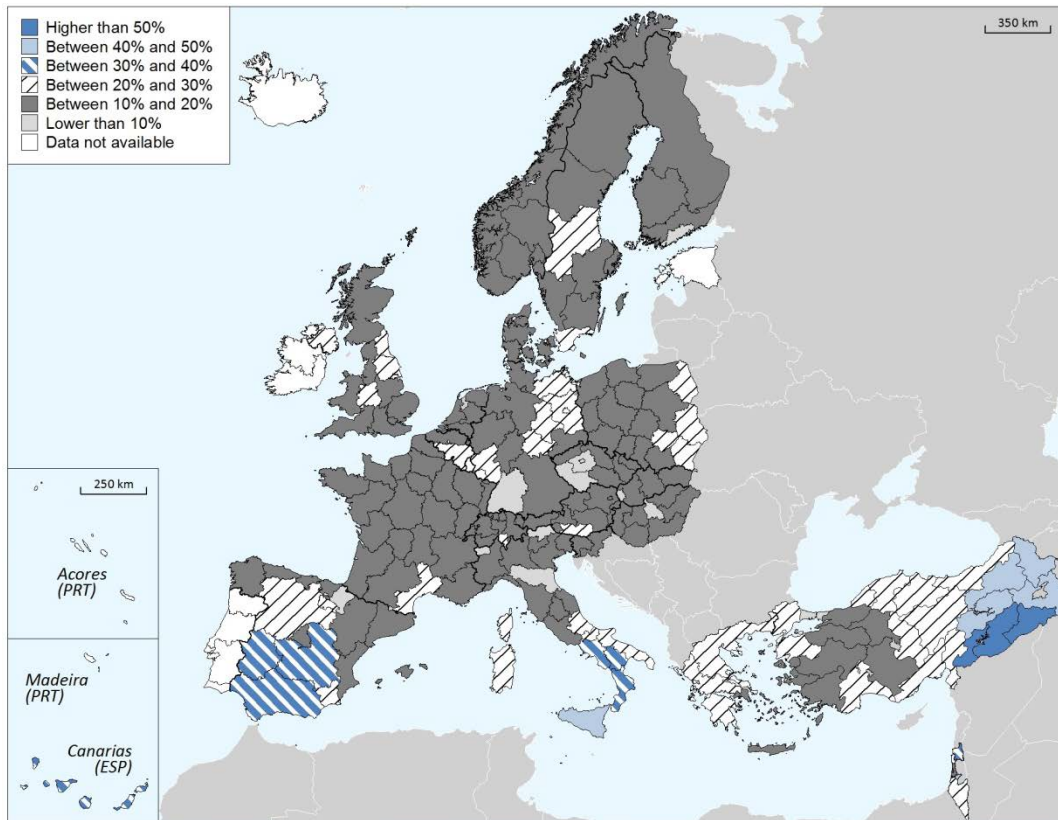
Source: Own calculations for OECD (2014), *How's Life in Your Region? Measuring Regional and Local Well-Being for Policy Making*, OECD Publishing, Paris, from the *OECD Income Distribution Database*.

The share of people at risk of poverty, here defined as the share of people with income less than 60% of the national disposable median income, reached 22% in 2011 (Figure 4). This value is higher than the median of OECD regions (18%) and the national value (20%), although much lower than in the other southern regions of Italy such as Calabria, Campania and Sicily. Poverty rates have been on the rise in Italy in recent years following the economic crisis. The traditionally higher levels of poverty in the south of Italy highlight the strong association between poverty and low educational levels, and between low-skilled jobs and unemployment, all phenomena with a higher incidence in the *Mezzogiorno*⁵ (Istat, 2013). Estimates of the territorial distribution of poverty within Sardinia indicate a relative advantage of the major urban centres and a greater disadvantage of the internal areas (Sistema informativo IDMS, 2011).

Labour market performance is weak with women and youth very vulnerable

Looking at the eight well-being dimensions considered, Sardinia scores the worst in jobs (2.1), with a value among the bottom 10% of all OECD regions (Table 1). In international comparisons, Italy combines a low score on the jobs dimension (25th out of the 34 OECD countries) with the largest disparities across regions. The availability of jobs and their quality are important aspects of well-being not only as a generator of income but also because having a job helps people feel connected with others, and improves their competencies and skills. The employment rate in Sardinia has been decreasing since 2008 and was equal to 52.4% in 2012, almost 6 percentage points lower than Italy and 15 percentage points lower than the OECD area (Figure 2). While employment recovered in the biennium 2009-11 almost to its pre-crisis level of 2007, it then declined again in 2012: the improvement was essentially due to workers

Figure 4. Regional relative poverty rates in Europe, 2010



Note: This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area. Poverty headcounts with poverty line defined at 60% of the national median income. For a full picture of OECD regions, see OECD (2014a).

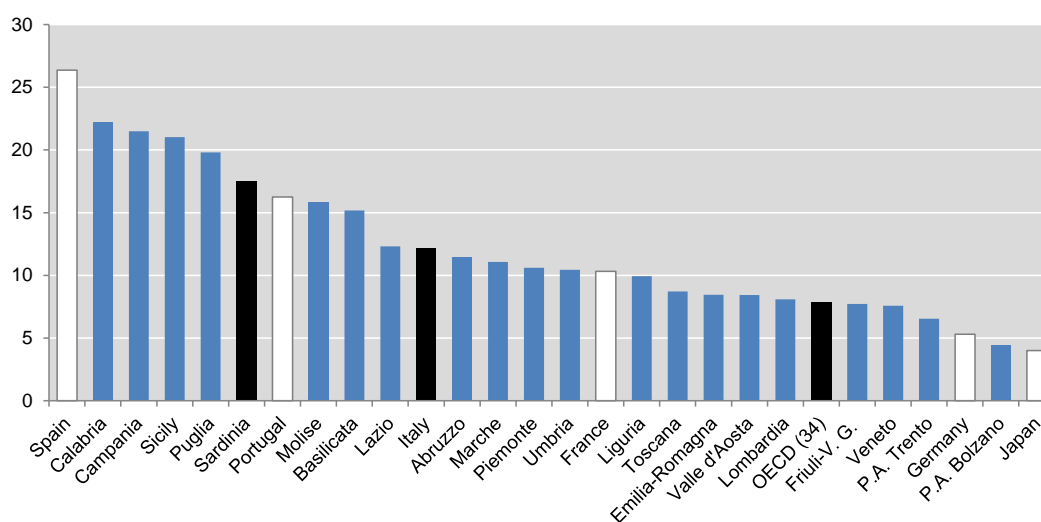
Source: Own calculations for OECD (2014), *How's Life in Your Region? Measuring Regional and Local Well-Being for Policy Making*, OECD Publishing, Paris from the *OECD Income Distribution Database*.

aged 55-64 years while the rate of youth employment (18-25 years) continued to decrease. Female employment has been steadily increasing, from 29% in 1999 to 46% in 2012. However, the value is still below the national average of 50.5% and well below the OECD average of 57%. Unemployment rates have been soaring in many OECD countries since 2008. Italy has the 6th highest unemployment rate among OECD countries, at 12.2% in 2013 (OECD, 2014b). The regional divide between the southern and northern regions is very strong, with unemployment rates in Campania, Calabria and Sicily higher than 20% (close to the value of Spain), whereas Friuli, Bolzano, Trento or Veneto score below 8% (closer to the unemployment rates of Germany or Japan). In Sardinia, the unemployment rate is higher than in Italy: 17.5% compared to 12.2% in 2013 (Figure 5). Italian youth represent one of the most vulnerable groups in the labour market in Italy: in 2012, one out of three people aged 15-24 years was unemployed, the highest value since 1977; the share of youth neither in education or training nor employed (so-called NEET) jumped from 19.5% in 2009 to 22.7% in 2012. In Sardinia, the youth unemployment rate reached 47.3% in 2012.

Sustaining strong employment requires improving educational attainment

There are several mechanisms through which education can affect well-being. First, education per se has a value that directly benefits individuals, responding to the need to learn (OECD, 2011b). By investing in education, people develop skills, many of which are important for having a good life, such as carrying out activities that bring satisfaction (Scitovski, 1976). Education is also strongly linked with many other well-being dimensions. For example, higher education can increase health, not only through a better income and employment conditions, but also by affecting people's behaviours (Cutler and Lleras-Muney, 2006). Literature also documents that higher levels of educational attainment are associated with higher civic engagement (see, for example, Milligan et al., 2004). Besides private returns, moreover, education has important social returns, which affect the overall productivity of places, reduce crime rates and increase civic engagement and social cohesion (Moretti, 2004).

Figure 5. Unemployment rate in Italian regions and selected OECD countries, 2013



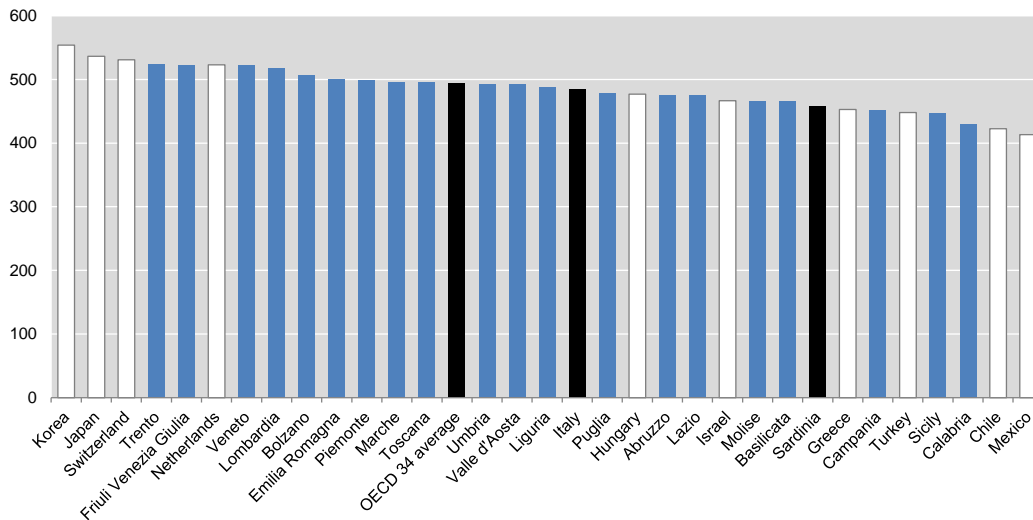
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Note: In white, selected OECD countries; in blue, Italian regions.

Source: OECD (2014), *OECD Regional Statistics* (database), <http://dx.doi.org/region-data-en>.

Looking at quality of life dimensions, education is the one where Sardinia scores the lowest. In 2012, the share of the labour force with at least a secondary education was 54%, the lowest value in Italy and among the bottom 20% of OECD regions. Although the share of the labour force with a secondary education has increased, from 45% in 2000, still one-fourth of Sardinia's young people (aged 18-24) had dropped-out after mandatory schooling in 2012, compared to 17% in Italy. Quality of education, in addition to coverage, should also be monitored. According to the latest OECD PISA results, student achievements in mathematics in Sardinia appear to be among the lowest in Italy (only above Campania, Sicily and Calabria) and among OECD countries (slightly above Greece and Turkey) (Figure 6).

Figure 6. Average PISA scores in mathematics in Italian regions and selected countries, 2012



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Note: In white, selected OECD countries; in blue, Italian regions. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: PISA 2012 database.

Health outcomes are high, but satisfaction with health services needs to be monitored

Sardinia enjoys high life expectancy at birth (82.1 years) and a low mortality rate (7.4 per 1 000 people), among the best 15% of OECD regions for both indicators. The main causes of death are tumours and cardio-vascular diseases whose values are slightly higher than the national average. The share of families that have declared difficulties in reaching the emergency care was in line with the national average (55.4%); however, the share of families declaring they were very satisfied with the quality of the medical assistance in the hospital (36.3%) and with the opening hours of the territorial healthcare facilities (36.3%) are lower than the corresponding national averages (Istat, 2012). Recently, the regional health system has developed an online platform where citizens can monitor in real time the number of patients in all the emergency care hospitals of the region. Information on the seriousness of emergency being treated at the moment is given and, on the base of it, the estimated waiting time for new patients.

Sardinia is a safe region, although the perception of security has deteriorated in Italy in recent years

Personal security is the extent to which people feel safe and secure from personal harm or crime. Crime has, of course, a huge direct and often long-lasting effect on victims. However, it can also strongly affect the well-being (e.g. mental health) of those who are not victims but that live in the same community (Cornaglia and Leigh, 2011). Crime and insecurity are associated to other well-being dimensions, such as education, income, access to jobs and social connections. Any meaningful measure of the cost of crime should consider the distribution across crime categories and cost items (Alda and Cuesta, 2011). Besides direct health and private security costs, previous attempts to

measure the economic and social cost of crime include several external effects, such as the erosion of human and social capital, a worse business climate and a high allocation of public resources away from more productive uses (OECD/IMCO, 2013). Indicators of security are also increasingly included in international measurement of competitiveness, such as in the World Economic Forum's *Global Competitiveness Report*. Yet the relationship between crime and other well-being outcomes is a complex one, especially when looking for causal associations.

Measuring the number of homicides, Italy is the 8th safest OECD country and Sardinia ranks among the top 35% OECD regions. However, the homicide rate of 1.3 per 100 000 people is the 5th highest among Italian regions (Table 1). It is worth noting that in Sardinia, the perception of safety, an important aspect of security, is among the highest in Italy. In 2009, 71.4% of Sardinia's citizens felt relatively safe to walk alone in the dark, 12 percentage points higher than the national average; 7.4% declared to be worried of being potentially the victim of a crime (theft or assault) compared to 10.6% in Italy; and 12.9% declared perceiving social distress in their municipality of residence compared to 15.6% in Italy (Istat-Cnel BES, 2013).

The level of safety can also affect the overall well-being perceived in a given place through its relationship with public trust. Trust is a keystone of good governance, an important factor influencing the functioning of the markets, economic growth and well-being of people (OECD, 2000). In Italy, both the perception of safety and public trust (towards different institutions and political parties) decreased between 2002 and 2012. Both subjective and objective measures of personal safety in Italian regions are positively associated to the level of trust. As shown in Figure 7, the higher the share of people feeling safe to walk alone in the dark, the higher the trust in the local public authorities (correlation 0.6). Similar relationships were also found between public trust in local authorities and the number of homicides or the perception of social distress in the area.

Internationally comparable indicators of civic participation are limited to voter participation in national elections. According to this indicator, Sardinia ranks among the top 40% of OECD regions, but the second to last among Italian regions (Table 1). National statistics with regional detail that cover other aspects of the civic participation and governance dimensions are available through the Survey *Aspetti della vita quotidiana* (Multipurpose Survey on Households: Aspects of Daily Life), carried out annually by the National Institute for Statistics (Istat). These include, for example, civic and political participation, the share of women in public administrations, and trust in various institutions, which could be added to the well-being metrics developed by Sardinia. In all these indicators, Sardinia ranks below the national average with the exception of civic and political participation. On the other hand, objective or subjective measures of corruption are currently lacking in Italy.

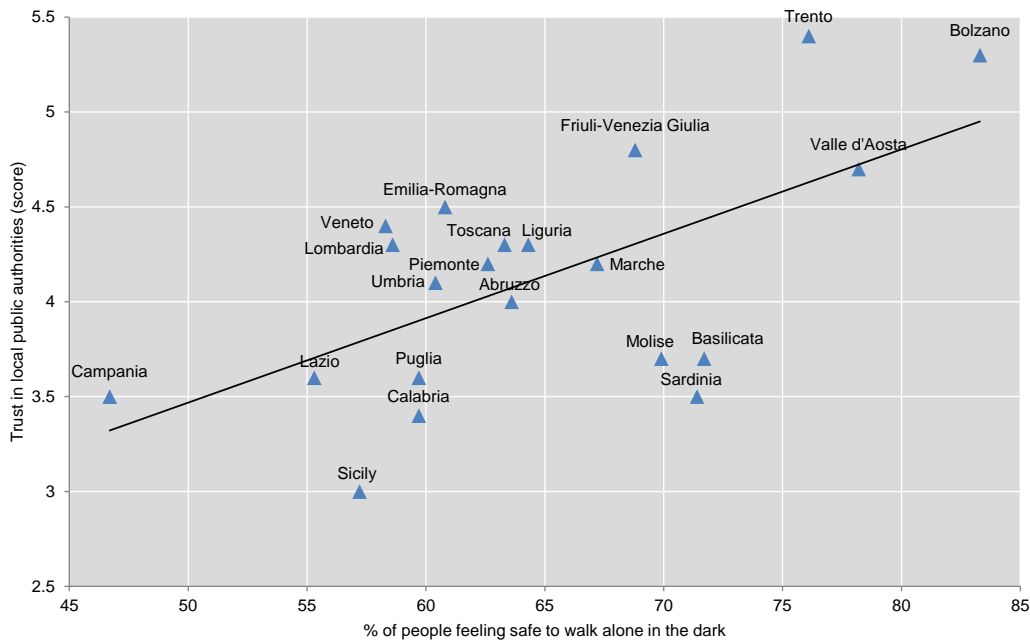
Environmental quality has improved quickly in some outcomes

Environmental outcomes and quality of environmental services, generally good in Sardinia, have a strong impact on current and future well-being. Air quality is very good in Sardinia according to international comparisons. New estimates show the concentration of particulate matter (PM_{2.5}) in Sardinia was the lowest in Italy in 2012.⁶ Local air pollution, however, is of particular concern in the areas of closed mines (Sulcis, Iglesias). While Sardinia distinguishes itself for the quality of the coastal and interior landscape as well as climate, the environmental quality is challenged in many aspects.

More than 80% of energy in Sardinia comes from oil and carbon and the potential for using renewable energy (wind, sun) has not yet been exploited. CO₂ emissions per capita have not significantly improved in the 2000s and Sardinia had the 6th highest level among Italian regions in 2008 (OECD, 2013a).

Figure 7. Perception of safety and public trust

The share of people who feel safe is positively associated to the share of people who trust local public authorities



StatLink  <http://dx.doi.org/10.1787/888933145911>

Note: Trust in local authorities is measured with an average score ranging between 0 (lowest trust) and 10 (highest trust).

Source: Authors' elaborations based on Istat *Indagine aspetti della vita quotidiana* (2012) and *Indagine sulla sicurezza dei cittadini* (2009).

The richness of Sardinia's ecosystem and landscape, crucial also to the development of tourism, needs to be preserved. Hydrogeological risk (soil erosion) and fires are among the main environmental issues threatening the region, while the fast rate of urbanised land around some municipalities (Olbia, Alghero) adds environmental pressure to the coast. Regarding waste management, large improvements have been made in the past ten years. Today, almost 50% of urban waste is recycled compared to less than 5% in 2003; waste landfill was halved and more than 70% of bio-waste is now treated through composting (Department for Economic Development and Cohesion, 2014). However, regarding water quality, the share of people served by wastewater treatment, equal to 83% (61% for people in urban areas) in 2012, has not increased significantly since 2005, although this value is the highest in *Mezzogiorno*. Losses in the water distribution network were still very high in 2012, around 55%, and the efficiency of the distribution network seems to have worsened since 2005 (Department for Economic Development and Cohesion, 2014).

Broadband connection has improved dramatically in Sardinia in recent years

Individual well-being is strongly connected to the availability and quality of services accessible where people live. The access to services comprises three aspects. Physical accessibility refers to the ability to reach the place where the service is provided; economic accessibility refers to the extent to which the service is affordable, since the lack or low quality of it harms poorer people who cannot afford alternatives; institutional access accounts for constraints imposed by the institutional environment, such as laws, regulations, values, knowledge, etc. (OECD, 2014a). The access to services is a significant dimension of regional well-being as the territorial distribution of people and service points can make national averages misleading. Public transport is an example of public service that is available to different extents across space (differences across regions, between urban and rural areas, etc.). Another example is the access to IT services, which in turn is connected to access to knowledge. In 2013, 70% of households in Sardinia had access to broadband Internet services, above the national average of 68%. This indicator has increased rapidly since 2007, when it was 25% in Sardinia and Italy (Table 1).

Regional framework for measuring well-being

Rationale for measuring well-being

In Sardinia, the Regional Development Plan (*Programma Regionale di Sviluppo*) sets out the strategic vision of the regional government at the beginning of its mandate, identifying the major objectives and financial resources for the following five years, and represents the general framework for all the programming documents issued by the region. Many well-being dimensions are addressed in the 2009-14 Regional Development Plan, namely income, jobs, health and environment, although without an explicit approach to adopting well-being metrics to policy making. The Regional Development Plan for the period 2014-19 will be approved in September 2014.

The Regional Planning Centre (CRP), which is part of the regional administration and acts as the co-ordinating authority of the EU Cohesion Policy in Sardinia, has convened a reflection with various stakeholders and the OECD to bring well-being to the centre of Cohesion Policy and orient local development towards shared objectives of improved quality of life.⁷

The CRP's approach to measuring well-being attempts to respond to three main objectives: *i)* to orient the programming of the 2014-20 Cohesion Policy towards measurable results; *ii)* to broaden the dialogue with stakeholders to implement a more coherent policy for the region; and *iii)* to make better use of the available statistical information, including the recently developed Index of Multi-Deprivation for Municipalities.

First, well-being measures are introduced to orient Cohesion Policy in the region towards measurable and verifiable results. The Regional Strategic Document (DUS, *Documento Unico Strategico*, 2013) approved by the regional government in September 2013, is the main instrument for the economic and financial programming of the 2014-20 EU Cohesion Policy. For its implementation, EUR 4 490 million of national and European funds will be allocated. It encompasses a comprehensive strategy around 11 broad policy themes. For each theme, a description of the expected results and actions for pursuing them are included, as well as a list of indicators to measure the results. While the introduction of expected results and indicators in the Regional Strategic Document represents a commitment towards a more transparent and evidence-based policy, the set of indicators is still large, without a clear prioritisation according to the policy choices. Moreover, the set mixes both indicators measuring the expected results (for example, the “share of young neither employed nor in education or training”, NEET) and indicators measuring input or output of policy interventions (for example, the “share of firms that have training programmes targeted to young”); finally, some indicators are still unavailable and thus a diagnosis based on them is currently not possible.

With the exception of housing, all the well-being dimensions included in the OECD Regional Well-Being Framework are included in the DUS. The approach seems to focus on the economic aspects of well-being, in particular on jobs and the competitiveness of small firms, and to the links between inequalities and growth. The poor results on education are to be monitored also in view of the positive impact that their improvement could have on the region's competitiveness.

EU Cohesion Policy emphasises the role of indicators as policy tools for the 2014-20 programming period, suggesting that a more results-oriented approach for EU funding can be met by clearly stating and quantifying expected results. Regional governments, in

charge of EU Cohesion programmes are required to identify results, and the outcome indicators that measure progress towards the expected results, and monitor their change during implementation. According to this framework, result indicators should drive the choice of policy actions more strictly than in the past (Barca and McCann, 2011).

Within the frame set by EU regulations, the Department for Economic Development and Cohesion (DPS), which is the Italian national co-ordinating authority, has co-ordinated a reflection with the regional authorities, institutional and socio-economic stakeholders, to identify a range of relevant expected results and indicators, as well as possible actions to achieve those results. This exercise produced a list of expected results, indicators and actions which were included in the national programming document, the Partnership Agreement, submitted by the Italian government to the European Commission.⁸ At the same time, the region started its own programming process, involving all relevant partners at the local level in order to identify regional priorities. During the negotiation, the national and regional processes interacted and led to a common set of objectives and indicators at national level in the Partnership Agreement and subsets at regional level in the Operational Programme, which should better reflect the needs and the challenges of each region (Ministro Coesione Territoriale, 2012).

The need to identify objectives and indicators that clearly measure intended change, as the new EU paradigm foresees, is a great challenge for regional authorities designing programmes in Italy as well as in other OECD countries. The results of a pilot test carried out by the European Commission of 23 regional programmes in 15 countries underline a very limited use of result indicators and recommend concentrating resources on a few objectives where effects can be measured through quantitative or qualitative targets. To make choices and concentrate action, the European Commission emphasises the need to carry out a deliberative process, with the involvement of a wide range of stakeholders, including the political level and of civil society (European Commission, 2013).

Second, the regional well-being agenda can be a way to link policies in a coherent development strategy for the region. The Regional Planning Centre aims at engaging a wide range of stakeholders to identify actions and responsibilities towards agreed upon well-being objectives. While the consultation has started within the Cohesion Policy framework, it should move beyond it to ensure a comprehensive and participatory approach. A deliberative approach can help prioritise policy actions and select projects that reflect citizen preferences and aspirations.

The region of Sardinia has important responsibilities in terms of provision of public goods and services, which play a crucial role in affecting citizens' well-being as well as the conditions in which firms operate. Social protection, health, general administration and education represent about 70% of the total public expenditure in Sardinia (Table 2). Current expenditure represents 88% of the total expenditure, which was around EUR 12 687 per capita on average in 2009-12, almost EUR 200 lower than the average value for the country. The main economic sectors of investment (capital expenditure) are social protection and health (Ministry of Economic Development, 2013).

Previous experiences show the importance of bringing citizens and other stakeholders closer to policy making and to evaluating the capacity of policy to deliver results. Sardinia was engaged in a performance scheme to improve well-being in four dimensions (education, water, waste, and elderly and child care) through a system of measurable and agreed outcomes referred to as *Obiettivi di servizio* (Box 2). Improvements in the areas of waste management and child and elderly care were significant. For example, the amount of urban waste landfilled was halved, while the share of recycled urban waste increased

from 27% to 48% in five years. The improvements in the waste cycle management of the past years are recognised as a success story of engaging institutions, private sectors and civil society around clear and measurable objectives and identifying the actions to pursue these objectives. On the other hand, no significant changes were registered in water management and poor results were obtained on education. The percentage of youth without a secondary school diploma actually increased in the period, reaching 25%, and the share of 15-year old students with poor competencies stayed at around 28% according to the latest two rounds of the OECD PISA Survey (whereas the value for Italy is 19%). Difficulties in the alignment of objectives across different levels of government and institutions were mentioned as the main cause of the poor results on the fight against school drop-outs.

Table 2. Public expenditure in Sardinia and main sectors of expenditure, average 2009-12

Public expenditure	EUR per capita	% GDP	Main expenditure sectors	EUR per capita	% of total expenditure
Current expenditure	11 165	56.6%	Social protection and wage integrations	4 566	36%
Capital expenditure	1 522	7.7%	Health	1 790	14.1%
Total expenditure Sardinia	12 687	64.3%	General administration	1 535	12.1%
			Education	974	7.7%
Total public expenditure Italy	12 871	49.9%	Sardinia's public expenditure in the 4 sectors	8 865	69.9%

Source: Department for Economic Development and Cohesion (DPS) (2013), *Conti Pubblici Territoriali*, Rome.

Box 2. Using indicators to improve policy delivery: The case of *Obiettivi di servizio* in Italy

Obiettivi di servizio is a performance scheme, targeted to eight Italian regions, and introduced in the 2007-13 Italian implementation of EU Cohesion Policy. According to the scheme, regional authorities of the eight southern regions were asked to achieve minimum standards in four policy areas where the level and quality of public services were lagging behind other areas of the country.

The four policy areas are education, child and elderly care, waste management and water service. A set of 11 indicators is used to measure the starting point and monitor the progress at regional level in these 4 policy areas. For each indicator, a target for 2013 was set at the same level for all regions (see www.dps.tesoro.it/obiettivi_servizio for the list of indicators and targets). The indicators are expressed as improvements in citizen well-being and the performance framework was conceived to help regional authorities design programmes and select projects by focusing on the improvement of results in key well-being dimensions.

Prior to starting the performance scheme, the ministry co-ordinating regional policy (Ministry of Economic Development, Department for Economic Development and Cohesion) set up a deliberative process to identify the four policy areas and the statistical indicators, engaging the National Institute for Statistics (Istat) and national and regional authorities. Many stakeholders were consulted, including associations of service providers, representatives of local authorities, data providers and socio-economic partners. Such a deliberative process was considered essential to increase the public's understanding of the performance scheme and the accountability of those directly or indirectly responsible for the delivery of services. Indeed, the analysis and discussion on possible alternative indicators made participants aware of the strengths and weaknesses of each option and gave indications on the links between policy areas (Brezzi and Utili, 2007).

Box 2. Using indicators to improve policy delivery: The case of *Obiettivi di servizio* in Italy (cont.)

Once the performance framework was set up, regional authorities were asked to draft an action plan, encompassing the whole range of actions needed to reach the targets in the four policy areas. The actions can include investments, supported with all available financing sources, but also legislative, regulatory or organisational actions.

While the original framework was changed during the implementation, with respect to both the allocation rule of the financial reward to performing regions and its amount (which was halved from the planned EUR 3 billion), all of the other features were maintained (objectives, indicators, targets, action plan). In particular, the Department for Economic Development and Cohesion has worked closely with the regions to assess the results and consequently update the Action Plan (Anselmo, 2012).

Source: Authors' elaboration based on www.dps.tesoro.it/obiettivi_servizio.

Third, the Regional Planning Centre (CRP) aims to make a better use of the existing evidence to support the well-being agenda. Many statistics are available at a territorial level from Istat and other sources. More recently, national initiatives to measure well-being have gathered a set of indicators, many of which are available with regional detail, organised in 12 well-being dimensions (Istat-Cnel BES, 2013). Sardinia could use the available information to measure well-being and compare it with other regions in Italy and in the OECD area, without a large investment in statistical production.

Moreover, Sardinia has developed a comprehensive measure of internal disparities. The region has published the Index of Multi-Deprivation (IDMS, *Indice di deprivazione multipla della Sardegna*), which is applied to the 377 municipalities and refers to 2011 (Box 3). The results show municipalities where deprivation in one dimension is particularly high and thus can help target policies and financial resources, for example, to fight poverty or the school dropout rate (Figure 8). They can also give indications on which dimensions of deprivation tend to be associated with each other, helping design comprehensive policies and tackle inequalities. Future updates and uses of the Index of Multi-Deprivation could include supporting local and regional decisions, particularly in project definition and selection.

Box 3. The Index of Multi-Deprivation in Sardinia

The Regional Planning Centre, in collaboration with the University of Cagliari, has developed an Index of Multi-Deprivation applied to the 377 municipalities of Sardinia referring to the year 2011.

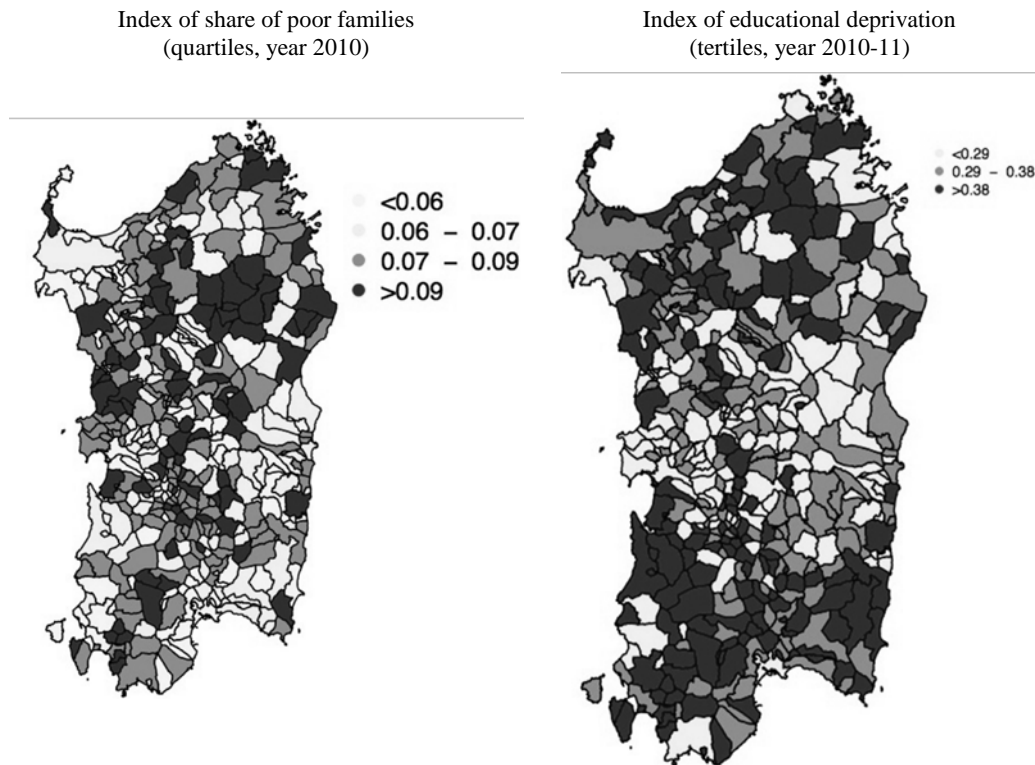
The index includes seven dimensions: income, jobs, education, health, environment, access to basic services and safety. Each dimension is measured by one or more indicators and provides a picture of the inter-municipal differences in deprivation.

Indicators in each of the seven domains are transformed into indices ranging from 0 to 1 (highest deprivation), then compiled into a single number. Therefore, municipalities are ranked by level of multi-deprivation (composite index) as well as by the level of deprivation in each dimension.

Most of the data come from administrative sources, published for the first time, and none of the dimensions includes subjective measures.

Source: Sistema Informativo IDMS (2013), *Gli svantaggi dei comuni sardi*, Tangram Ed, www.sardegnaprogrammazione.it/documenti/35_84_20140213123944.pdf.

Figure 8. Sardinia's Index of Multi-Deprivation: Income and education components, 2011



Notes: This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area. Income deprivation is measured by the share of families with net income below the Istat national absolute poverty threshold. Educational deprivation is measured by three indicators referring to middle school (*scuola media inferiore*): students repeating the same class; students who failed the final exam; students who passed the final exam with the minimum grade.

Source: Sistema Informativo IDMS (2013), *Gli svantaggi dei comuni sardi*, Tangram Ed, www.sardegnaprogrammazione.it/documenti/35_84_20140213123944.pdf.

Key aspects to consider in building a well-being agenda in Sardinia

While the identification of a well-being agenda for policy making by the CRP is still in its inception, three aspects are important to address and clarify to strengthen the use of well-being indicators. These refer to the choice of well-being dimensions and indicators; the importance of looking at inequalities not only among people but also across places; and the use of measures that account for complementarities among different well-being dimensions. The rest of this section offers some insight on how to build a well-being agenda in Sardinia taking these three aspects into consideration.

A comprehensive approach with a focus on economic well-being

In Sardinia, the reflection on a well-being strategy started with, but is not limited to, the new programming cycle of European and national funds for the EU Cohesion Policy. The priorities in the Partnership Agreement between the EU and Italy include developing an innovation-friendly business environment; increasing labour market participation, promoting social inclusion and improving the quality of human capital; and supporting the quality, efficiency and effectiveness of the public administration (European Commission, 2014). The comprehensive strategy included in the Regional Strategic

Document of Sardinia (DUS 2013) aims at increasing employment and the competitiveness of firms. This would permit greater social and economic inclusion and improve the number of opportunities, for example opportunities for a good job, quality of education, healthcare, etc. – linked to socio-economic conditions or to the places where people live.

Great attention is given in the regional strategic documents to the levers that the public administration has to improve the quality of life of citizens and provide a level playing field for firms of any size. In particular, the debate in Sardinia touched upon the importance of transparency of the public administration and simplification of procedures as pre-conditions to engage citizens and private stakeholders towards common objectives and increase trust. The regional administration in Sardinia has already implemented innovative practices, such as the one-stop shop for enterprises, large investments in ICT infrastructure and the reform of the regional budget. Such reforms should be completed or sustained over time to increase their efficiency, for example by twinning the reform of the budget with a reform in the organisation of the regional public administration or increasing the number of business practices available online to reduce costs for small firms.

A selection of headline well-being indicators is proposed in Table 3 adapting the OECD Regional Well-Being Framework to the specificity of Sardinia. Such a selection comes as a suggestion from the OECD and builds on the results of the preliminary consultations carried out by Sardinia to move on choosing well-being indicators. The Regional Strategic Document (DUS), in fact, includes a long list of indicators, somehow replicating the system of monitoring indicators (inputs and outputs) used in the past EU Structural Funding programming phase. The choice of indicators in Table 3 is explained by the intention to focus on a limited set of statistics that measure outcomes (results); these indicators refer to policy areas where investments are underway and where a deliberative process on their selection has already taken place (for example, through the *Obiettivi di servizio* scheme).

Once an agreement has been reached on the main well-being dimensions and expected results, well-being indicators could be included in the programming and financial decisions of the region of Sardinia. The indicators in Table 3 are neither exhaustive nor the only possible choice for Sardinia; they are intended as a starting point for further discussion between the regional policy makers, citizens and local stakeholders. A thorough consultation on the main expected outcomes and therefore on the choice of well-being indicators, in fact, has not completely been carried out.

Given the current outcomes, a focus on increasing the employment of women and youth is necessary in Sardinia. Similarly, regarding education, the objectives of enhancing educational attainments, reducing early school leavers and ensuring strong foundation skills are priorities. The indicators chosen in the performance scheme *Obiettivi di servizio* that monitor the quality of education and drop-outs could be used. In the income dimension, the advantage of using an absolute measure of poverty relies on the fact that the same measure is also available at municipal level, via the Index of Multi-Deprivation of Sardinia. For the environment dimension, participants at the preliminary consultation underlined the importance of keeping the focus on improving waste and water services, but also to measure whether citizens are satisfied with the quality of the services and perceive improvements. The quality of health could be measured by adding measures on satisfaction with the access to health services (e.g. specialist visit) and their quality (e.g. satisfaction with medical assistance) to the indicators on life expectancy and mortality rates (Table 3).

Many of the indicators suggested in Table 3 are also included in the Partnership Agreement's common list of indicators agreed upon by the central and regional governments for EU Cohesion Policy.⁹ For each thematic priority, the operational programmes of Sardinia will have to include the expected results, one or more indicators drawn from the Partnership Agreement's common list with the expected target and actions to achieve it. Therefore, the selection of indicators from the operational programmes would also bring expected targets, policy actions and financing allocation to each dimension of the well-being framework.

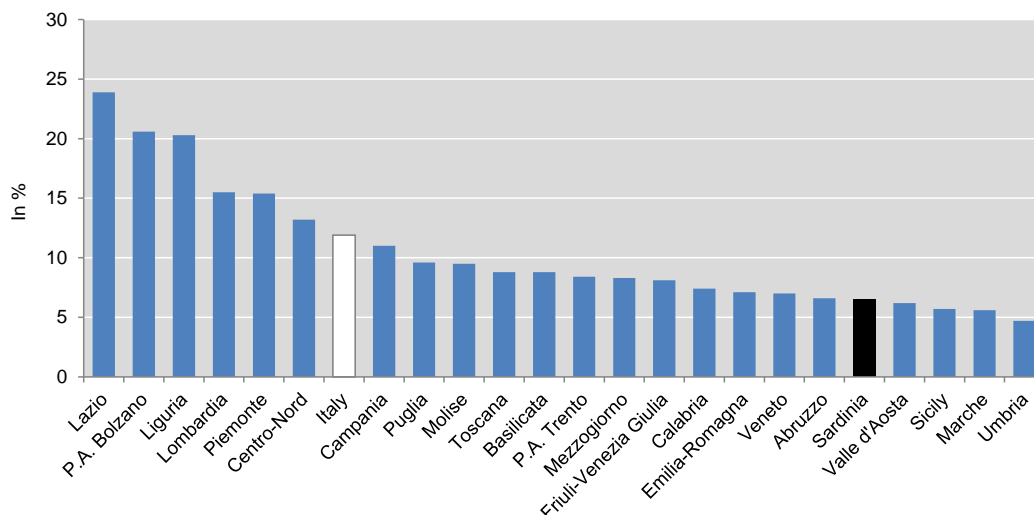
Table 3. A possible well-being metrics for Sardinia

Well-being dimension	Regional indicators in the OECD Regional Well-Being Framework	Possible additional indicators in well-being metrics for Sardinia (source)
Income	<ul style="list-style-type: none"> – Household disposable income (mean and median) <i>Income distribution in a region:</i> – Gini Index for household disposable and market income – Quintile share ratio (S80/S20) for household disposable and market income – Regional relative poverty (headcount ratios for disposable and market income, with poverty line set at 50% and 60% of the national median income) 	<ul style="list-style-type: none"> – Regional absolute poverty: Share of families below absolute national threshold (Istat, <i>Indagine sui consumi delle famiglie</i>)
Jobs	<ul style="list-style-type: none"> – Employment rate – Long-term unemployment rate – Youth unemployment – Women's participation rate 	<ul style="list-style-type: none"> – Female employment rate (Istat, LFS)
Health	<ul style="list-style-type: none"> – Life expectancy at birth – Age adjusted mortality rate 	<ul style="list-style-type: none"> – Share of families who have renounced to a specialist visit due to long waiting list (Eu-Silc) – Share of families satisfied with the medical assistance in the hospital (Istat, <i>Indagine multiscopo</i>)
Education and skills	<ul style="list-style-type: none"> – Educational attainment – Students' cognitive skills (PISA) [only a few countries, Italy included] 	<ul style="list-style-type: none"> – Students with poor competences in reading (OECD-PISA; <i>Obiettivi di servizio</i>) – Students with poor competences in mathematics (OECD-PISA; <i>Obiettivi di servizio</i>) – Early school leavers (Istat, LFS; <i>Obiettivi di servizio</i>)
Environmental quality	<ul style="list-style-type: none"> – Air quality (PM_{2.5}) – CO₂ emissions – Loss of forest and vegetation – Municipal waste – Municipal waste recycled [only a few countries] – Access to green space 	<ul style="list-style-type: none"> – Population served by wastewater treatment plants (Istat, <i>Obiettivi di servizio</i>) – Satisfaction with water quality (Istat) – Satisfaction with the quality of local landscape (Istat, <i>Indagine aspetti vita quotidiana</i>)
Personal security	<ul style="list-style-type: none"> – Homicide rate – Car theft rate – Mortality due to transport accidents 	
Access to services	<ul style="list-style-type: none"> – Broadband connection – Average distance to the closest hospital [only a few countries] – Share of population with access to public transport [only for a set of cities] 	<ul style="list-style-type: none"> – Average distance from basic services: pharmacy, police station, banks, post office (Sardinia, IDMS) – Share of students and employed using public transport for daily mobility (Istat, <i>Indagine aspetti vita quotidiana</i>) – Children in child care (Istat, <i>Obiettivi di servizio</i>) – Share of elderly beneficiary of home assistance (Istat, <i>Obiettivi di servizio</i>)
Civic engagement and governance	<ul style="list-style-type: none"> – Voter turnout 	<ul style="list-style-type: none"> – Trust in local public authorities (Istat, <i>Indagine aspetti vita quotidiana</i>)

Note: Istat, LFS refers to the Labour Force Survey; Istat – *Obiettivi di servizio* refers to indicators produced by Istat and monitored in the DPS performance scheme *Obiettivi di servizio*. The most relevant indicators for Sardinia are in bold.

Improved accessibility to quality services is recognised as an important well-being aspect in Sardinia in many domains: health, environmental services, education and transport. Improved access to services in Sardinia would also help reduce inequalities both among population groups and different areas of the region. The share of children in child care, elderly benefitting from home assistance (available from the *Obiettivi di servizio* scheme) and the distance from a pool of basic services (from the IDMS) are three indicators that could be included. All of them are also available below the regional scale (municipalities or provinces). Increasing internal mobility and improving access to transport infrastructure were mentioned as crucial objectives for individual well-being, social cohesion and the competitiveness of the region. In Sardinia, only 6.5% of employed and 27.4% of students use public transport for daily mobility, while these values in Italy are 12% and 33% respectively (Figure 9).¹⁰ Similarly to most OECD regions, the availability of comparable measures on the use, cost and quality assessment of transport is limited at a fine geographical scale. However, these measures could be developed by integrating geographical information systems (GIS) data (such as railroad network) with usage data from public and private providers. For example, in the future, the indicator on the share of employed people who use public transport could be complemented with average time for and cost of daily mobility.

Figure 9. Percent of employed people who use public transport to go to work, 2013



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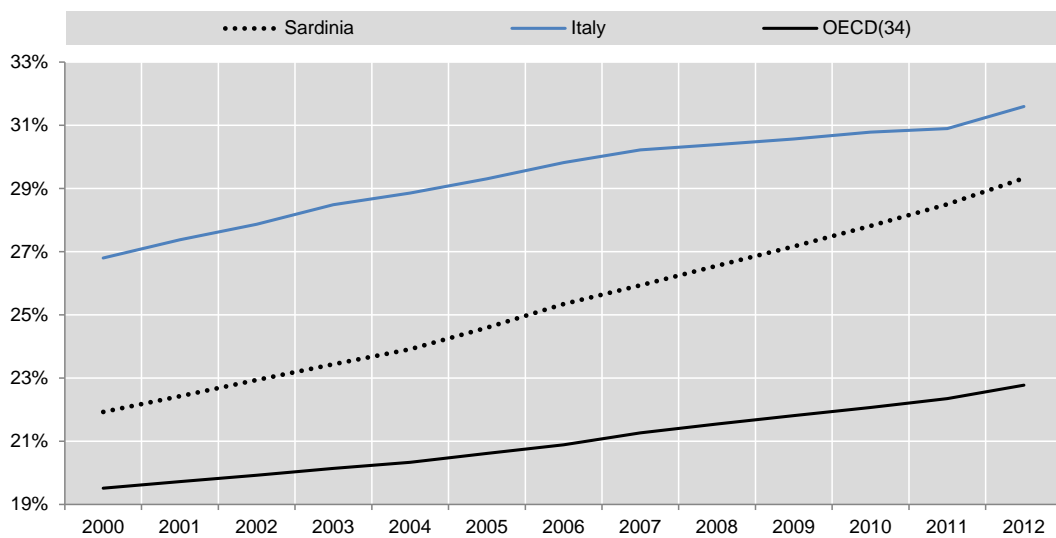
Source: Istat, *Indagine multiscopo delle famiglie*, “Aspetti della vita quotidiana”.

In contrast with other indicator-based frameworks, the well-being agenda in Sardinia could include both subjective and objective measures. During the preliminary consultations carried out by the Regional Planning Centre, many stakeholders underlined the need to monitor the evolution of well-being dimensions also through perception indicators. Quality of public services and of the environment, civic engagement and safety are the well-being dimensions where subjective measures were mentioned as most useful to orient public decisions in Sardinia.

Accounting for inequalities at the relevant scale

The elderly population (aged 65 years and over) represents one-fifth of the total population in Sardinia and in Italy. As a result of a relentlessly widening gap between the elderly and working-age populations, the elderly dependency ratio gained 7 percentage points between 2000 and 2012, a faster increase in Sardinia than in Italy as a whole and a much higher level than the OECD average (Figure 10). The ensuing burden on the demand for public services such as healthcare and elderly care is expected to put significant strain on the welfare system and public finances, both at national and regional levels, and on the capacity of small municipalities to deliver these services.

Figure 10. Elderly dependency rate in Sardinia, Italy and the OECD (2000-12)



StatLink  <http://dx.doi.org/10.1787/888933145936>

Note: The elderly dependency rate is defined as the ratio between the elderly population (65 years of age and over) and the working age (15-64 years) population.

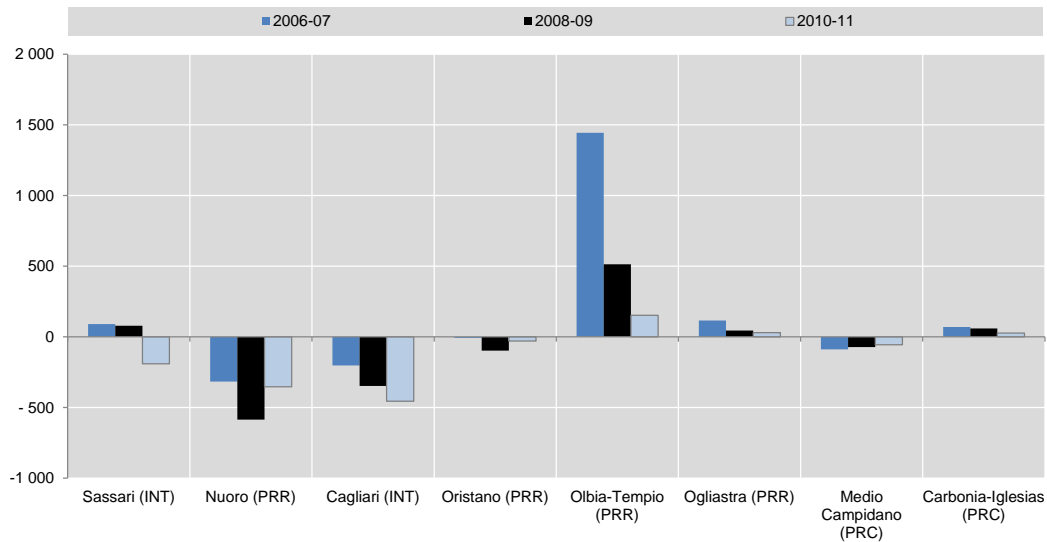
Source: OECD (2014), *OECD Regional Statistics* (database), <http://dx.doi.org/region-data-en>.

Depopulation and ageing pose serious threats to the internal areas of Sardinia. Population is ageing much faster in Sardinia's provinces of Nuoro, Oristano, Ogliastra and Medio-Campidano, classified as predominantly rural regions by the OECD, where the elderly dependency rate was above 31% in 2012. These provinces, with the exception of Ogliastra, also experienced net out-migration in the years 2006-11 and a total population decrease. The only provinces benefitting from domestic migration are Olbia-Tempio and, to a much smaller scale, Carbonia-Iglesias; the two urban areas of Cagliari and Sassari have experienced out-migration towards other parts of Italy, even though population growth remains positive (Figure 11).

Internal disparities in Sardinia can be high and should be taken into account when designing a well-being agenda. Large disparities exist in terms of life opportunities among municipalities in Sardinia. For example, the Index of Multi-Deprivation (IDMS) shows that on a scale from 0 to 1, the province of Cagliari scores 1 (maximum deprivation) and Ogliastra 0 in education; the province of Medio-Campidano scores 1 in labour market and Olbia 0 (Sistema informativo IDMS, 2011). A more extensive use of

data at a municipal level should be encouraged to define the well-being agenda in Sardinia. On the methodological aspect, the IDMS, by making extensive use of administrative data, shows that municipalities and governments can provide and share a wealth of information with policy makers and citizens for decision making.

Figure 11. Net internal migration flows in Sardinia's provinces, (2006-11)



StatLink  <http://dx.doi.org/10.1787/888933145949>

Note: Net internal migration flow is defined as the difference between inflows and outflows in a province from/to another province in Italy. A negative migration flow means that more migrants left the province than entered it. The eight Sardinian provinces are classified as OECD TL3 regions. OECD TL3 regions are classified as being predominantly rural close to a city (PRC), predominantly rural remote (PRR), intermediate (INT) or predominantly urban (PU).

Source: OECD (2014), *OECD Regional Statistics* (database), <http://dx.doi.org/region-data-en>.

Well-being metrics that focus on strengths and assets could complement measures of deprivation. The issue of deprivation is measured through a multi-dimensional approach in the IDMS that includes quality of life indicators in addition to material conditions. While the index is a compelling instrument to highlight extreme situations, well-being metrics that take into account the distributional effect in the population can increase ownership and enhance services and investments from which most people will benefit.

Efforts to seek the relevant scale to deliver services can be effective not only for cost-saving purposes but also to reduce inequalities among people in different places. Municipalities are key actors in designing a well-being agenda that reflects citizens' needs and expectations and implementing it through public participation. They are responsible for 29% of public expenditure in Sardinia and are often in charge of implementing projects through competitive calls by the regional authorities. However, issues of capacity and scale in preparing projects and delivering services are commonly found in small municipalities, which represent the large majority in Sardinia (72% of the 377 municipalities have less than 3 000 inhabitants, while the same size represents 52% of Italian municipalities). In many policy fields, Italy has experienced collaboration among municipalities to plan and manage local services, pooling financial and human resources (for example, water, waste, social policy). These forms of inter-municipal

agreements are not easily created and maintained because of difficulties at the local level to agree on the form of co-operation and at the regional level to change approaches in designing policies; however, beyond the efficiency gains, service delivery at the right scale can also reduce inequalities of opportunities for people in different places (OECD, 2013c). In the case of social policy, for example, national and regional laws foresee that social policy interventions should be implemented in Sardinia through 22 sub-regional programmes (called PLUS) designed and delivered by inter-municipal agreements. While the institutional arrangement has proven to be effective to reduce fragmentation and duplication of actions, some regional schemes are still implemented through competitive calls with the participation of individual municipalities, with the risk of excluding municipalities on the basis of the capacity of local actors to react to calls.

How to reflect not only the multi-dimensionality, but also the cross-dimensionality of well-being?

While Sardinia's well-being framework delves into the multi-dimensionality, accounting for the cross-dimensionality of well-being remains a more challenging task. Proximity between citizens and policy makers at the regional and local level can help to better grasp how one dimension contributing to a citizen's well-being influences another dimension (or more). Measuring such interactions across different dimensions of well-being is the first step towards designing more coherent policies that exploit complementarities across sectors and overcome a silos approach. In the case of the waste management cycle in Sardinia, for example, while the recent interventions spurred by measurable targets of recycling and treatment have improved the environmental impact and the quality of the services to citizens, they have also resulted in an increased cost of service for citizens due to the lack of efficiency gains in public-private waste management, with the risk of undermining public support.

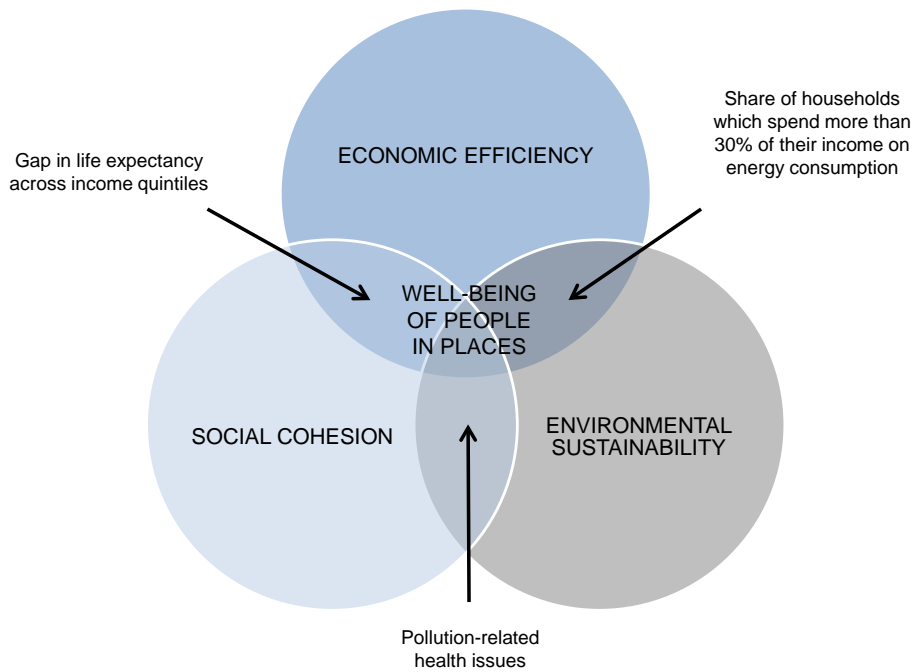
A first analytical effort to include complementarities among well-being dimensions would consist of developing a set of cross-dimensional indicators alongside single dimensional indicators. For example, cross-dimensional indicators could include the share of households (in a region or in a municipality) which spend 30% or more of their income on energy consumption. This indicator allows for monitoring the interface between two dimensions, income and environment (from the angle of energy consumption), under the assumption that higher income households are more able than lower income households to afford green energy (Figure 12). A preliminary attempt to identify relevant cross-dimensional well-being indicators in Sardinia is included in Table 4. These indicators reflect the importance given in Sardinia to raise living standards, connect education to the labour market and increase opportunities for all. They also include a link between internal mobility with environmental externalities and affordability of transport. The list of measures is certainly not exhaustive and, as for Table 3, is meant to spur a discussion among regional stakeholders.

Well-being metrics that incorporate cross-dimensional indicators can provide better guidance to policy makers than a composite index. A composite index can be a powerful tool to communicate complex information and to benchmark different places on a multi-dimensional approach. However, it can be difficult for policy makers and citizens to act on this information, which aggregates different outcomes. Cross-dimensional indicators can instead highlight synergies and trade-offs among different dimensions and indicate where policies can intervene.

Table 4. Possible cross-dimensional well-being indicators in Sardinia

Indicator	Well-being dimensions considered
Young adults (15-29 years old) who are neither employed nor in education or training (NEET)	Jobs and education
Educational outcomes (competences) by family socio-economic background	Education and material conditions
Households living in houses not reached by public transport	Housing and access to services
Environmental impact of transport	Access to services, environment
Time (and or cost) spent for daily commuting	Access to services, income
Share of households that spend more than 30% of their income on energy consumption	Income and environment

Figure 12. Complementarities among well-being dimensions



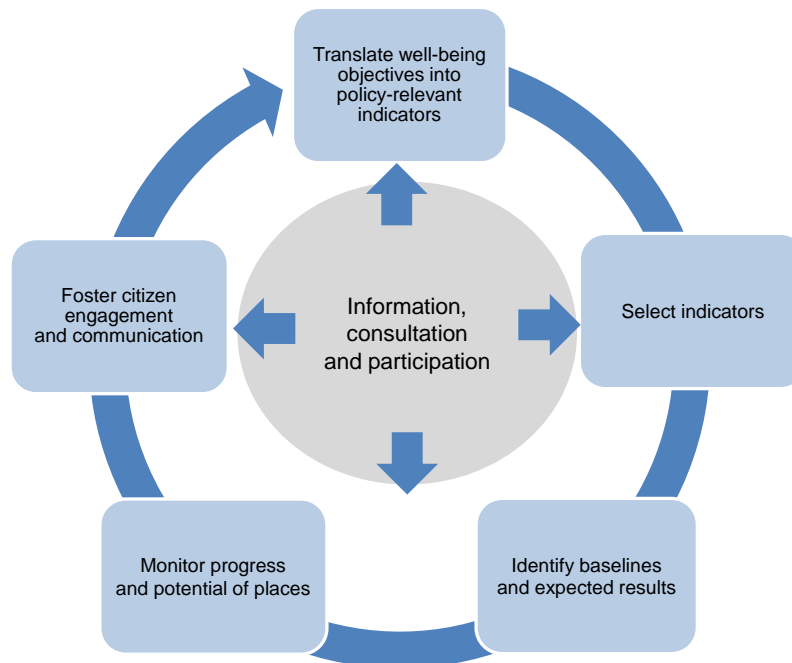
Source: OECD (2014), *How's Life in Your Region? Measuring Regional and Local Well-Being for Policy Making*, OECD Publishing, Paris.

Using well-being metrics for policy making in Sardinia

Steps to develop a well-being metrics

The region of Sardinia has the means and capacity to bring together data, policies and resources to build a well-being agenda. While some steps have already been carried out, others are in the making, including the final choice of indicators, the identification of actions to pursue the expected objectives, the evaluation of results and their communication. More importantly, Sardinia needs to build a shared ownership of its well-being agenda. In order to do so, many stakeholders should be on board – to integrate technical capacity, local knowledge, policy and programming responsibility. Finally, engaging citizens and bringing the well-being metrics to the political agenda will be crucial to increase the legitimacy of the well-being agenda (Figure 12).

Figure 13. **Regional well-being measurement cycle: A possible sequencing of steps**



The Regional Planning Centre has already started translating the policy objectives into well-being dimensions and choosing indicators to measure the progress towards the expected results through the consultations with other regional stakeholders. While the choice of indicators is a value judgment that needs to be discussed broadly, Sardinia could take advantage of the rich statistical information available with regional detail, mainly from Istat. The region would also benefit from bridging the well-being agenda with other initiatives that have spurred the production of indicators on quality of life, for example the set of indicators included in the *Obiettivi di servizio* or those included in the initiative to measure equitable and sustainable well-being (Istat-CNEL, 2013). The performance turn of the 2014-20 EU Cohesion Policy and the common result indicators of the Partnership Agreement offer a further opportunity.

Evaluation has a decisive role in offering insights on conditions, causalities and bottlenecks for the implementation of policies and in quantifying expected results. The region of Sardinia has not yet clarified whether the well-being agenda foresees quantified targets to be met and whether specific resources will be linked to the achievements of results as done in previous performance schemes. However, making *ex ante* evaluations available and investing in the analysis of determinants of well-being will help clarify the expected results. Open monitoring of progress, which is comprehensible to the public, will help identify and select projects that fit with the expected results, and suggest ideas for how to revise objectives, re-allocate resources and identify the tools to deliver better results.

Sardinia should make use of the experience of *Obiettivi di servizio* in the design and implementation of its well-being agenda. In particular, the following four elements emerge as important to align objectives among levels of government and improve the dialogue with stakeholders:

- Limit the number of well-being indicators. In the experience of *Obiettivi di servizio*, having a limited number of objectives and indicators helped national and local policy makers to focus the attention and keep it up during the entire implementation period.
- Strengthen co-operation between policy makers and the scientific community. The co-operation between policy makers and data producers to provide methodologically sound indicators was essential to build capacity in the administrations and increase ownership of the performance scheme.
- Support the well-being objectives with commitments on the actions to pursue them. Results were obtained when the accountability of the regional administration in charge of the programme of investments was clear and few interactions with other governments or sectors were required (e.g. waste management). On the other hand, results were rather limited in the cases when the intervention logic, that is to say the process that links actions to expected results in a policy area, was complex and there was the need to integrate different policies and engage different levels of government (e.g. education). The adoption of an *Action Plan* in the *Obiettivi di servizio* that describes the actions and financial resources needed to achieve the expected results has been considered a useful instrument to clarify the intervention logic, strengthen the delivery of results in the multi-year programming and overcome some bottlenecks in the implementation. A similar instrument could be replicated in the well-being agenda of Sardinia: the Well-Being Action Plan would complement the Operational Programme, by focusing only on a subset of indicators for each well-being dimension, with more details on all the actions needed to achieve the expected results, encompassing not only EU supported actions, but all available resources.
- Engage citizens from the beginning of the process. The ownership of the performance scheme *Obiettivi di servizio* was a crucial issue as objectives, indicators and targets had been defined in partnership with the central government and were the same for all the participating regions. Regional authorities complained about the lack of citizen engagement and low attention of political leaders/decision makers. Citizens should be involved in the definition of the well-being agenda, including the choice of dimensions and indicators. In order to

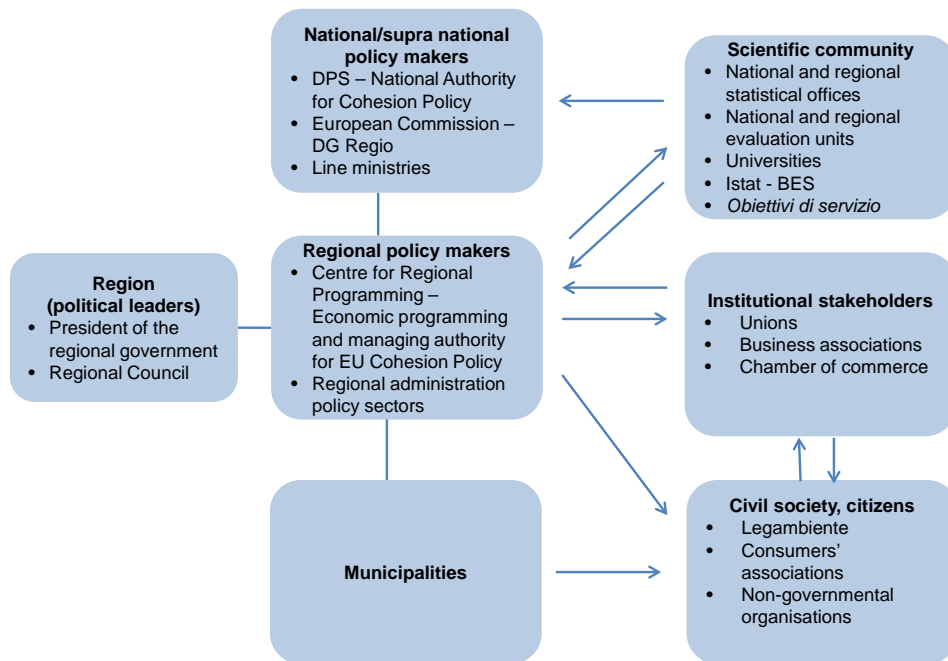
build trust, citizens should be able to understand the choices and financial decisions local and regional governments have taken.

The region should set up a comprehensive communication plan for the well-being agenda. Experiences in other OECD countries suggest using different means and media to communicate results. A single entry web platform could gather and disseminate the well-being measures, offer a dynamic monitoring of progress achieved on the different dimensions over time, collect feedback from all categories of users and foster permanent public debate.

Consultation process in a multi-level governance framework

The well-being agenda can be developed and sustained over time only through a continuous dialogue among public and private actors, consultation and engagement of citizens, and co-ordination among different levels of government. All the different steps in the well-being measurement cycle require a deliberative process involving at least four main stakeholders: the different levels of government, comprising policy makers and the political leaders, the scientific community, the institutional partners and the citizens (OECD, 2014a). A map of stakeholders for Sardinia is presented in Figure 14.

Figure 14. **Different stakeholders are involved in the regional well-being initiative**



Achieving policy co-ordination and realising potential synergies among different strands of policy also require a holistic view of the range of policy instruments deployed – in other words, the right policy mix. These instruments range from moral suasion, educational campaigns, voluntary schemes and codes of practice (“soft” instruments), to taxes, fees and market-based mechanisms, direct regulation, technology promotion and public investment in the provision of key infrastructure and services. The right policy mix is not merely a condition for effectiveness; it is also, in many contexts, a condition for acceptance, determining the extent to which different actors bear the cost of a policy (OECD/IMCO, 2013).

The consultations carried out by Regional Planning Centre (CRP) on the well-being measures for the 2014-20 Cohesion Policy show that the CRP has the legitimacy to lead the well-being agenda. Moreover, the good level of social capital, willingness to co-operate across sectors and good capacity of the regional administration can be opportunities for building a development strategy for growth and well-being in Sardinia (Mauro and Pigliaru, 2012). However, the engagement of all the sectors of the regional administration should become systematic in order to consider the trade-offs and complementarities involved in both the objectives the region aims to target and the channels through which it does so. Adjustments in the legislative responsibility of the different levels of government and in the allocation of functions within the regional administration could reduce fragmentation and overlapping of responsibilities and increase the efficiency of public action.

The Department for Economic Development and Cohesion – the national authority in charge of Cohesion Policy – has not only helped to define the framework for a more result-oriented policy for the period 2014-20 (Ministro Coesione Territoriale, 2012) but also to identify instruments and actions to improve the efficiency of public investment, for example through the partnership agreements, the action plans (*Piani d'azione coesione*) and performance frameworks implemented in the previous programming periods. Strengthened co-operation with the national authority will also help to use the evaluations of past experiences and carry out the monitoring and evaluation of the regional well-being metrics.

A good dialogue has also been established between the regional authority and institutional stakeholders such as local authorities, regional or local business associations, regional unions, civic and environmental groups. The institutional stakeholders in Sardinia have played an important role in facilitating the dialogue between institutions and civil society. The region of Sardinia should now find ways to engage institutional stakeholders beyond the programming phase to use the knowledge and inputs from local partners in the implementation of programmes as well. For example, stakeholders could support small municipalities to prepare proposals during the project design and implementation phase or could use existing networks to share information and mobilise potential beneficiaries in order to collect better projects.

The political level of the region has so far been only moderately involved in the well-being approach. This can be partly explained by the political cycle, since the regional elections in February 2014 have brought in a new President and a new regional government. There is now the need to bridge the well-being metrics with political action and funding, in order to make the well-being agenda part of the development strategy of the entire region. For example, the Regional Development Plan 2014-19 (*Programma Regionale di Sviluppo*), to be approved by the regional government, could include the well-being metrics and the main expected results.

Municipalities play a pivotal role in improving citizens' well-being. As in many other OECD countries, municipalities in Sardinia have important responsibilities in providing infrastructure and services. As the level of the administration the closest to citizens, they are the best placed to engage citizens in an open debate and find solutions to improve service delivery, and in turn to increase social capital and trust in institutions. Concerns about the lack of strategic and technical expertise of Sardinia's small municipalities have been expressed. A reshaping of territorial relationships could help overcome the low capacity of municipalities and the mismatch between allocation of funds and existing competences. The regional administration should promote institutional co-operation

among municipalities, for example, by facilitating the dialogue among municipalities, holding co-ordination responsibilities, using regulations and incentive schemes to pool resources and capacities, etc.

The region of Sardinia should make greater efforts to develop an open debate, to prevent the risk of turning the well-being agenda into a technocratic exercise that has only a marginal impact on people's lives. As in other OECD regions, Sardinia is seeking ways not only to consult citizens, but to engage them in the design to better understand their needs and aspirations; in the implementation, to use citizen capacity to bring change; and in the evaluation of well-being metrics, to receive feedback that can then serve as a basis for the design of better policies. Opening up the dialogue to citizens should come with a clear timeframe of when various types of discussion tools will be used (e.g. focus groups, workshops, forums) and what targeted instruments can contribute to policy evaluation (results should be discussed by both technical and political actors, and citizens). The experience of the Province of Rome is an example of how citizen consultation can accompany the whole well-being measurement cycle (Box 4). Sardinia has launched a web portal, *Sardegna secondo te* (Sardinia according to you) to gather citizens' opinions and enable discussions among citizens on various topics. Although the current uses of this portal seem rather limited and uncertain for the future, the region could transform it to open the debate on measuring well-being.

Box 4. Engaging citizens to identify well-being dimensions: The province of Rome initiative

The provincial government of Rome developed a well-being strategy in 2011 with the aims of supporting a new model of territorial development for inclusive growth, creating an information system of well-being indicators to better understand disparities across areas in the province and inequalities among people, and take a more strategic approach to political and policy action.

Citizen consultation was considered a cornerstone for building the legitimacy of the well-being measures, and the process emphasised the dialogue around the scientific and cultural purposes of the project. The idea was to enhance the role of citizens in defining the development model, elaborating associated public policies and supporting the implementation of programmes at the local level. The consultation process included meetings organised by the local governments to gather inputs on the strategic choices for the region, events hosted by civil society organisations, and workshops and fora organised by academia (universities and schools). Feedback on key concerns regarding well-being was solicited and gathered in order to help prioritise and determine the scale of intervention, and finally, community surveys were used to build consensus around strategic choices and build citizen involvement, which was reported as a challenge.

However, once citizens did get involved, the province was able to identify how citizens ranked the well-being dimensions, putting waste and pollution, land consumption, public services, labour and health as the top five citizen concerns. As a means to communicate progress and results, and further engage citizens, the province developed an active web tool where citizens could choose the well-being dimensions that are the most significant to them personally, helping the administration understand citizens' priorities. Additional channels targeted to communicate results included public meetings, traditional media (i.e. print and television) and other methods such as books, workshops and written reports. An open data portal was also available for the first year, but due to budget limitations, this is not operational in 2014.

Source: Author's elaborations from various documents provided by the province of Rome.

Developing open data can help the government actively engage with citizens and foster more inclusive policy design and implementation. National and local governments around the world are making data on government activities open (accessible, machine-readable and reusable) to promote transparency, fight corruption, empower citizens and harness the power of new technologies to make government more effective and accountable (Open Government Partnership, 2011). In 2011, Italy joined the Open Government Partnership, an international platform to support domestic open government reforms, and presented an Open Government Action Plan in 2012. In many countries, cities and regions are the driving force to share information and to provide tools to the public to make sense of all data. There are many instances of how meaningful visualisations and web-based access to local information have saved money and time, and also helped governments make faster and better decisions. In particular at sub-national level, open data can also help increase the available information by integrating geographical information data with administrative or survey data. In Italy, open data at territorial level have been implemented in some regions (notably Piedmont and Emilia-Romagna, but partial data warehouses are now available also on the geo-portal of Sardinia), but also through a compelling website (*OpenCoesione*) on the public investments carried out by central and regional administrations with Cohesion Policy funds in the period 2007-13 (Box 5).

Sardinia should bridge the efforts to measure well-being with those to open data. Connecting the well-being indicators with ongoing steps to share basic public data can contribute to enhancing the government's accountability, build trust with citizens and generate new insights for more efficient services in both the public and private sectors. Moreover, classifying and reading open data along the well-being dimensions can help organise the existing information (avoiding the risk of over-supply of data) and target investments in data production to needed areas.

Box 5. The web portal *OpenCoesione*: Open data and civic participation on Cohesion Policy in Italy

OpenCoesione is Italy's national open data web portal (www.OpenCoesione.gov.it) on the investment projects funded by Cohesion Policy through European and national resources. The Italian Open Government Strategy on Cohesion Policy aims at increasing transparency in the use of funds, improving decision making and policy design, increasing the involvement of stakeholders in ensuring efficient and effective use of funds, and encouraging the creation of new tools and services. The *OpenCoesione* initiative is promoted by the Department for Economic Development and Cohesion and several central and regional public entities are involved in its implementation. The strategy is in line with the national framework of Italy's Digital Agenda as well as with EU Structural Funds regulations that require member countries to provide public information on beneficiaries and operations funded, according to specific formats to re-use information.

Bimonthly updates have nurtured open data on almost 800 000 projects so far, which can be freely re-used (CC 3.0 BY-SA license) and explored interactively on the portal. Free public access and ease of comparison on projects allow users to evaluate if and how implemented projects meet their needs and whether financial resources are allocated effectively. Users can either download raw data available in open format or navigate through interactive diagrams organised by expenditure categories, place and type of intervention, as well as browse pages on individual projects and institutions involved. The *OpenCoesione* portal also publishes local economic and social data to facilitate comparisons at territorial detail.

Box 5. The web portal OpenCoesione: Open data and civic participation on Cohesion Policy in Italy (cont.)

Data on the on-going projects are collected by the Central Monitoring System managed by the General State Accounting Department (RGS, *Ragioneria Generale dello Stato*) of Italy's Ministry of Economy and Finance. They are provided by the central and regional administrations in charge of these funds. These administrations also participate in a technical group on the dissemination and re-use of public data and information on Cohesion Policy to agree on data standards and improve the quality of monitoring data fed into *OpenCoesione*.

The final aim of the *OpenCoesione* initiative is to encourage greater public participation and collaboration by opening high-value data and offering a large number of variables at the project level. An independent platform for civic monitoring was launched to publish multimedia reports of groups of interested citizens. More than 50 “citizen monitoring reports”, which take the form of collective investigations on project development and results, are publicly available on the Monithon website (www.monithon.it), many of which spurred further dialogue with public administrations. Monithon (literally “monitoring marathon”), promotes citizen monitoring of Cohesion Policy through the active involvement of communities and a shared methodology. Monithon has rapidly evolved from being an innovative new platform into a transferable civic engagement format. Through “monitoring marathons”, groups of citizens, sometimes under the guide of local civil society organisations (CSOs), set out on explorations around their area, to gather information on specific projects of interest. In doing so, participants collect useful material to evaluate the effectiveness of public spending and practice bottom-up modes of control over public policies and collaboration with all the actors involved.

Monithon has drawn dozens of national and local associations and around 500 people into civic monitoring activities, mostly in southern Italy where Cohesion Funds are concentrated. Specific activities are carried out by established citizens' groups, like Libera, a national anti-Mafia association that has focused the monitoring of the reuse of Mafia-seized properties. Action Aid has partnered with Monithon to promote citizen empowerment. Existing, local groups of activists use the Monithon methodology to test local transport systems that benefited from EU funding, while new groups have formed to begin monitoring social innovation and cultural heritage projects.

Finally, Monithons are also carried out within the OpenCoesione School project (www.ascuoladiopencoesione.it) an innovative course aimed at engaging high school students through practice-based learning to produce data journalism and storytelling projects about the impact of *OpenCoesione*'s projects. In 2013-14, “*OpenCoesione* School” students engaged local communities by presenting their projects in public events, opened new channels for closer follow-up on projects and teamed up with local associations to demand more open data on public.

Source: Department for Economic Development and Cohesion (DPS) (n.d.), OpenCoesione website, www.opencoesione.gov.it.

Conclusions and recommendations

Compared to other Italian and OECD regions, Sardinia presents relatively good outcomes in terms of environment, access to services, safety, health and civic engagement. However, other well-being dimensions, such as income, jobs and education, appear significantly lower than the national and OECD averages and the gap has not been reduced substantially over the last ten years. Increasing employment and the competitiveness of firms, and ensuring greater social and economic inclusion to reduce the lack of opportunities in different places, are major priorities for Sardinia.

The regional administration is developing a comprehensive approach to measuring well-being to orient the next cycle of EU and national Cohesion Funds towards measurable results. The well-being agenda can also help implement a more coherent policy for the region, broadening the dialogue among all the stakeholders, involving the various components of society and co-ordinating public actions and funding beyond Cohesion Policy. The description of the expected results, actions and indicators to measure them in the Regional Strategic Document represents an important step towards a more transparent and evidence-based policy. However, the set of indicators is still large, without a clear prioritisation according to the policy choices. Moreover, the deliberation on the well-being dimensions, an essential process for the democratic legitimisation of the measures chosen to represent well-being, is only at the beginning.

The following recommendations could be considered to strengthen the well-being agenda in Sardinia for an effective development strategy.

Well-being framework for policy making

- Make the well-being agenda central to the development objectives of the region and link it to the national agenda. The well-being dimensions and indicators should be subject to a public debate to become an integral part of the regional strategy beyond the programming of Cohesion Policy. For example, well-being measures could be included in the Regional Development Programme (*Programma Regionale di Sviluppo*) that identifies the major objectives and financial resources for the following five years. Other strategic and programming documents, such as the Partnership Agreement and the Regional Operational Programme, could include the well-being measures, bridging them with other regions' efforts and to the national and European agenda. The co-ordination of the well-being agenda by the regional policy makers could be strengthened by carrying out reforms in the organisation of the public administration towards simplification and accountability. Political leadership at the regional level will be fundamental.
- Set up a comprehensive communication platform. The region of Sardinia should make strong efforts to develop an open debate, to prevent the risk of turning the well-being agenda into a technocratic exercise that has only a marginal impact on people's lives. A communication platform on the regional well-being agenda could serve to open up the dialogue on the well-being dimensions to be chosen, on the indicators to be monitored and for an open evaluation of progress.
- Encourage dialogue with municipalities and other local partners. The region could make use of the good level of social capital and dialogue with socio-economic partners to use their inputs in the implementation of well-being objectives.

Municipalities have a critical role to play in improving accessibility and quality of services to citizens but do not always have the capacity to deliver services in the most efficient and effective way. The region's efforts to find the relevant scale to deliver services can contribute not only to cost-savings but also to increase opportunities to people and firms located in more disadvantaged areas.

- Support the well-being objectives with commitments on the actions to pursue them. Sardinia could strengthen the intervention logic, that is to say the process that links actions to expected results in terms of well-being improvements. For example, the adoption of an Action Plan, defined through an open process of citizens' engagement, can provide evidence to relevant stakeholders, *in primis* municipalities, on the interventions to carry out, to strengthen the multi-year programming and overcome some bottlenecks in the implementation.

Well-being indicators

- Select a few headline indicators, link them to specific policy objectives and make use of available knowledge on well-being outcomes. Previous experiences show that selecting a limited number of objectives and indicators helped national and local policy makers to focus the attention and maintain the commitment during the whole implementation period. The region should strengthen the exchange of information to use statistics that are already available (for example from Istat or from the Index of Multi-Deprivation in Sardinia) and knowledge about well-being outcomes (for example from the *Obiettivi di servizio*) before producing new statistical information. Investment in statistical production could then be limited to a few policy areas and to increase the information below the regional scale making use of administrative sources.
- Consider introducing cross-dimensional indicators and encourage the use of perception indicators. The well-being metrics should not only reflect the specific objectives set in the development plan, but it should also take into account as much as possible the potential complementarities among well-being dimensions. Introducing indicators that measure complementarities among well-being dimensions can be a step to design integrated policies and to identify necessary changes in the organisation of the public administration for a more effective implementation of public actions. For example, in Sardinia, cross-dimensional indicators could help address the links between education, labour market and inequalities.
- Use well-being indicators to promote open data. Open data should be an integral part of well-being metrics at local level, since open data not only allow citizens to compare well-being outcomes but also allow them to produce more knowledge and suggest solutions on how to deliver services. Previous investment in Sardinia on information and communication technologies and innovative practices on e-government put the region in a good position to use open data. Sardinia could use the well-being framework to make administrative data open and integrate geographical information with administrative and survey data.

Notes

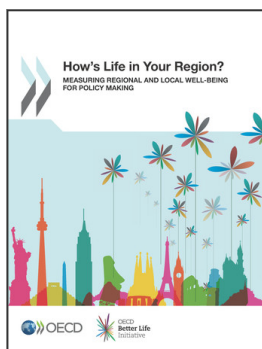
1. This case study report received a financial support of the Department for Economic Development and Cohesion (DPS) of the Italian Ministry of Economic Development. The report was prepared by Monica Brezzi with contributions by Soo-Jin Kim, Maria Varinia Michalun, Daniel Sanchez-Serra and Paolo Veneri (OECD), and Iolanda Anselmo (DPS). The report would not have been possible without the help and support of the teams from the Regional Planning Centre (*Centro di Programmazione Regionale*) of Sardinia: Antonello Angius, Gianluca Cadeddu, Eloisa Canu, Ludovico Conzimu and Sonia Pistis; and from the Department for Economic Development and Cohesion of the Ministry of Economic Development: Iolanda Anselmo and Federica Busillo. Participants at the workshop in Cagliari on 26 September 2013 are kindly acknowledged for their inputs.
2. The three layers of government – region, provinces and municipalities – have both political and administrative bodies; however, a national reform approved in 2014 foresees changes in the structure and functions of the provinces towards an administrative body with no elected government.
3. It should be noted, however, that household disposable income at regional level does not include social transfers in kind.
4. Elaborations from the OECD *Income Distribution Database*; data are regional estimates from national income surveys (see OECD, 2014a).
5. The *Mezzogiorno* includes the eight regions of the south of Italy: Abruzzo, Molise, Calabria, Basilicata, Campania, Apulia, Sicily and Sardinia.
6. Author's elaborations based on the newly produced satellite-derived surface PM_{2.5} concentration dataset by Van Donkelaar et al. (forthcoming).
7. Representatives from the various sectors of the regional administration, municipalities, central administration in charge of the co-ordination of EU Cohesion Policy, regional socio-economic associations and civil society participated in the one-day discussion in Cagliari (Sardinia) in September 2013.
8. www.dps.gov.it/opencms/opencms/it/AccordoPartenariato/index.html.
9. The indicators included in the Partnership Agreement come from official statistical sources, regularly updated at regional and, sometimes, sub-regional level.
10. According to the same survey, 33% of students and 13.3% of employees walk to school or work in Sardinia and 29% and 11.5% respectively in Italy.

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