

Indicators of Services of General Interest in EU regional context: between the need to measure and the lacking of their meaning[#]

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Abstract

An indicator is a measure of synthesis, thus representing an abstraction of a situation. Therefore, the indicators can have different functions, from offering the possibility to describe a situation, to the ability to simplify and measure that same situation being, par excellence, a means of communication (HOERNIG and SEASONS, 2004, quoting Innes, 1990 and Hoernig, 2001). Their utility is crucial to a great variety of scientific studies, typically in spatial planning and cohesion analysis, therefore, it's in this way that they are used to study the Services of General Interest (SGI) in the SeGI project (ESPON) – Indicators and perspective for services of general interest in territorial cohesion and development.

SGI are seen as “a key element in the European model of society” and are defined as "market and non-market services which public authorities class as being of general interest and subject to specific public service obligations". (EC: 2001/C17/04). This definition is too wide and a classification of 6 main domains (infrastructure, ICT Telecommunication, labor market, education, care services and social housing) was proposed.

The analysis show common problems that emerges in EU level. A first aspect is related to differential accessibility to the SGI. We find a territorial differentiation in the supply of SGI for each of the domains, where different questions and thematic emerges. Despite the difficulties with information availability, the discussion is need, in particular in the present context of crises and political changes conducting to privatization of social services. The role of social services to cohesion is unquestionable as regional European inequalities shows.

Keywords: Services of General Interest, indicators, spatial cohesion, European Union.

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1. Introduction

Definition of “Services of General Interest” (SGI) had been in construction. For European Union, Services of General Interest are seen as “a key element in the European model of society” and are defined as "market and non-market services which public authorities class as being of general interest and subject to specific public service obligations" (CEC, 2003).

Thus, the definition of SGI can vary from country to country, and from region to region, since it depends from the priorities of the public authorities, which could change over the time. The technological change it's also an important factor because can create new kinds of services, extinguish others or simply change the nature of existing ones.

One of the main distinctions of them from the others services, is the obligation of being provided even in the places where demand doesn't is enough to have efficient services. The public authorities must provide the SGI within certain parameters of quality, availability, accessibility and affordability, in order to be fully accessed by everyone.

EU is devoting much attention on SGI since their contribute is considered essential to the competitiveness of the European global industry, to the economy as well as to the social and territorial cohesion (Summaries of EU Legislation).

In SeGI project, one of the main objectives is centered in the discussion of what SGI indicators can be used. This objective runs in parallel with the need to have a picture of EU regions related to SGI provision and with the need to improve the discussion of how the SGI can contribute to the cohesion policy.

A wide range of arrangements, schemes or functions can be considered SGI, covering vast and heterogeneous fields. According the concepts and the framework previously mentioned, a division in six domains was made:

- Infrastructure (e.g. transport);
- ICT Telecommunication;
- Labour market;
- Education;
- Care services (health, child care);
- Social housing.

A group of indicators for each domain are provided, detecting the problems and the consequent territorial differentiation.

2. Indicators – Concepts

Policy-making is a complex process that integrates conceptual discussion and empirical experiences, supported in concrete and coherent information. Commonly this information is represented by quantitative and qualitative indicators. Indicators are a measure of synthesis which offers the possibility to describe facts, simplify and measure these facts being. Indicators are par excellence a way of communication (HOERNING and SEASONS, 2004, quoting INNES, 1990 and HOERNING, 2001).

Improve the communication with public and decision-makers and contribute to management and policy development are an important roles played by the indicators.

Indicators are much more than background information, they are “a piece of information which is part of a specific management process, and has been assigned significance beyond its face value” (UNEP/RIVM, 1994).

Indicators have become an outstanding tool, well-established and widely used in many fields, from economics to ecology to health, and can be used at different levels, from the global scale to the neighborhood one (HAMMOND et. al). Recognizing the limitations and conditionings of its use, its utility is clearly evident in various scientific fields, highlighting particularly the spatial planning and cohesion analysis.

Assumed as critical elements, in the context of monitoring and evaluation, indicators are growing importance due to three main needs:

- understand and explain the main demographic, economic, environmental and socio-cultural changes, involving aspects such as population aging, restructuring of productive systems, development of social networks or the preservation of natural resources;
- discuss issues and concepts of multi-sectional and multi-scale such as sustainability, competitiveness, territorial cohesion and social equity;
- strengthen the information structures in order to support the various actors and the governance system in the negotiation and decision process (MARQUES DA COSTA, 2011).

Indicators could be classified considering their role in the monitoring and evaluation processes, according to whether they are concerned with impacts, process or outcomes.

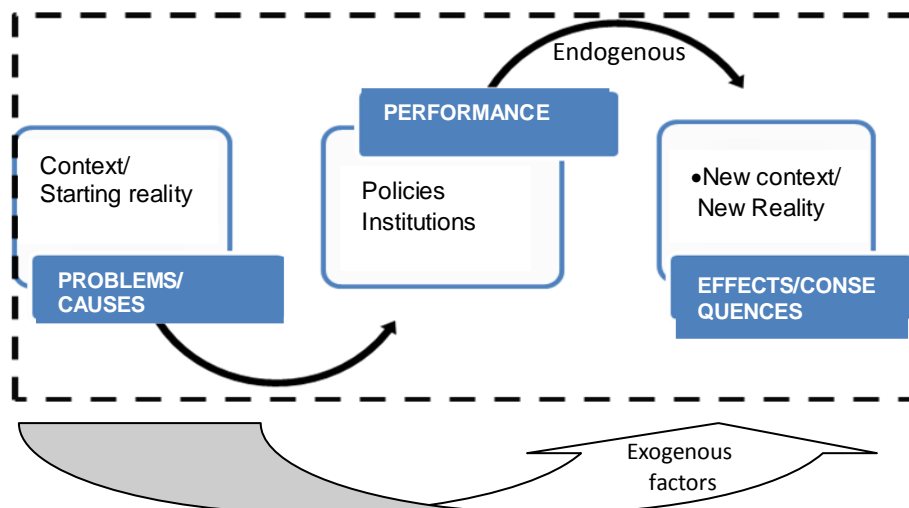
They are:

- measures that allow deeming a situation, in this case, they are of variables or indices of characterization of a territory, a sector or a theme transversal to various sectors. - these indicators are generally identified as "context indicators";

- measures whose extent is mainly associated with the implementation of policies and in this case, they appear as the "measurement of a goal to achieve, a resource that is intended to be mobilized, an effect that is sought to get, a measure of quality" (EC, 2004, pp. 121).

From the previous distinction we can point out to a fundamental question about the organization of information and the discussion of their meaning, mostly when cause-effects processes need to be explored - the double role of the indicators. On one hand they are measures connected to contextual evolution, on the other, are measures connected to policy instruments, like policies, plans and programs. This is valid from the point of view of its elaboration, or in terms of its monitoring and evaluation.

Figure 1 - Cause-effect relations in the contextual changes of territories



Source: Marques da Costa, 2011

Analyzing all the cause-effects relations, we have several typologies of indicators defined according to the role they have. We highlight the following:

- “context” and “policy goals” indicators - regarding the information scope. The first ones correspond to indicators of characterization and the second ones are indicators connected to the objectives and to the implementation of policies;
- “result or effects” indicators - related to the implementation process;
- “monitoring or evaluation” indicators – based on the relation to the mode of quantifying and using the information. The monitoring ones are indicators of implementation of policies and programs (the indicators of achievement and result become more relevant), the evaluation ones are centered in the explanation of the effects.

The process of monitoring and evaluation of the policies depends on the fact that indicators have to be necessarily connected to the objectives of policies and programs, otherwise it's impossible to know if the objectives were achieved and what were the real results and impacts of it. This means that, at each level, objectives are associated to different types of indicators (achievement, result and impact).

Besides these typologies, it's also important to know that the indicators must be distinguished, by levels, according the type of issue and its scale. If some indicators are more appropriated to global or national issues, others are more adjusted to a local level. Indicators must be analyzed at different levels depending on the roles and responsibilities of government in managing issues, the degree of decentralization of powers and functions.

The present methodology will be supported in two criteria:

1. A classification of indicators according to their role. In this context, we are going to explore 3 types of indicators:
 - SGI indicators - organized by the proposed 6 dimensions;
 - Context indicators – dedicated to the characterization of territories and sectors (demographic, economic, social and other aspects);
 - Effect indicators - try to measure the direct results from SGI services.
2. A discussion about the relevance of the indicators, what means, verify how adequate and how adjustable indicators are to measure the facts.

In this context, besides the inventory of statistical available information, a critical assessment supported in literature review need to be included in the discussion, namely in the relevance justification.

3. Indicators – their importance to measure versus the insufficiency of their analysis.

In order to comprehend the regional differentiation in the provision of SGI and to evaluate their effects in the social cohesion process, at different scales, two key elements must be methodologically operated. The first is the need to discuss and review, which are the most relevant indicators to measure regional differentiation and to understand the effects of the SGI in territorial and social terms. The second one, is to develop knowledge about regional characterization of territories and their relation to policies.

3.1 The need to discuss and review SGI indicators relevance

The inventory of available indicators in Eurostat gave us a large but, simultaneously, “sprawled” information. It is possible to find indicators linked to the previously defined 6 dimensions of SGI, some associated to employment in SGI services, others related to the availability (traduced in number) of infrastructures and equipments, and others, linked to quality of services. Nevertheless, the large number of indicators becomes a shorter list when information availability and the scale of analysis are considered.

Another aspect that we must take in account is the disparities between dimensions: the lack of indicators in social housing or ICT dimension is one evidence. Besides, the available information about SGI related to labor market dimension is also scarce. The most representative domains are Infrastructure and equipment, namely infrastructures of accessibility by road, motorway and train, as well as the covering of environment, like water and waste management indicators.

The relevance of each indicator to measure SGI service provision or effect to the cohesion process should be in mind when indicators list are presented.

To contribute to this discussion, a classification of indicators according to their relevance to the study was made. The indicators were scored according 3 criteria: very relevant – position 1; medium relevance – position 2; lowest relevance – position 3. The task was performed by six team members and the final value was the average value, reducing the influence of individual subjectivity.

As pointed before, the indicators relevance to measure SGI services, or to understand SGI effects to social and territorial cohesion, is not so clear, especially because we are working with heterogeneous types of services, some particularly linked to economy, other, mainly related to social and population services. Besides the classification in economic or social core, there is the question of measuring and analyzing territorial effects and territorial cohesion. This is another challenge, where indicators discussion should be improved.

In this context, in parallel to the statistical indicators overview, an empirical studies (literature review and political documents) review were developed, That gave us more qualitative arguments to discuss indicators relevance.

To perform the literature review was created a database of scientific papers where SGI were analyzed. The main objective was to understand which indicators are commonly used by the scientific community, but also to collect a group of information very useful to the SGI analysis developed later. The literature review was guided by a form that helped to gather this information since it raises some concrete issues.

In total, 38 documents were analysed spread around the six SGI domains, and from different European contexts. In the table 1, we can see the number of readings by theme and note that several themes were covered. The numbers presented show the large importance of domains/themes like infrastructures or services with economic basis like telecommunication, labor market assistance systems, energy, postal services and transports.

Table 1 – Main thematic analyzed in readings

Theme	Number of articles/readings	Theme	Number of articles/readings
Telecommunications (infrastructures, accessibility or and services provided)	15	Postal Services	2
Labour Market social costs and assistance)	9	Social equity	2
Energy	8	Demographic trends and elderly services	2
Transport and infrastructures and services (road, rail)	8	Monetary and fiscal policies/Exportations	2
Child care	4	Public administration and Public/social spending	2
Services in general	4	Water/Waste	2
Social housing	4	Monetary and fiscal policies/Exportations	2
Education level	3	Public administration and social spending	2
Financial services	2	Environmental protection and growth (understood as water supply/collection of waste and air pollution)	1
Health Care Services	2	Long term care	1
Housing	2		

From this process emerges a list of indicators commonly used to study each domain of SGI. The confrontation between the two lists (statistical and literature review) gives us a more accurate selection of what indicators could be useful to understand and measure the potential regional differentiation and the SGI influence in the territorial and social cohesion. Besides these indications, we can also get important information about data availability and its sources.

An example of the output provided from these two list is the table 2.

As result of the score relevance exercise, some indicators stand out with high levels of relevance, which means they gather a larger consensus among the team members and citation in literature review. Some examples could be found in the social housing, education and care services domains, however, they are selected from different perspectives at regional scale: number, population served and costs.

Themes like social housing, care services or child care services are very present in literature review and the indicators referred are considered to have a high importance value, but the

indicators are not available at NUT II or III, in Eurostat, which means that the data are provided by national or even municipality sources.

Table 2 - Confrontation between Official Statistical list and Readings list –Some examples

Official Sources	Geo. Unit	Readings/literature review
Social Housing		
Social Protection Expenditure: Tables by benefits	NUTS 0	Social benefits for the function: Housing (as a % of GDP)
Distribution of population by tenure status, type of household and income group (Source: SILC) (ilc_lvh02) - Tenant - reduced price or free	NUTS 0	The no. of low-cost private rental dwellings; Tenants
HICP - housing (teicp040)	NUTS 0	Median house prices; Housing affordability indicator I (house price to income ratio)
Dwellings by type of ownership, type of building and total occupants and total number of person	NUTS 0	Home ownership
Care Services		
Health care expenditure by financing agent	NUTS 0	Long-term care receipts and expenditures; Public health expenditure as % of total health expenditure
Social Protection Expenditure: Tables by benefits	NUTS 0	Child care expenditures; Sickness leave; Disability leave
Hospital beds (HP.1) by region, unit and facility	NUTS 2	Number of hospital beds per 100,000 inhabitants
Consultation of a medical doctor during the past 12 months by sex, age and activity status (%)	NUTS 0	Visits to a doctor in the last year
Labour Market		
Employment by economic activity	NUTS 2	Overall employment rate
Unemployment by sex and age	NUTS 3	Overall unemployment rate
Long-term (12 months and more)	NUTS 2	Long-term unemployment rate
Infrastructures		
Population connected to public water supply (NUTS2) - in %	NUTS 2	Access to water
Infrastructure - electricity - annual data	NUTS 0	Capacity of electricity networks
Electricity - marker prices - half-yearly prices - Data until 2007	NUTS 0	Energy (electricity and gas) - Price trends
Railway transport - Annual national and international railway passenger transport by region of embarkation and region of disembarkation	NUTS 2	Number of rail passengers kilometers
Modal split of passenger transport	NUTS 0	Share of number of rail passengers kilometers in relation to other transports
General government expenditure by function (COFOG)	NUTS 0	Public funds spent in this industry
ICT Telecom		
Information technology expenditure in millions of euro and as a percentage of GDP	NUTS 0	Public funds spent in this industry
Mobile phone subscriptions (per 100 inhabitants) (tin00060)	NUTS 0	Mobile cellular subscribers per 100 inhabitants
Households with broadband access (isoc_r_broad_h)	NUTS 2	Broadband Internet subscribers per 100 inhabitants
Percentage change of value added by ICT sector at current prices	NUTS 0	Value added in the ICT sector (as a percentage of total business sector value added)
Education		
Population 15 years and older by highest level of education attained	NUTS 2	Level of education in the Nordic regions
Number of students by level of education, orientation, sex and region	NUTS 2	Share of female students
Pupils and Students in all levels of education (ISCED 0-6) - as % of total population at regional level	NUTS 2	Students per inhabitant ratios (%)

Source: Own elaboration

The infrastructure domain have the most mentions, probably because it aggregates a wide number of services, and the indicators highlight the supply and economic perspective of the SGI. In this sense, indicators linked to road, rail and air transport (length of lines, number of airports), infrastructures of oil, gas, electricity, and water as well as postal and communication services, come in three different approaches: length, costs and employment.

The more interesting are the first two. The first is related to service availability but also with the accessibility to services, while the second is more linked to the political administrative systems and to the affordability of the service.

The utility of the indicators for our purpose depends on the data availability. There are a lot of interesting indicators but they are just available at NUT0 or I, thus, we can't consider them as suitable to analyze regional differentiation or to understand the effect of these in territorial and social cohesion. This is a particular problem in the infrastructure domain.

3.2 Perspectives to analyze SGI - from literature review

The methodological process of indicators checks and literature review raises some important information regarding the different problematic highlighted and the different kind of perspectives used to analyze the several domains.

Through an overview of the review results we can see that the different approaches found are equally interesting and can give us a more complete understand about the SGI.

The more common approach, comes from the Fourth report on economic and social cohesion and is shown in table 3. It's a complete descriptive approach since it tries to cover multiple dimensions.

Table 3- Domains and Indicators presented in literature review – example 1

<p><u>Transportation infrastructure:</u> Rate of use, density and length of motorways and railway lines Volume of air traffic, accessibility to flights Volume of sea/river transport Regional accessibility and connectivity to means of transport</p> <p><u>Energy</u> Final energy consumption Share of oil in energy consumption Capacity of electricity networks</p> <p><u>Telecommunications</u> Access to high capacity networks Potential of access to broadband of households and businesses in urban and rural areas</p> <p><u>Health services</u> Accessibility of health services Provision of health centers Beds per inhabitant</p> <p><u>Environmental protection and growth</u> (understood as water supply/collection of waste and air pollution) Access to water Water treatment/pollution Waste generation</p>

Source: Growing regions, growing Europe. Fourth report on economic and social cohesion

Other approaches are more linked to one or two dimensions, for example the one more related with accessibility, considering different meanings of accessibility behind physical accessibility. The social inequality and affordability are also fundamental to cohesion process.

As we already pointed in the conceptualization of SGI, the continuity and quality of services are crucial in the discussion of SGI, mostly in rural areas (table 4).

Table 4 - Domains and Indicators presented in literature review – example 2

<p><u>Universality and General Accessibility</u></p> <ol style="list-style-type: none"> 1. Percentage of persons not having access to the service (current situation and recent trends) 2. Main characteristics of persons not having access to the service (current situation and recent trends) 3. Rate of use of the services (current situation and recent trends) 4. Main characteristics of persons not using the services (current situation and recent trends) 5. Number of service providers for any user (current situation and recent trends) 6. Other <p><u>Affordability and Price Equalisation</u></p> <ol style="list-style-type: none"> 1. Affordability indices 2. Price trends 3. Other <p><u>Social Accessibility</u></p> <ol style="list-style-type: none"> 1. Percentage of specific categories of persons (elderly persons, handicapped or disabled persons, large families, ...) not having access to the services (current situation and recent trends) 2. Price differentiation with respect to specific categories of persons (current situation and recent trends) 3. Special equipments for handicapped persons and other specific categories of persons (current situation and recent trends) 4. Other <p><u>Territorial Accessibility</u></p> <ol style="list-style-type: none"> 1. Percentage of the territory not having access to the service (current situation and recent trends) 2. Main characteristics of those parts of the territory not having access to the service (current situation and recent trends) 3. Spatial density of networks by type of equipment (per inhabitant and per square km) (current situation and recent trends) 4. Price differentiation with respect to location (current situation and recent trends) 5. Other <p><u>Continuity and Quality Of Provision</u></p> <ol style="list-style-type: none"> 1. Reliability of services: interruptions of services, delays, repair time, ... 2. Security of supply, safety 3. Time for connection to the network / to the service 4. System and time to respond to complaints 5. Other, with particular reference to consumer perception of services offered <p><u>Spatial Cohesion and Development</u></p> <ol style="list-style-type: none"> 1. Spatial imbalances 2. Description of bottleneck situations 3. Other

Source: CIRIEC Project – Final Overall Report, March 2004, Contribution of Services of General Interest to Economic, Social and Territorial Cohesion

Some documents are not so descriptive as the first two. They provide a more in-depth analysis of the thematic, once they represent domains that must reinforce a long-term planning perspective. An example is the ageing process and the increasing social disparities that characterize European regions, which forces to think about long term strategies in some domains, as child care, in order to promote labor force activity and the social cohesion. One of this kind of approaches base his study in indicators like: - employment rates for mothers with children under 3 years old; - access rates for children under 3 years in licensed ECEC

services; - employment in child care services and the level of education associated; - payments of trained staff in childcare facilities.

In child care services is also found an analysis of the competent public authorities, examining the organization of service, the “market” share and the governance mode. Some indicators like service provision expenditures and service provision by form of intervention are used.

The labor market domain is the second must considered in state of art compilation. His relation with SGI emerges, mostly, in the context of cohesion policy and social transferences.

Another relevant theme is the “Labor markets and public welfare”, which make evident the importance of more general indicators like: Financial situation; Demographic trends; Monetary and fiscal policies; Export ratios; and Education level.

Table 5- Domains and Indicators presented in literature review – example 3

Long term services:

There are an increasing interest and active policies in many countries to tackle problems of gaps in services, improve quality and prepare for demographic changes in the future. Nowadays, in a general way, there are some gaps concerning this service. The territory is not fully covered, the service is very limited, and care provided in home is very restricted in the number of hours. In some cases it’s not provided by the state but by associations, other’s organization or by companies. This study considers that these services are still underdeveloped in many countries and the access within a country can vary substantially depending on where one lives.

Child care:

In most of the Member States the EU-Barcelona targets (providing childcare by 2010 to at least 33% of children under 3 years of age and to at least 90% of children between 3 years old and the mandatory school age) are far from being reached, in particular for the younger age group. Given the diversification of childcare services and the fragmentation of responsibilities, the problem of a lack of coherence and governance arose. Specifically quality control procedures are more difficult to implement given the increasing number of independent childminders and of for-profit providers. Childcare services up to three years of age are quite limited in all of the four countries referred, especially in rural areas. In all of the four countries, alternatives to collective crèches, e.g. childminders, family crèches, etc. have usually no nationwide supply and are often relatively expensive.

In general terms, Diversification and flexibility of services provided do not always meet the expectations of users as both public and private supply have developed on a traditional pattern of collective childcare, with conventional, rather rigid opening hours demanding a continuous, generally full-time attendance.

Social housing:

Social housing organizations are facing greater demands in those cases where they keep a predominant role to fulfill this mission, and in cases where there is a weak social housing sector (e.g. Hungary, the Czech Republic, Spain, etc.), discussions are in place amongst government, social and academic actors to establish such a sector.

The lack of standardized definitions of social housing across the EU – and the resulting absence of common methods and cycles of data collection in all member states – makes it difficult to establish meaningful comparisons, given the disparity in terms of indicators, methods and cycles of data collection.

Source: Manfred Huber, Mathias Maucher, Barbara Sak, 2006, Study on Social and Health Services of General Interest in the European Union.

The fourth approach is more centered in the providers and consumers perspective, more related with affordability and availability, and appears mainly in themes like communications, energy and infrastructures in general.

Table 6 - Domains and Indicators presented in literature review – example 4

<p><u>ICT infrastructure and Access:</u></p> <ul style="list-style-type: none"> - Fixed telephone lines per 100 inhabitants - Television sets per 100 inhabitants <p><u>Access to, and use of, ICT by households and individuals:</u></p> <ul style="list-style-type: none"> - Proportion of households with a radio - Frequency of individual access to the Internet in the last 12 months (from any location): (a) at least once a day; (b) at least once a week but not every day; (c) at least once a month but not every week; and (d) less than once a month. - Proportion of households with electricity <p><u>Use of ICT by businesses:</u></p> <ul style="list-style-type: none"> - Proportion of businesses using computers - Proportion of businesses with an extranet <p><u>ICT sector and trade in ICT goods:</u></p> <ul style="list-style-type: none"> - Proportion of total business sector workforce involved in the ICT sector - Value added in the ICT sector (as a percentage of total business sector value added)
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Source: Dirk Pilat and Andrew Devlin, 2004, The diffusion of ICT in OECD countries, The economic impact of ICT: measurement, evidence and implications, Chapter 2.

3.3 The role of context indicators

The interpretation of SGI indicators in regional disparities in EU context constitutes a big challenge. Many factors should be taken into account in this discussion:

- Political-administrative organization models in different countries reflected in more centralized or decentralized systems of governance. The organization of systems between central and local, between central-regional or central-regional-local powers make evident effects in the provision process of services. This is particularly evident to social SGI as education or health sectors, that have different performances in the countries like in Portugal, France or Germany;
- The relation between SGI providing and territory, which allows to the discussion of territorial dynamics and characteristics (level of urbanization, the demographic structure linked to ageing process, infrastructure development and other regional development signs.

The demographic and urban structure determines different SGI development (affect demand and efficiency) but at the same time, the adjustment of SGI to the regions is also valid.

Ageing areas tend to have less service, but less services doesn't attract new population. The same in densely urbanized areas, they tend to have more services, but sometimes less effective or with bad quality, as these regions attract more and more users.

This means the importance to integrate contextual indicators in the analysis of SGI indicators. In the present, some contextual indicators were selected.

Table 7 – Context indicators – Examples to integrate in the SGI regional differentiation

GDP/capita	Natural population change 2000 - 2007
Employment rate	Population aged 65+ in 2005
Unemployment	Population aged 14- in 2005
Depopulation trends	Youth dependency ratio in 2005
Population density	Old age dependency ratio in 2005
Typology of ageing and depopulation	Urban-rural typology, based on population density, FUA ranking and land cover
Direct indicator of depopulation	Typology of Functional Urban Areas (FUAs)
Trends of ageing	Regional destination attractiveness for 2005-2010
Population Change 2000-2007	Areas assigned to potential urban strategic horizon
Change in Population 2005-2050 - Scenarios	Urban population

- The relativity of scale to interpretation results. This aspect should be taken into account in the comparative analyses. The SGI are quite different in under municipal or parish level, regional or national level. For parish level, there are a big sensitivity to pre-school or elderly equipments proximity. This means that measure the availability of services depends on different population needs.

The last aspect highlights the difficult to measure availability, accessibility and affordability and in traduce it in indicators. A service could be available but not accessible for geographical reasons, or non-geographical factors (as economic, social or cultural ones). The affordability could be conditioned in two ways.

3.4 The role of indicators in the effects evaluation

The third dimension of this indicators approach is mainly related to measure the SGI effects. To make a correct characterization of the services, as well as a good analysis and evaluation of its effects it is essential to understand the role and the meaning of the indicators to use. Before enter in the analysis process we will expose the cause-effect relation that has to be taken account.

In the Green Paper about Services of General Interest (Communication of Commission, 2003), as well is following documents (e.g.White Paper, CCE, 2004), the evaluation of services is one of the key elements in consideration. As pointed in CCE (2003), “the evaluation of services of general interest is important because of the significance of these services for the economy as a whole and for everyone’s quality life”(pp. 28).

This evaluation has 3 fronts:

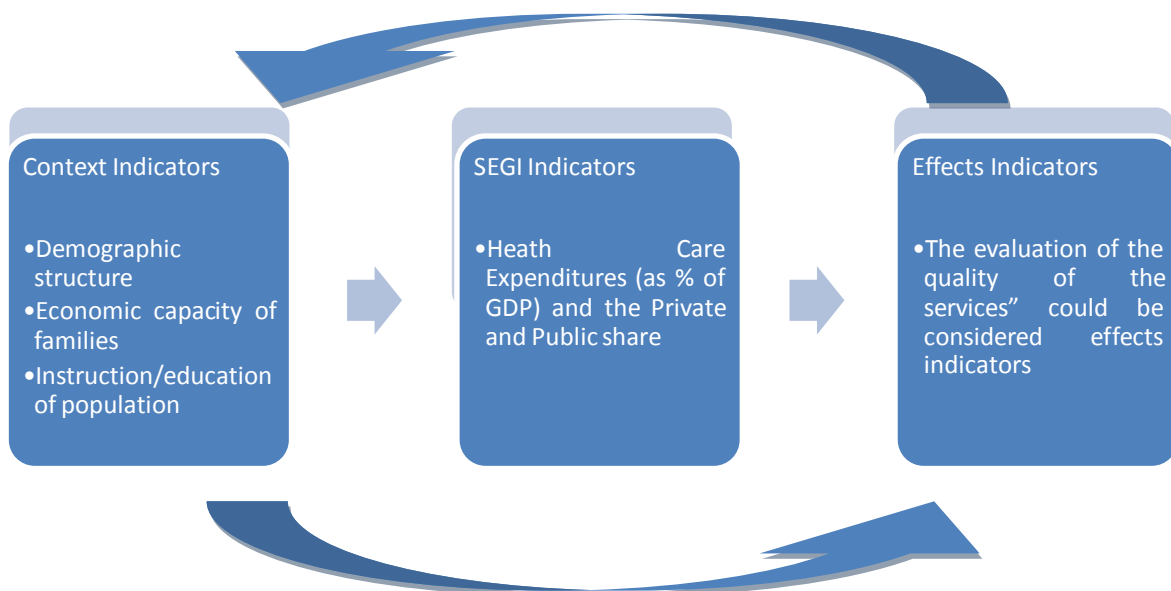
- “The regular evaluations of network industries that have been liberalized” (sectional evaluation);

- Cross-sectional (horizontal evaluation);
- Consumer satisfaction surveys;

Concerning sectors and horizontal evaluations, the process of analysis and the availability of data is not systematic, make it impossible to integrate in a indicator system. There are no available data about sectional and horizontal by region or for homogeneous period, which invalidate their inclusion in indicator analysis.

The last front, as suggested in CCE (2003), is associated to Euro barometer opinion and qualitative surveys, where some data and indicators could be included.

Figure 2 - Example 1 – Cause-effect relations in SGI



Taking example of health care service domain, the indicator “Health Care Expenditures as % of GDP” correspond to a SGI indicator while the effect can be appraised by an indicator of evaluation of access to health service available. Another common kind of indicators used to evaluate the effects are those that allow to evaluate the quality of the services, for example the satisfaction of the service users, since they correspond to the results of investment and infrastructures of the sector.

In some cases it is not so easy to establish these indicator roles. They could be much more complex than the presented example, been at the same time SGI indicators and Effects indicators, depending on the point of view. The “% of Households with broadband access” is a SGI indicator but at the same time, it is also an effect indicator when seen like a result of the family income, cost of the service or national policies.

4. A picture of EU regions integrating context, SGI and effect indicators

4.1 Health Care

The healthcare sector is one of the most sensitive sectors in the ongoing discussion over social services and public financing.

In a first looking, and using a NUT0 indicator we can distinguished the countries by the expenditures in this domain – percentage of GDP of Health Care Expenditures. The first things to say is that there are a lot of countries without information, all the candidate ones and also all the United Kingdom, Ireland, Italy and Greece. The highest percentages are founded in the central Europe, in countries like Germany, France, Switzerland and Austria. The division of the expenditures by sector allows say that in a general way the investment of the general government it is always superior to the private, but in cases like Switzerland, Portugal and Bulgaria this difference is smaller.

Still in NUT0 indicators, and regarding the expenditures in hospitals, it is important see that making an analysis of this information, with a different indicators, give us different analysis outcomes.

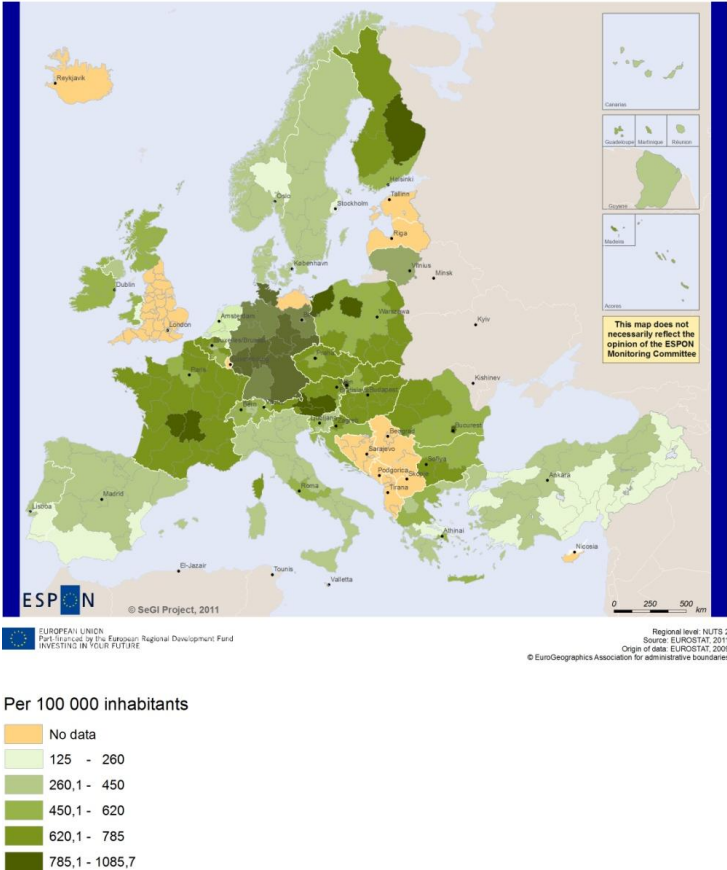
If we analyze the “percentage share of total current health expenditure” the Nordic countries, the Austria, and the Iberian countries appear with high values, above 36,1%, in opposite, the central European countries have the lowest percentages. The same background information, the expenditures in hospitals, gives us another kind of information if viewed with a different indicator – “Expenditure in hospitals by Purchasing Power Standard per inhabitant”. In this case the high values are in the Nordic countries but also in the central European countries and the lowest are in the eastern countries.

Comparing the two indicators we can understand that although the eastern countries, Portugal and Spain have relatively higher values of hospital expenditure according the total expenditure, they present very low values of expenditure per inhabitant. By opposite, the central European countries have less expenditure in the share of the hospitals, but viewing by the point of view of the inhabitant, they present higher values than the countries before referred.

The central European countries are the ones that spend more with the health service, not so concentrate in hospitals like the other group of countries, nevertheless they end up to spend more by inhabitant, resulting in a higher investment that can be seen in the higher values of hospital beds (Figure 3).

The “Number of hospital beds, per 100 000 inhabitants” could also be considered an SGI, but in a large perspective, as it reflects the investment made in this domain, also traduce the effect in the service model. It is often used because it highlights the potential quality of health services, showing the capacity of the system in severe situations.

Figure 3 - Hospital beds/100 000 inhabitants, 2009



Source: Eurostat.

The differentiation here presented depends of the investments made by each country and at a regional level, of the population density. More densely populated areas, in a general way, are associated with higher densely populated areas values, instead to the low density populated areas the situation is quite different. Two situations are seen: countries like Portugal, Spain, Turkey and the Nordic regions, with low population density areas have low values of beds per 100 000 inhabitants; high values of beds per 100 000 inhabitants in low population density areas like Finnish and French regions.

Nevertheless, the analysis needs to be supported in contextual indicators, as population density or urbanization development. Besides the population density, these differences could be explained by questions like the density level necessary to justify the minimal demand level

but also with the type of service provided (level of infrastructure and equipment invested in hospitals, etc...).

Analyzing these indicators together it comes out 3 different groups. The first includes the Southern countries where there is a relation between the level of healthcare investment and the number of hospital beds. The second can be found in Norway and Sweden, that have the highest investment level in hospital expenditures but the number of beds doesn't follow the investment, demonstrating that the profile of investments made is very different as the cost of the healthcare services. The third group refers to a situation of high numbers of hospital beds and low levels of expenditures, which indicates a political and social model in transition and also lowest costs of the provided services in the EU. This panorama can be found in Eastern Europe.

The third dimension, traduced in the effect indicators take as example the Eurofound data: "How would you rate the quality of the health services in this country?", that reflects the general opinion of the inhabitants about the health service. The questioned inhabitants classified the service according the scale rating system from 1 to 10 (1 is lowest, 10 is highest). The more satisfied are in the northern countries and some of the central European, France, Austria, Holland, Belgium and Luxemburg. The more dissatisfied are from the eastern countries, Ireland and Portugal.

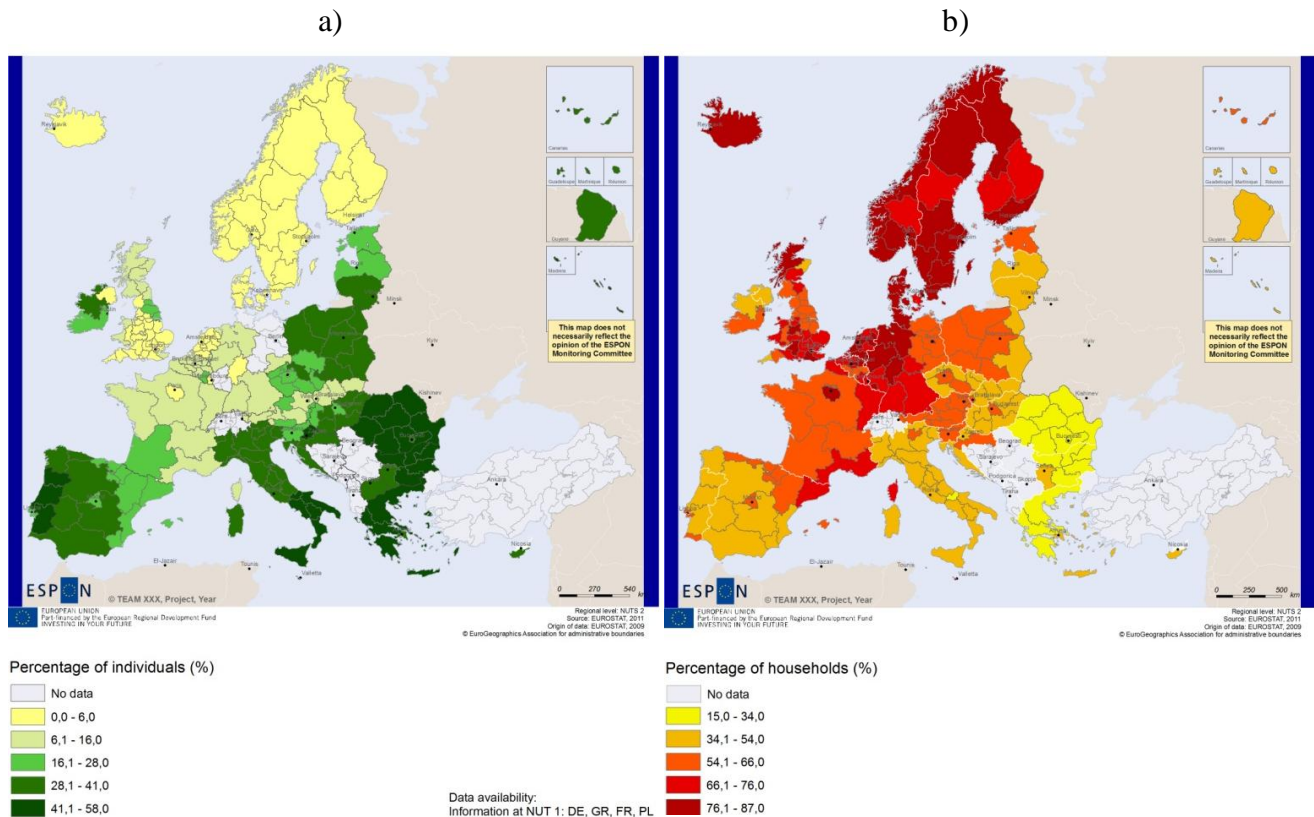
4.2 ICT Telecom

In this domain we highlight the internet service for be considered a factor with an important impact in economy as well as in social cohesion.

Following the same logic presented before, it's essential to analyze the investment made in this domain but one more time, the information about expenditure are only available at NUT0.

Considering the "Information Technology expenditure per percentage of GDP", most of the Nordic regions, but also some central European countries and the United Kingdom invest something between 2,5%, and 3,8% of their GDP. We can find countries with the same values, like Czech Republic and Belgium (2,2%) but that represents a very different situation. To distinguish these kind of situation we have to see the same information but in another indicator – Information Technology by millions of euro per 100 000 inhabitants. To see what is the effect of this investment we analyze the "Individuals who never used a computer" at percentage values.

Figure 4 - a) Individuals who never used a computer, 2009; b) Households with broadband access, 2009.



Source: Eurostat.

In a matter of fact, the investment almost establish a direct relation with this two other indicators. The regions where we can find the lowest values of individuals, who never used a computer, are in the Nordic countries (until 6%), and in the central Europe (until 16%). The same regions where we can find the highest values of broadband access (Nordic countries have in general more than 76% and the central European always more than 55% reaching also values like the first ones). Periphery countries have the less investment and as an effect, also have the poorest access to broadband (reaches the 15-34% in Romania) and more people who never used a computer (reaches values of 50% in some regions of Romania, Greece, Italy and Portugal).

4.3 Education

This domain is assumed by the EU as one of their main concern. The objective is to develop the education systems in order to increase European competitiveness.

Some indicators are commonly used to contextualize the population education level, “Secondary level students per 1 000 Inhabitants” and “Persons aged 25-64 with upper secondary education attainment” are two of them, but the last one, besides being a SGI indicator, can also be considered as a effect indicator, by the way it represents the result of investment in education equipment and personnel. Based on these indicators we can point out the northern regions and some eastern and central European regions with the highest and medium-to-high values of students per 1000 inhabitants, revealing a high regional potential, since it represents the weight of educated young population that will be fundamental to the future population of the region.

Regarding the upper secondary education level, it stands out the eastern and some central European countries. The highest values can be founded in Czech Republic, Poland and some regions of Germany. In both cases the southern countries of Europe have the lowest values, despite Portugal and some regions of Italy are already presenting interesting values of students in the secondary level.

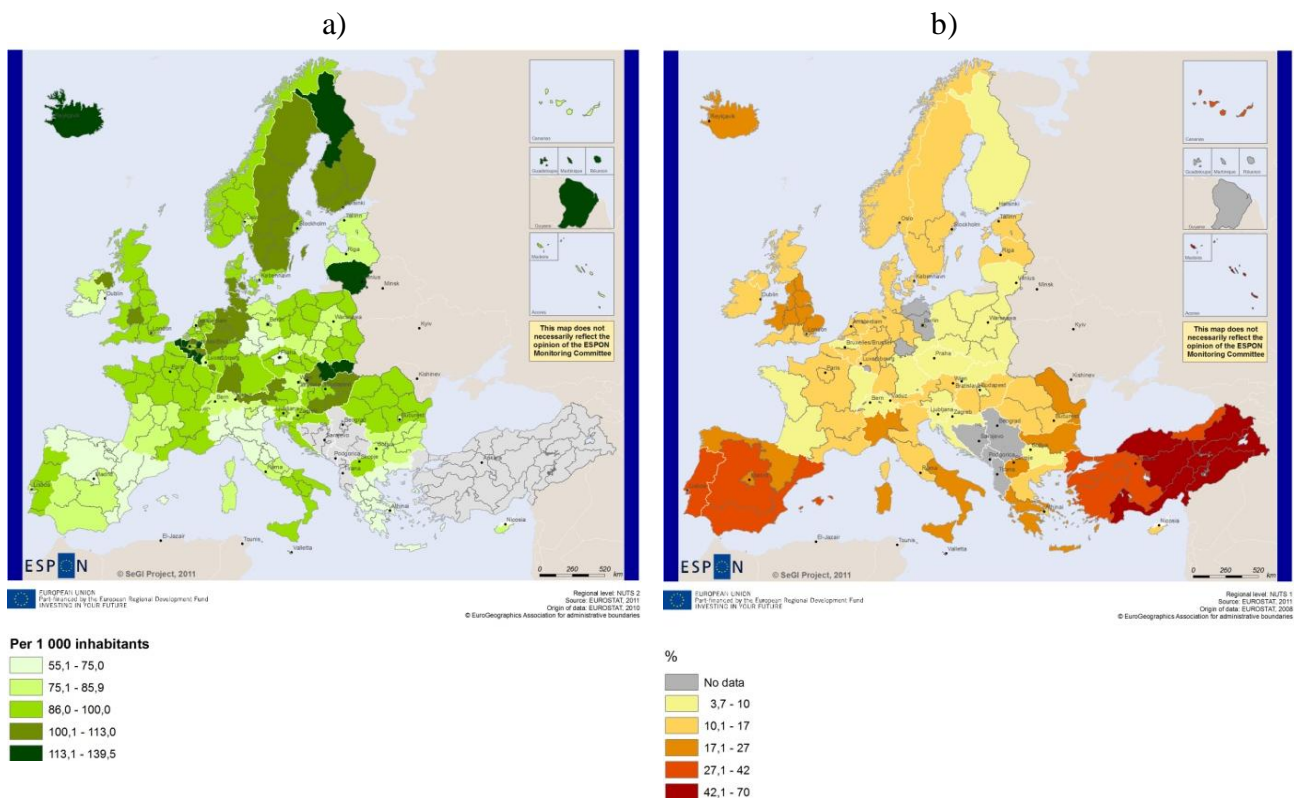
As effect indicator often used we can look at the “early school leavers”. This indicator reveals almost an opposite distribution of values with relation to the persons with upper secondary education level. A lower level or a decrease of these values represents the positive effect of an educative policy. The combination of these two indicators presents, at the same time, a good context and a result picture. There is almost a perfect match between the regions with lowest values of persons aged 25-64 aged with upper secondary education level attainment and the regions with the highest values of early school leavers. The most disadvantages regions are from the Iberian Peninsula, some from Greece and Turkey. A higher share of early leavers is not good for competitiveness or for social cohesion as it compromises the future of these regions.

Contextual indicators can support two main reasons for explaining the figures. The first one is the high sensibility to regional age structure, namely regions that are undergoing an ageing process. Some of the lowest values are related to regions that have high old-age dependency rates (examples here include northern Spanish, northern Italian, or Greek regions). While the second is related to an high sensibility to economic structure and social dynamics. Besides the relation to *per capita* in pps, we also find a relation between the shares of early school leavers and socio-economic processes. The areas of lesser economic development have the highest levels of early leavers, instead more developed and diversified economic regions have fewer early school leavers. This may explain the relatively few early school leavers in Swedish regions, despite the ageing process and the existence of an advanced postindustrial service

economy, while, for example, regions in northern Portugal and Spain have a high share of early school leavers the economic structure still produces a demand for low qualified labour for industrial and agricultural work.

Considering the third dimension – the effect evaluation, in a general overview the population of southern countries of Europe is the most unsatisfied with the education system. The information gathered from Eurofound questionnaires, points out Portugal, Italy and Greece with the lowest values of quality of the education system, below 5,5 in a scale from 1 to 10. Above assessment values of 7,1 we can find the northern and some central European countries, like Holland, Austria, Czech Republic and Ireland.

Figure 5 - a) Secondary level students, 2009 ; b) Early school leavers, 2009.



Source: Eurostat.

4.4 Social Housing

Some data issues arise in analyzing this domain. There is no data available to more than NUT0, disabling the possibility of identify the regional inequalities. Nevertheless we can recognize high overcrowding rates across the eastern European countries, revealing countries with high young unemployment. In a general overview, we can see an association between the economic development of the countries and the percentages of population by tenure status. Countries with less economic development tend to present the highest values of percentage in

population living at own houses with no outstanding mortgage or housing loan. The percentage of tenants is lower but the tenants with reduced prices or free are in a higher percentage than those with market prices. These highlight the importance of GDP per capita, and poverty context indicators. Also the family structure could help to contextualize the housing need and the social component of it.

The countries that present a higher economic development have the highest values of population at own houses with mortgage or loan. The percentage of tenants is significant, around 25%, prevailing those at a market price.

4.5 Labour market

Here is done a small reference to labour market systems. This is one of the sectors with lowest number of indicators. Context indicators as active population or unemployment are relevant.

The SGI is represented by the public expenses to social sector, including expenses with jobless and training of employee.

The SGI effects could be evaluated by the Eurofound indicators resulted from the questionnaire: What kind of contract do you have?; Has your salary or income changed in the past year?; Have you had training paid for your employer in the past year?

5. Conclusion

Policy making, monitoring and evaluation demands information, organized in an up-to-date systems and harmonized for the sector and territories of analysis. Indicators are previligious information to make this process. The previous analysis shows some evidences:

- The need to integrate SGI indicators with context indicators;
- The need to measure effects, difficult by the scarcity of data;
- The SGI effects analysis also obliges to an inter-sectorial analysis;
- The scarcity of available information for different scales of analysis;
- The heterogeneous number of indicators for each domain.

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