ASSESSING TERRITORIAL IMPACT ASSESSMENT: THE CASE OF SERVICES OF GENERAL INTEREST

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Abstract

No single or common definition, or even a shared basic understanding, of Territorial Impact Assessment (TIA) currently exists. The conceptual background of TIA is focused on Territorial Cohesion (TC), which, in turn, also lacks a single definition. TC has a strong connection to Services of General Interest (SGI) as these services are a crucial element of the Cohesion Policy. This paper...
is a spin-off from the ESPON SeGI project and aims to discuss the applicability of TIA on SGI. The analysis is focused on an ex ante evaluation of TIA and on the methodology of critical evaluation. The findings suggest a rather limited applicability as an undefined concept (TIA) is based on another undefined concept (TC) to measure the impact on a third vaguely defined concept (SGI). Moreover, the particularities of each SGI may be related to economic and social changes that themselves may or may not be territorially reflected.

**Keywords:** regional development, Services of General Interest, Territorial Impact Assessment

**JEL Classification:** R58, O21, B40, L97

1. Introduction

The European Commission has set the aim of making policy more effective while increasing the European added value. To achieve this aim, in the context of the Europe 2020 framework, three necessary tasks have been outlined: (1) clear and measurable targets and outcome indicators should be established and they “must be clearly interpretable, statistically validated, truly responsive and directly linked to policy intervention, and promptly collected and publicised”; (2) making ex ante evaluations that utilise the monitoring and evaluating tools and incentives necessary to achieve the programme’s set objectives during the implementation phase; and (3) developing evaluations by using “rigorous methods in line with international standards, including impact evaluation” (European Commission 2010:XXVII). Taken together this constitutes a move in the direction of the potential use of instruments that could lead to a better understanding and explanation of the impact of European policies across European territory.

In addition, the European Commission admits that many policies simply cannot be spatially positioned and, as a result, that their spatial impact is difficult to determine (European Commission 2010:179). The solution adopted by the European Commission focuses on the carrying out of a territorial impact assessment designed to capture the potential territorial impacts thus obtaining better policies and a better level of coordination between them. Zonneveld and Waterhout (2009:9) note that the “territorial impact of EU policies is a relatively new field of research”. Consequently, little research has been done on Territorial Impact Assessment (TIA) while, moreover, a common definition or even understanding of the topic itself remains elusive. TIA is based on the concept of Impact Assessment (IA) which is constituted by three main pillars, namely economic, social and environmental impacts.

Territory, impact as well as assessment can have several meanings but in accordance with the particular case of services of general interest, specific definitions will be nominated. The concepts will be defined based on their dictionary definitions. The ‘territory’ concept has various meanings, as follows:

- an area of land under the jurisdiction of a ruler or state;
(especially in the US, Canada, or Australia) an organised division of a country that is not yet admitted to the full rights of a state;

- [mass noun] an area of knowledge, activity, or experience: the contentious territory of clinical standards the way she felt now—she was in unknown territory (Oxford Dictionaries 2012).

The most appropriate meaning of the territory related to impact assessment is represented by the first definition outlined above, where territory is a geographical area. Additionally, Haggett (2001 cited in Medeiros, 2011, p.3) states that territory is ‘an area over which rights of ownership are exercised’. Similarly, Delaney (2009 cited in Medeiros, 2011, p.3) suggests that ‘an expression of the fusion of power and social space’ is the best expression of the territory concept.

The second concept, ‘impact’ is defined as follows:

- the action of one object coming forcibly into contact with another: there was the sound of a third impact [mass noun]: bullets which expand and cause devastating injury on impact;

- marked effect or influence: our regional measures have had a significant impact on unemployment (Oxford Dictionaries 2012).

In the context of ‘impact assessment’ where economic, social and environmental issues are taken into consideration, the second meaning of ‘impact’ is probably the most useful.

‘Assessment’ represents ‘the action of evaluating someone or something’, based on the ‘assess’ verb that means ‘to evaluate or estimate the nature, ability, or quality of; to calculate or estimate the price or value of; to set the value of a tax, fine, etc., for (a person or property) at a specified level’ (Oxford Dictionaries 2012).

Furthermore, the territory impact assessment is carried out in regions where services of general interest exist; and if they exist the public authorities have determined their necessity based mainly on the demands expressed by citizens. Consequently, the impact is defined as meeting a demand - the demand for services of general interest in a certain region.

The term of Services of General Interest (SGI) is however anything but clear-cut; on the contrary, it is vague and multifaceted. The term ‘Services of General Interest’ was coined within the EU policy process and does not reflect national terminologies or the conceptual world of the scientific literature (ESPON 2011). SGI is divided into Social Services of General Interest (SSGI) – e.g. education, labour market services, health services, healthcare, elderly care, childcare and social housing – and Services of General Economic Interest (SGEI) – e.g. electricity, gas, water, waste management, ICT, transport and postal services (European Commission 2006, 2007, 2008a). Furthermore, SGI can be categorised as either economic or non-economic (CEEP 2010:1). As the
concept of SGI currently covers everything from e.g. the consumption of kindergartens to investment in nuclear power plants it is thus simply too vague and imprecise to be used effectively for analytical purposes (Rauhut and Ludlow 2012:5). Policymakers need tools to assess the impact of policies and programmes, and ideally, evaluations should not only be carried out after completion of a project, but also prior to its implementation. TIA claims to be such a tool. Therefore, this study aims to discuss the applicability of TIA to SGI. This discussion will be framed in terms of an ex ante evaluation focusing on the use of critical evaluation as a methodology. Four research questions are raised: (1) How does TIA relate to SGI? (2) To what extent can TIA be applied in assessing SGI? (3) Should the territorial impact be assessed differently for different SGI? (4) How relevant is the spatial dimension for SGI when conducting an impact assessment?

2. TIA- SO FAR
The concept of TIA is introduced by Golobič and Marot (2008:1) as “one of the newest strategic assessment and evaluation tools”. The same authors trace the roots of the TIA method back to the ESDP programme of 1999 where it was defined as a method designed to accomplish the “better integration of territorial cohesion principals into sector policies” (Golobič and Marot 2008:1). The overall impression, according to Zonneveld and Waterhout (2009:1), is that “there is still little guidance on how a TIA might be done and on what it actually is or could be”. Moreover, in order to provide a clearer picture of the content of IA, in the ‘Impact Assessment’ section of the European Commission’s website (European Commission 2012) a list was made available such that anyone could identify previous Impact Assessments and other initiatives requiring an Impact Assessment.

Very few interventions in the scientific literature have however as yet been made in respect of TIA. Moreover, in one of the few available, a study dealing with Slovenia, only a limited number of sectors such as the environment, highway construction or energy, are analysed (Golobič and Marot 2008:2). The TIA model used is a matrix formed by crossing three main axes, namely, sectoral policy measures, territorial cohesion objectives and parameters of a spatial context, and external factors that may appear as trends of change (Golobič and Marot 2008:5).

Greiving et al. (2008) look at the TIA approach by focusing on the environmental policy areas for civil protection, water, nature and biodiversity. The methodology follows the “TIA minimum requirements” of the ESPON Programme, which can be viewed as a checklist for all ESPON policy impact projects: (1) Scoping: Reference to policy interventions; hypothesis concerning cause-effect relationships; regional scale of observation; reference to past and future; (2) Analysing: Interventions and effects measured; quantitative/qualitative appraisal; technique of
analysis; and (3) Assessing: Goals referred to (polycentric spatial development, cohesion); applied meaning of spatial/territorial; territorial coverage of outcome.

The TIA approach however has several limitations when assessing the economic, social and environmental consequences of policy implementation. Policies cannot always be directly linked to the spatial dimension and, therefore, their consequences are almost impossible to territorially delimit. Another issue here relates to the lack of common conceptual agreement when conducting the assessment as there is no consensus regarding the “level of evaluation, methods and scheme of relations in between the policies” (Golobić and Marot 2008:3). Furthermore, and this makes it yet more complicated, “there are no clear standards regarding territorial quality” (Zonneveld and Waterhout 2009:9) while a certain level of technique in respect of TIA is still to be defined. Although, progress has been made and a technique called TEQUILA (Territorial Efficiency Quality Identity Layered Assessment) was developed. This consists of an econometric model composed of 30 spatial quality indicators. Simplified, the model can be described as a multi-criteria model where indicators of both a qualitative and quantitative nature are summarised and given weights defined in an ad hoc manner by various methods (through an internal expert discussion; through a discussion with policy makers; through Delphi inquiries etc). The purpose of this technique is to show the impact of the policy proposal on the territorial cohesion aims (Camagni 2009).

As regards the methodology used when conducting a TIA, Zonneveld and Waterhout (2009:9-10) make an indirect recommendation by specifying that ex ante rather than ex post research is more suitable. In this sense, a deeper knowledge could be accumulated by meetings between experts, hypothetical ex ante case studies or scenario building which requires the use of a data bank consisting of an overview of the causality between EU policies and territorial impacts. IA represents a sum of logical steps that leads to exposing the advantages and disadvantages of a certain policy by pointing out its potential impacts. But, as Backlund (2009:1) maintains, IA can also be understood as a political instrument depending on the context and, particularly, on where the negotiations are conducted.

Territorial cohesion is an important part of TIA. The concept of territorial cohesion was first mentioned by the European Commission in 2001 in relation to the Amsterdam Treaty, and then only in relation to Services of General Interest (Polverari et al. 2005), and by the European Spatial Development Perspective (ESDP) in 1999 (European Commission 2008b). “Cohesion” is not a scientific or technical concept, but a political one. Cohesion objectives require thinking about the tensions between economic, social and territorial goals, e.g. in the areas of accessibility, competitiveness, diversity and sustainability (ESPON 2010). Still today there is no uniform definition of territorial cohesion (Böhme et al. 2011:17). Several attempts to define Territorial
Cohesion in a scientific way has been made by e.g. Davoudi (2005), Schön (2005), Faludi (2005), Waterhout (2007) and Camagni (2007). One of the main operational issues here concerns the indicators which are to be established for determining the presence and degree of cohesion in the relevant services of general interest. Difficulties also exist in relation to the social dimension of cohesion (de Ruffray and Hamez 2008).

3. Methodological considerations

In order to understand why an intervention has a desired effect when implemented in one contextual setting, but not in another, or changes over time, we have to look at three things: regularities, mechanisms and contexts. Regularity \((R)\) is an outcome, results or pattern which we want to explain. While \(R\) is the dependent variable, mechanisms \((M)\) and context \((C)\) are independent variables. According to Pawson and Tilley (2010:71),

"Explanation takes the form of positing some underlying mechanisms \((M)\) which generates the regularity and thus consists of propositions about how the interplay between structure and agency has constituted the regularity. Within realist investigation there is also investigation of how the workings of such mechanisms are contingent and conditional, and thus only fired in particular local, historical or institutional context \((C)\)."

Furthermore, changes over time \((T)\) may also have an impact on the result (Pawson & Tilley 2010:73).

An \textit{ex ante} evaluation is now possible for all 14 SGI mentioned as examples in the classification of SGI by discussing the relevant \(R, M, C\) and \(T\) for each of them. In this study, \(R\) will be the assumed regularities of TIA; \(M\) contains information on how the interplay structure/agent has on the regularity and how this regularity is generated for each SGI; \(C\) relates to what particular local, historical or institutional traits found in the context have on the mechanisms of the studied SGI; and, finally, \(T\) relates to changes over time.

One further useful methodological instrument is found in the philosophy of science. The phenomenon which is to be explained is called \textit{explanandum}. It is a pattern of regularities showing that the outcome or result or effect was expected due to a number of known conditions and scientific theories. The propositions used for explaining a phenomenon will, together, be called \textit{explanans}. This reasoning is a kind of deduction, in which the conclusion is then the \textit{explanandum}, \(E\); its premises, \textit{explanans}, is based on scientific laws \(- L_1, L_2, ..., L_n\) – and other premises \(- B_1, B_2, ..., B_n\) constituting declarative sentences of known facts (Hempel 1969:57f.). According to Hempel, such scientific conclusions can be illustrated by the following scheme:
Hempel (1969:65f.) also argues that all scientific explanations are not deduced from universal laws. Scientific conclusions can also be made from the calculus of probability. When explanandum can be concluded implicitly from the premises of explanans, we have to consider the degree of probability that the conclusion is true. In the deductive method the explanandum is always true given that the premises of explanans are true, but the conclusions (explanandum) based upon a calculus of probability can be false although the premises of explanans are true. Inductive explanations are based upon a calculus of probability, and they show that the explanandum, given the information in explanans, is very likely to be true.

This reasoning can be used to evaluate a SGI and all other known premises (explanans) to generate a certain territorial impact (explanandum). In some cases this will be made by deduction and in some cases by a discussion on probability.

The main purpose of ex ante evaluation techniques is to improve policy and programme designs and avoid failure by providing information about the direction and magnitude of the effects that are likely to occur (Bornhorst 2009:4). Other researchers argue that ex ante evaluation is useful for designing programmes that achieve some optimality criteria, such as maximising impact for a given cost (Todd & Wolpin 2006:1). Moreover, the European Commission (2001) consider ex ante analyses to be a useful tool in defining objectives, in ensuring that these objectives can be met, that the instruments used are cost-effective and that reliable later evaluation will be possible. Existing information and evidence from previous evaluations, studies and other sources should be fed into the ex ante process whenever possible.

A key issue in evaluation methods is that we do not always know what the optimal criterion is. Pawson and Tilley (2010:110) suggest that we instead provide estimates for the expected performance for any group of subjects and that these expected outcomes are compared with the actual performance of the subject(s) under investigation. This is a key component in their evaluation model realistic evaluation.

In this context it can be worth mentioning that the European Commission also advocates ex ante impact assessments. Table 1 below outlines some examples of the territorial elements that are considered by the European Commission when conducting ex ante impact assessments.
Table 1. Examples of territorial elements for Commission *ex ante* impact assessments

<table>
<thead>
<tr>
<th>Impacts</th>
<th>Key questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECONOMIC:</td>
<td></td>
</tr>
<tr>
<td>Specific regions or sectors</td>
<td>Will it have a specific impact on certain regions, for instance in terms of jobs created or lost?</td>
</tr>
<tr>
<td>SOCIAL:</td>
<td></td>
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<tr>
<td>Social inclusion</td>
<td>Does it affect equal access to services and goods?</td>
</tr>
<tr>
<td></td>
<td>Does the option affect specific localities more than others?</td>
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<tr>
<td>ENVIRONMENTAL:</td>
<td></td>
</tr>
<tr>
<td>Land use</td>
<td>Does it affect land designated as sensitive for ecological reasons? Does it lead to a change in land use (for example, the divide between rural and urban, or a change in the type of agriculture)?</td>
</tr>
</tbody>
</table>

*Source: European Commission (2010:179)*

What we suggest and will pursue in the context of this paper is therefore in line with the practices of the European Commission.

4. Connections between TIA, Territorial Cohesion and SGI: an overview

The purpose of this section is to provide an overview of the link between TIA – TC - SGI in order to provide answers to the first two research question of the paper. The most trenchant criticism made of the Cohesion Policy generally relates to the fact that its resources are so thinly spread across the included policy areas and that “its impact is often difficult to measure” (European Commission 2010:205). There is then a clear interest in utilising IAs within Cohesion Policy, but the basic difficulty nevertheless remains in terms of quantifying the impact.

The IA generates results that are relevant in respect of decision-making procedures but it is not always used efficiently. Group interest can interfere and formal assessments can be conducted in order to support a certain decision. This often significantly reduces the efficiency of the method (Golobič and Marot 2008:13).

As regards the sources of impact on territory, EU initiatives include the EU integration discourse, EU spending programmes and EU legislation (Zonneveld and Waterhout, 2009:7). Overall, EU policies can generate direct and indirect impacts, the difference being determined by the time dimension. More precisely, direct impacts represent the immediately effects of a certain
project, with its indirect impacts seen more clearly over time through the economic development of that particular region. In these terms, an EU policy proposal is more likely to have its direct rather than its indirect territorial impact assessed simply because of the complexity involved.

The question of determining direct or indirect impacts is however beyond the parameters of our investigation as the second research question is specifically formulated in connection with the ESPON programme. By analogy ‘To what extent can TIA be applied in assessing SGI?’ is focused on investigating “the possible and/or potential territorial impact of policies […] within member states” (Zonneveld and Waterhout, 2009:5), without directly addressing the direct or indirect impact on policies, governance systems or practices.

On the other hand, the most challenging issue in respect of TIA refers to capturing those particular impacts that are mainly dependent on the territorial particularities of each country and implies a very good knowledge of that specific environment. Camagni (2009) has identified three main components of Territorial Cohesion, namely territorial efficiency, focused on economic growth, minimal use of land resources and accessibility, territorial quality, taking into account quality of life, economic innovation and similar access to services of general interest, and territorial identity, concentrated on “social capital”, local know-how and the competitive advantage of each territory. Related to TIA, these components represent the starting point for developing an IA in general and the basis for the construction of the TEQUILA technique in particular.

Crossing the TC’s major components with the TIA’s main axes in relation to specific cases of SGI reveals that the discussion is primarily directed towards the crossing of the territorial quality component of TC and the three elements of IA, regarding policy measures, territorial cohesion elements and parameters for spatial units.

Zonneveld and Waterhout (2009:12) note that TIA could generate better policies within the EU, and including TIA as a component of the European Commission’s own Integrated Assessment instrument, rather than as a separate instrument, is the best solution for adoption at the European level. The same authors emphasise that it would not be relevant to use an exclusively evaluation-based instrument mainly focused on territorial aspects as the objectives of social and economic cohesion are already included in the method of Impact Assessment.

Economic, social and environmental directions are here viewed as likely to be the most important areas when assessing the impact of a policy, and as Zonneveld and Waterhout (2009:15) maintain, they are intimately connected to territorial issues. The same authors also point to the fact that access to SGI is among the main questions to be addressed when talking about social impacts, as a basic principle of territorial cohesion. Environmental impacts can also be related to the territorial issue in connection with SGI, as in the case of waste production and recycling.
Beyond the three directions of IA, the territorial issue is considered only when the policy proposal has a clear territorial dimension. So, only in these cases could TIA be applied, in relation to SGI however several shortcomings are nevertheless revealed. Due to the particularities of each SGI, TIA appliance displays a diverse intensity, with the extremes represented on the one hand by the explicit spatial dimension, and on the other, by the lack of a spatial dimension. Given the wide range of situations, the recommendation for state representatives would be to take territorial impacts into consideration when elaborating policies and regulations in respect of SGI, by analysing their particularities in respect of the spatial dimension. Overall, when referring to the territorial aspect of a policy or legislation the focus is placed on monitoring its impact at the state, regional or local level. The outcome of this process would be greater harmonisation between EU and member states regulations.

5. Assessing the territorial impact of 14 services of general interest

European Union policies in relation to territorial distribution determine three different situations expressed by the categories explicit, partial or without spatial dimension (European Commission 2010:179).2 The recommendations received by the European Commission during the debates over the Green Paper on Territorial Cohesion are mainly focused on the IA of the territorial dimension (European Commission 2010:195-197). It is recognised here that policies with an explicit territorial dimension, e.g. transport or environment, could have their impact assessment easily evaluated, and as a result the policy could be appropriately adapted. When the policy can be adjusted in accordance with its territorial impact, then the ideal case has been encountered. On the other hand, there are policies that it is difficult to associate with a certain spatial dimension, namely, the single market or trade policy.

Analogous to the division between European policies and the 14 examples of SGI mentioned earlier, transport could be considered as part of the first category with an explicit spatial dimension. Moreover, electricity, gas, water, waste management and postal services could be broadly included in the same category while ICT and telecoms, education, health services and health care partially correspond to a territorial distribution. Social housing, elderly care and child care as well as labour market services such as e.g. unemployment insurance and sickness insurance have no spatial dimension per se. In line with this reasoning, SGEI could have their territorial impact assessed rather differently from SSGI, because of the explicit differences between the spatial dimensions. In

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respect of services with an explicit spatial dimension, a more precise evaluation of the territorial impact could be made for SGEI than for SSGI. In addition, the latter have limitations in respect of TIA, primarily because of their partial spatial dimensions. ‘Regularity’ is generally perceived as regional outcomes that are determined by particular ‘mechanisms’ depending on each SGI case. For the SGI that are placed within the explicit spatial dimension category specific ’regularity’ could be identified and nominalised. On the other hand, for those SGI lacking the spatial dimension ‘regularity’ is much more difficult to customise.

Overall, the territorial impact has to be differently assessed for the two categories of SGI as they are impacted differently in respect of the spatial dimension. In this sense, the following subsections aim to clarify ‘the extent to which TIA can be applied in assessing SGI’ and ‘How relevant the spatial dimension is in respect of SGI when conducting an impact assessment?’

**EXPLICIT SPATIAL DIMENSION**

It should be noted that all services included in this category dispose of a solid infrastructure that assures the development of a widespread network in order to support the provision of that particular service. Such services include transport, electricity, gas, water, waste management and postal services.

The notion of transport here could however have different connotations, on the one hand, the focus placed on the transport network and on the other that related to the provision of urban public transport. In both cases, the *explanandum* refer to the spatial distribution that is supported by *explanans* related to territory. Explicitly, the transport infrastructure can be easily determined within a territory as the distance between point ‘a’ and ‘b’ can be measured. As for the provision of service, it is known that each vehicle that is part of an auto park, under the administration of a certain city or region, has to obey the route that has been allocated. The costs associated with this service are taken into account as are the number of kilometres registered by a vehicle, the type of road and the available routes- all of which are connected to the notion of territoriality. The infrastructure and the provision of the transport service have an explicit spatial dimension and the use of ’Territorial Impact Assessment’ is both more multifaceted and complex than that of ’Impact Assessment’.

Drawing an analogy between transport services and postal services could also be useful here. Postal services require a large infrastructure represented by fixed collection points and the means of transport, both spread all over the world. The explicit spatial dimension of the postal services could be explained by the number of collection points, the number of kilometres to the destination, the available routes depending on the means of transport - all being related to territory.
As such, in this case a ‘Territorial Impact Assessment’ could be more appropriate than an ‘Impact Assessment’.

Water service provision also implies the use of a developed infrastructure that is directly related to territory. To generate an *explanandum*, the *explanans* have to reflect the geographical location of the water service. The mechanisms in this case are reflected by the number of kilometres of existing pipelines used for water provision and the ratio of households and enterprises connected to the water network in a certain territory. As for the context, local networks and the modalities of public – private cooperation lead to the regularity of regional spin-off effects. This kind of service very clearly illustrates the effectiveness of using 'Territorial Impact Assessment’ instead of 'Impact Assessment’. A similar argument can be applied in respect of electricity and gas services.

Waste management has several aspects related to the spatial dimension. Street cleaning, waste collection, waste transport and waste processing within an ecological centre are the main components of the waste management system that could be analysed by applying ‘Territorial Impact Assessment’ rather than ‘Impact Assessment’. The operator that has to clean the streets, collect and transport the waste from households and enterprises knows precisely the territory over which is has to provide these services. As for the ecological centre where the waste processing is undertaken the spatial dimension is illustrated by reference to the region that it has been allocated.3

**PARTIAL SPATIAL DIMENSION**

ICT & telecoms has a partial spatial dimension as long as the focus is placed on two main dimensions: on one hand, the infrastructure supporting this service and on the other hand, the provision of the service itself. The first approach allows us to explicitly determine the territorial spread of the ICT & telecom network. As for the second approach, the outputs of this service provision generate impacts beyond the borders of the infrastructure located in that particular area.

Wide dispersed ICT & telecom networks can lead to impressive spin-off effects on the territory in which they are deployed. Based on current household needs, in addition to the private sector’s own requirements, good coverage of ICT & telecom networks across the territory has become a basic requirement that has to be accomplished within both urban and rural areas. The context, *C*, is shaped by the will of investors and households to invest and live in that particular area. Regarding the output of this service, it would be unrealistic to assess its effect given the large spectrum of recipients situated all over the world. These two opposite *explanans* explain why ICT & telecom services could be considered both as having and not having a spatial dimension. As *explanandum*, situations could be foreseen in relation to ICT & telecoms where an 'Impact Assessment’ could also be conducted in addition to a 'Territorial Impact Assessment’.

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3 In most of the cases, an ecological centre is ascribed to a certain region of the country.
Tertiary education can also have an impact on territory but the contextual factors influencing this impact are strong. Locating a university or a university college in a rural and remote area is not in itself enough to generate a territorial impact. If such an institution simply educates primary school teachers, social workers and nurses few spin-off effects on the territory will be generated: these professions are required to make society work, but they do not generate innovations *per se* or indeed private-public partnerships to stimulate entrepreneurship etc. If students and university teachers are not local, the required social capital to generate the desired spin-off effects is also missing as local networks do not exist.\(^4\)

Tertiary education with strong research facilities and with a clear specialisation, strong local networks with private and public actors can, on the other hand, generate the desired spin-off effects on a territory. Such institutions are, however, seldom found in rural and peripheral areas. Lindqvist *et al.* (2012) argue that if higher education institutions are to support regional development the formation of regional partnerships is necessary where both the institution and its researchers play an active part. Regional development should also be a part of the university strategy and a new university culture must be developed.\(^5\) Finally, it is concluded that the main indirect effect of placing a university in a rural and peripheral area is that it will have a significant effect on the regional image and attractiveness (Lindqvist *et al.* 2012). The inhabitants may feel that the image of their region improves and becomes more attractive, but for potential investors, students, teachers and business partners the quality of the education and the scientific production will be the primary determinant of their judgement.

To be able to produce an *explanandum*, the *explanans* must include the geographical location of the tertiary education. The mechanisms (the ratio of education to research, what kind of education is offered etc.,) and the context (e.g. local networks and public - private partnerships) will determine the regularity of regional spin-off effects. In some cases territory matters and it will be possible to conduct a ’Territorial Impact Assessment’ as well as an ’Impact Assessment’.

Health care can be assumed to have the same impact on a territory as tertiary education: in some cases the territorial impact will be significant, but in other cases more or less absent. The territorial impact depends on what kind of health service is discussed. The overwhelming part of all health services produced – in the local health centre to which you go when you have a nasty cough or need penicillin to cure pneumonia – can be assumed to have little territorial impact. The location

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\(^4\)Westlund (2004) provides a thorough literature review on these aspects.

\(^5\)The methodology used by Lindqvist *et al.* (2012, p. 85) can be questioned. When e.g. analysing how efficient regional universities are in solving matching problems in the labour market, unemployed persons have been excluded from their analysis (*sic*!). Furthermore, they have not controlled for natives studying abroad and then returning after graduation to pick up a job, nor have they been able to control for foreign students and what impact they have. Finally, important data has been left out from the analysis as it was too expensive to buy from the national statistical offices. To what extent these methodological shortcomings affect the result is however difficult to estimate.
of the local health centre is determined by market factors – a certain number of persons should need a certain number of medical doctors – or by political decision. Both demographic and economic factors play an important role in the location of local health centres. Placing one extra doctor in a peripheral region does not lead to other people moving in to that area etc. Local health centres do not contribute to innovations and economic growth – it is simply not their role to do so.

Large hospitals with a high share of medical research can produce many spin-off effects on the territory in which they are located. We can expect innovations, entrepreneurship, business networks etc., to be generated in these environments. In this respect, research intensive health care can be assumed to have the same effect as tertiary education facilities on a territory.

The *explanandum* needs to include an *explanans* covering territory as territorial impacts can be expected under some conditions. The mechanisms (the ratio of medical services to medical research; what kind of service offered etc..) and the context (e.g. local networks and public-private partnerships) will determine the regularity of regional spin-off effects. As in the case of tertiary education, territory will matter in some cases and it will be possible to conduct a ‘Territorial Impact Assessment’ as well as an ’Impact Assessment’.

**Lacking Spatial Dimension**

The basic question is why childcare is organised in a geographical area. The most likely answer is because there are many children in that area. Once childcare is organised it may help attract parents to move into that area – access to childcare is only one of many potentially important aspects relating to the decision on where to settle. It may, moreover, be only one of the many aspects to be taken into consideration. If factors such as distance to work, access to daily services, house prices, the tax situation etc., make parents leave the area, child care services will close when a threshold is passed – it is simply too costly to run a kindergarten or child care facility for only a few children.

What is the spatial dimension of childcare? Is it territory or contextual factors, such as demographic structure and the economy, which determine the spatial distribution of child care? The phenomenon to be explained, the spatial dimension of child care, is the *explanandum* in this case; the demographic structure (young couples with small children) and economic aspects (distance to work, access to daily services, house prices, the tax situation etc..) are the *explanans*, not territory *per se*.

Seen from another perspective, the regularity, \( R \), in this case the spatial dimension of child care, is determined by mechanisms, \( M \), and context, \( C \). The mechanism can be seen as the demographic structure – a high share of young couples with young children creates a demand for child care – and the reason why there is a high share of young couples with young children in a certain geographic area depends on the context – distance to work, access to daily services, house
prices, the tax situation etc. Hence, territory per se is not the driver for child care, rather, the drivers are demographic and economic factors. An assessment of the territorial impact of child care should then focus on other aspects (demographic structure and economic factors) rather than territory. Consequently, the 'Territorial Impact Assessment' will be an 'Impact Assessment'.

The same reasoning can be applied to primary and secondary education; the only reasons primary and secondary schools are located in specific geographical areas relate to the demographic structure and economic factors. Territory cannot be seen as the explanans for the spatial distribution of primary and secondary schools. Rather it is mechanisms in the shape of the demographic structure and the economic context (distance to work, access to daily services, house prices, the tax situation etc..) that impact the regularity of the spatial distribution of primary and secondary schools. As other factors of a non-territorial nature are important, analogous with the child care situation, the 'Territorial Impact Assessment' will be an 'Impact Assessment'.

Elderly care and social housing are also very dependent on things other than territory. Assume that we have a geographical area with a high density of services for elderly care and that these services are easily accessible by the elderly. What is the territorial impact of elderly care in this case? This area will attract the elderly, and it will repel all other age groups; this can take place either through elderly persons moving in or other age-groups moving out, or both. This impact of the demographic structure takes place with or without a high density of services for elderly care and despite the fact that these services are easily accessible by the elderly. Furthermore, elderly care is in general a labour-intensive and low productive service job; these kinds of jobs do not promote economic growth, on the contrary they effectively suppress economic growth. It is the same for child care and to some extent also for primary and secondary education. Such areas could become unattractive. Again, the explanans appears to be related to demography and the economy rather than territory. Mechanisms in the shape of the demographic structure and the economic context (labour, distance to hospitals etc..) impact the regularity of the spatial distribution of elderly care thus appears to be the most important. Just as in the case of child care and primary/secondary education factors other than territory are important here, leading to the result that the 'Territorial Impact Assessment' will be an 'Impact Assessment'. Social housing can be treated analogously with elderly care.

Labour market services such as unemployment insurance or sickness insurance have no spatial dimension per se; the latter is an indirect labour market service. Other labour market services, such as vocational training or rehab-centres, are located in relation to demand. Statistically

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6In the case of primary and secondary education, the eventual positive effects on economic growth come with a 10-15 year time lag.
they will be located where unemployment and long-term sickness leave is high; indirectly, this means that they will be located in or in close proximity to areas with a certain demographic structure and economic situation. The explanans will focus, both for unemployment and rehab centres, on factors such as education, previous jobs, immigrant background, age, sex, health status etc. Once again the regularity (the vocational training centres and rehab centres) will be caused by mechanisms (demography) and context (economy). A 'Territorial Impact Assessment' will thus be an 'Impact Assessment' as territory is subordinated to demography and the economy.

**SUMMARY**

The findings here indicate that the three groups of SGI each have a different impact on territory: explicit (transport, electricity, gas, water, postal services and waste management), partial (ICT & telecoms, tertiary education and health care) and lacking spatial (labour market services, elderly care, child care and social housing) dimension. To sum up, a synthesis is produced in Table 2 with the inter-relations illustrated in Figure 1.

**Table 2. Synthesis of the territorial impact of 14 services of general interest**

<table>
<thead>
<tr>
<th>Type of SGI</th>
<th>Regularity related to spatial dimension</th>
<th>Mechanisms related to territory</th>
<th>Context</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td>Number of routes - expansion of infrastructure (km), ratio of users connected to the transport network in a certain region</td>
<td>Number of km registered by a vehicle, the type of road and the available routes</td>
<td>Institutional, demographic structure, economic, political changes, modalities of public – private cooperation, rural/urban environment, the will of investors and households to invest and live in that particular region, local networks, public – private partnerships</td>
<td>The intensity of changes depends on the funds available both from local public authorities and private actors. It could be development or decline of SGI.</td>
</tr>
<tr>
<td>Water</td>
<td>Consumption of water in a certain region; expansion of infrastructure (km)</td>
<td>Number of km of existing pipelines used for water provision and the ratio of households and enterprises connected to the water network in a certain territory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td>Consumption of electricity in a certain region; expansion of infrastructure (km)</td>
<td>Number of km of existing electricity network; the ratio of households and enterprises connected to the electricity network in a certain territory; number of pieces of electronic equipment connected to the electricity network</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Gas
- Consumption of electricity in a certain region; expansion of infrastructure (km)
- Number of km of existing pipelines used for gas provision and the ratio of households and enterprises connected to the gas network in a certain territory

## Waste management
- Consumption of waste in a certain region; expansion of infrastructure through collecting points
- Number of km of streets that need to be cleaned, ratio of households and enterprises connected to the waste collecting network in a certain territory, number of waste processing centres

## Postal service
- Expansion of infrastructure through collection points, ratio of users connected to the postal service network in a certain region
- Accessibility of citizens to collection points, the number of km for the package to reach the destination, the available means of transport for a certain destination

## ICT and telecom
- Few spin-off effects on the territory - expansion of infrastructure through the internet network, benefits for the users beyond the border of the region
- The accessibility of citizens and businesses to internet networks of a certain territory, but with impacts beyond its border

## Tertiary education
- Few spin-off effects on the territory - benefits for the users beyond the border of the region
- The quality of education and scientific production, the ratio of education to research, types of offered education

## Health services and health care
- Few spin-off effects on the territory - benefits for the users beyond the border of the region
- Ratio of medical service to medical research, types of offered health services

## Child care

## Primary and secondary education

## Elderly care

## Social

### Remarks
- Few spin-off effects on the territory
- Few spin-off effects on the territory - benefits for the users beyond the border of the region
- The quality of education and scientific production, the ratio of education to research, types of offered education
- Ratio of medical service to medical research, types of offered health services
One recommendation formulated by Zonneveld and Waterhout (2009:22) regarding TIA is to include the territorial perspective in the IA procedure in order to increase its performance. In relation to the findings in this paper, their suggestion is wise given that it is an SGI with an explicit spatial dimension being assessed; an SGI with a partial or lacking spatial dimension may not benefit from a territorial assessment in the same way in the analysis.

As we have previously shown, TIA has a different spectrum of applicability depending on each type of SGI, meaning that the ‘territorial impact is differently assessed for different SGI’. If the economic, social and environmental influence of SGI can be more easily determined, the territorial assessment imposes some clear limits. So, the following question emerges: should a new model of TIA be developed focusing on individual sectors of SGI instrument be developed or is the current model of TIA effective enough to be included in the European Commission’s Integrated Assessment (ECIA) instrument.

Within TIA, several difficulties arise when relating the economic, social and environmental impact to the spatial dimension. This occurs because of the impossibility of placing and measuring
the consequences within a specific territory. In the particular case of SGI, the territorial impact is manifested with varying intensities, starting from SSGI which have a low territorial impact to SGEI which register a much higher territorial impact.

To include TIA in the analysis when it is obvious that it is not really applicable does not make any sense. As the European Commission’s interest is to create policies and instruments which are widely adopted across the member states the TIA instrument should, in the long term, be seen as a territorial awareness-raising tool rather than as an analytical instrument that can be deployed immediately. Consequently, as the territorial impact could not be clearly defined in all SGI cases, it may not be feasible to develop an instrument for only a narrow category of services. As such, we note that TIA can only be applied to specific SGI, mainly those in the SGEI category, and not really to SSGI, where the territorial dimension is rarely a significant issue.

6. Conclusions

This paper has aimed to discuss the applicability of territorial impact assessment on services of general interest. The analysis was based on an ex ante evaluation of TIA and on the methodology of critical evaluation. To be able to say anything about how TIA relates to SGI requires relatively well defined concepts. Unfortunately, several definitions of TIA exist while even a generally agreed understanding of the concept remains elusive. Moreover, the definition of SGI is so vague, incorporating everything from investment in nuclear power plants to the consumption of elderly care that it makes it difficult to use for analytical purposes. Consequently, as long as definitions are vague and unclear (explanans) the predictions of how TIA and SGI relate (explanandum) will be mere ‘guestimates’. For clarification purposes here we would like to emphasise that we do not consider any one of the present definitions or methodologies in respect of TIA as superior to the others discussed in this paper. We simply conclude that that a wide range of definitions and methodologies currently exist making TIA difficult to use.

Some SGI lack a spatial dimension which makes a territorial assessment somewhat redundant. For those SGI with an explicit spatial dimension however TIA can be used. Some SGI have what we call a partial spatial dimension, and even though TIA is defined it is not likely to be able to explain the territorial impact of a particular SGI (explanandum). In this sense, a differentiated impact assessment could be one way to solve this problem and thereby strengthen the scientific conclusion (explanans).

In line with the methodology of critical evaluation it is clear that contextual factors do have a varying degree of impact on different SGI and must be taken into account when assessing what territorial impact an SGI has. Due to the large spectrum of contextual factors, some could be
omitted, but at the very least demography and economic structures have to be weighed when assessing the territorial impact. The actual occurrence of such situations is most likely related to the vagueness and imprecision in the analytical tool (TIA). In turn, this highlights the need for further development in respect of TIA to increase its precision and predictability as an analytical tool. Since its inception TIA has struggled with methodological individualism, which is manifest in the existence of several vague definitions and just as many methods of use for analysis. If TIA continues to be based upon normative and non-testable assumptions then it will likely become a tool of limited analytical potential.

There is then a need to assess the territorial impact of the collection of services referred to as SGI and thus a proper tool that provides precise and measurable predictions has to be developed. Related to this, any TIA tool must strive to be scientific, evidence-based, objective and positive. What we see today is a subjective, normative, vague and ‘soft’ tool which - at best - generates opinions about what territorial impact an SGI has. Continuing to base political decisions on opinion rather than fact is however unlikely to be either sustainable or conducive to good governance.

We acknowledge the need for an analytical tool that could overcome the methodological individualism with which TIA struggles. Solving this issue should be the top priority of both policy makers and scientists within this field. Hopefully, our conclusions can stimulate the process of creating a tool for assessing the territorial impact of a particular range of services of general interest.

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