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Territorial Vulnerability and territorial capital



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Table of contents

Territorial Vulnerability in connection with territorial capital

References

Territorial Vulnerability in connection with territorial capital

We shall present here very briefly the relevant (and very limited so far) literature on territorial capital. We consider this of great interest for the study of territorial vulnerability. Although the writings on territorial capital consider it as a concept which is useful for the study of regional development, we are of the view that the territorial capital of an area is a critical factor for determining territorial vulnerability as well. The concept of territorial capital is a novel introduction into the “territorial” literature. In the few contributions to the subject the claim is made that it was first introduced in a 2001 OECD publication, which we mentioned already (OECD 2001), but the first reference to it, to the best of our knowledge, can be found in a paper by Josef Konvitz, who claims that “the economic future [of nations and regions] is shaped in part by how well territories can exploit and enhance their endowments and assets, what can be called *territorial capital*” (Konvitz 2000, 657) (Italics added).

In the introduction (see 1st section in Del 1.1.2-1) we quoted a frequently mentioned paragraph from OECD’s report *Territorial Outlook* of 2001. We draw attention to the fact that in the definition of territorial capital included there we find a reference to both tangible and intangible factors, including e.g. customs, informal rules, solidarity and other concepts of great relevance for territorial vulnerability.

Important references to territorial capital can be found later in European Commission documents. In the EU *Third Report on Economic and Social Cohesion* of 2004 the term is not being used and there is only indirect reference to it, but there is reference to territorial cohesion: “The concept of territorial cohesion extends beyond the notion of economic and social cohesion by both adding to this and reinforcing it. In policy terms, the objective is to help achieve a more balanced development by reducing existing disparities, preventing territorial imbalances and by making both sectoral policies which have a spatial impact and regional policy more coherent. The concern is also to improve territorial integration and encourage cooperation between regions” (CEC 2004, 53).

Direct references to the concept of territorial capital are included in a series of documents drafted in the process of preparation of a policy document on the Territorial State and Perspectives of the European Union which ultimately led to the “Territorial Agenda of the European Union”, agreed at an Informal Ministerial Meeting in Leipzig in May 2007. In discussing the reasons of a territorial approach to development, the authors of a 2005 Scoping Document insist that “each region has a specific territorial capital that is distinct from that of other areas and generates a higher return for certain kinds of investments than for others, since these are better suited to the area and use its assets and potential more effectively. Many of the components of territorial capital, including their integration and connectivity to other areas, can lead to productivity gains and generate growth” (EU Informal Ministerial Meeting 2005, 3). A definition of territorial capital is also provided in a short 2008 document of the Assembly of European Regions: “Territorial capital: What makes an area distinct from the others in terms of development potential. It is determined by a wide range of factors, such as geographical characteristics, size, climate, history ... This territorial capital gives a region some strengths

and weaknesses, generally called ‘development potential’ or ‘structural difficulties’. The aim of a balanced territorial development is to give each region the opportunity to make the best out of its territorial capital” (Assembly of European Regions, 2008a). From a slightly different perspective, reminiscent of the OECD definition, Skjerpen considers that territorial capital is determined by “geographical location (size, production endowment, climate, agglomeration economies etc.), untraded interdependencies (understandings, customs, informal rules, mutual assistance, social capital) and intangible factors (institutions, rules, practices, research and policy-makers that make a certain creativity or innovation possible)” (Skjerpen 2008).

The importance of a territorial approach as an integrating framework of policy-making is stressed repeatedly in European Commission reports and territorial development policies are in fact viewed as “an important instrument for strengthening regional territorial capital” (EU Editorial Group 2006, 3). A document issued by the EU German Presidency of 2007 and entitled *The Territorial State and Perspectives of the European Union* formed the basis for the Territorial Agenda of the EU, which was eventually agreed in Leipzig in May 2007. Here we find, once again, both the OECD positions regarding territorial capital and the arguments outlined in previous EU preparatory documents. It is interesting that in this document there is reference to some of the components of territorial capital, i.e. to resources (economic and non-economic, social, environmental, cultural, and the ‘*genius loci*’), as well as to integration and connectivity (German Presidency 2007, 5).

In Lisbon, in October 2007, the heads of government of the EU Member States approved the final text of the EU Reform Treaty. In it, the aim of territorial cohesion is placed alongside the already established goals of economic and social cohesion. The European Commission is due to produce a Green Paper on Territorial Cohesion, which is expected to be released very soon. In a discussion document of the Assembly of European Regions (2008b) it is stated that “territorial cohesion means exploiting as much as possible the so-called ‘territorial capital’ of a given geographical area” and that it should “enable territories to identify and take advantage of their territorial capital”. It must be noted that, as Peter Schön remarks, the notion of territorial capital had been already implicitly referred to in article III-116 of the EU Amsterdam Treaty of 1997 (Schön 2005, 394).

Following the attempts to define territorial capital in OECD and EU documents and reports, the concept was addressed in the final report of the ESPON project 2.3.2 in 2006, already mentioned in our introduction (see Del 1.1.2-1). The following extract is taken from the section “Territory as territorial capital: territorial governance as territorialized collective action” of the report:

“The concept of territorial capital ... is a relational and functional concept at the same time ... whose elements are different but with common characteristics ...

- they are a localised set of common goods, producing non divisible collective assets that cannot be privately owned;
- they are immovable goods, that is constantly part of specific places;

- they are place-specific, that is almost impossible to find elsewhere with the same features;
- they are heritage goods, that is they are stocked and sediment in a long period and cannot be produced easily in a short time.

Factors that compose territorial capital are, for instance, geographical location, the size of the region, natural resources, quality of life, local and regional traditions, mutual trust and informal rules, etc. These factors can be grouped as:

- natural features;
- material and immaterial heritage;
- fixed assets ... as infrastructures and facilities;
- relational goods ... as cognitive, social, cultural and institutional capital ...

Synthesizing, the notion of territorial capital allows to sum up the different forms of capital (intellectual, social, political and material capital) ..." (ESPON project 2.3.2, 2006).

These views were reiterated by Governa and Santangelo (2006) and then by Davoudi, Evans, Governa and Santangelo (2008), where the point is made in addition that "applied particularly to the local or regional level the concept of territorial capital is similar to that of 'endogenous potential'". Camagni (2005) discussed the components of territorial capital (see introduction) and later provided the most comprehensive analysis of the concept of territorial capital which has come to our attention (Camagni 2007).

Camagni explored the concept of territorial capital through a taxonomic process by placing it in a 3 by 3 matrix, along a vertical axis labelled "rivalry" and a horizontal one labelled "materiality", as shown below. The three rivalry categories refer to the private – public continuum of goods, while the three materiality categories refer to the tangible – intangible continuum (Fig. 1).

In Camagni's view, "the four extreme classes – high and low rivalry, tangible and intangible goods – represent by and large the classes of sources of territorial capital usually cited by regional policy schemes. They can be called the 'traditional square'". In the above figure, they are marked by trellis shading and by the letters c, f, a and d. "On the other hand", continues Camagni, "the four intermediate classes represent more interesting and innovative elements on which new attention should be focused; they can be called the 'innovative cross'" (Camagni 2007, p. 5). They are marked in the figure below by solid grey shading and by the letters i, b, e, g and h. The components of territorial capital included in the shaded squares are extensively explained by Camagni and can be compared with the elements of vulnerability identified in the relevant vulnerability literature, e.g. in the analysis of Wisner *et al.* (2004). Camagni concludes that "territorial capital is a new and fruitful concept which enables direct consideration to be made of a wide variety of territorial assets, both tangible and intangible, and or a private, public

or mixed nature. These assets may be physically produced (public and private goods), supplied by history or God (cultural and natural resources, both implying maintenance and control costs), intentionally produced despite their immaterial nature (coordination or governance networks) or unintentionally produced by social interaction undertaken for goals wider than direct production” (Camagni 2007, 13).

Figure 1: Sources of territorial capital according to Camagni (2007)

Rivalry			
Private goods (high rivalry)	c	i	f
Club goods and impure public goods	b	h	e
Public goods (low rivalry)	a	g	d
	Tangible goods (hard)	Mixed goods (hard + soft)	Intangible goods (soft)
	Materiality		

There is a clear cross-fertilization between a number of scientific fields concerned with vulnerability, territorial development and poverty, to name but a few. This is in fact acknowledged as far as vulnerability, livelihood and poverty are concerned by Wisner, Blaikie, Cannon and Davis (2004, p. 95), in a section in which they explain the changes made in their book in comparison to its previous 1994 edition (Blaikie et al. 1994). The definition of vulnerability given by Wisner et al. has been quoted in our introduction.

Wisner *et al.* put forward an analytical model which is illustrated in a diagram. The diagram includes a presentation of “the progression of vulnerability” from “root causes”, to “dynamic pressures” and then to “unsafe conditions” (op.cit., p. 51). In a second diagram they present “the progression of safety” through successive actions called “address root causes”, then “reduce pressures” and, finally, “achieve safe conditions” (op.cit., p. 344). As we show later, we have retained the parameters used under the heading “the progression of vulnerability” and produced a table in which we attempt a comparison with Camagni’s components of territorial capital. Worth mentioning is that Wisner *et al.* also discuss the notion of livelihood. Although this is a subject which we are not touching here, we note that in their view “livelihood analysis seeks to explain how a person obtains a livelihood by drawing upon and combining five types of ‘capital’”, which the authors consider similar to the assets that are involved in one of their vulnerability models:

1. Human capital (skills, knowledge, health and energy);
2. Social capital (networks, groups, institutions);
3. Physical capital (infrastructure, technology and equipment);
4. Financial capital (savings, credit);
5. Natural capital (natural resources, land, water, fauna and flora)” (Wisner *et al.* 2004, p. 96).

Once again, if we look at the parameters listed in brackets we find a clear and most interesting similarity with the components of territorial capital. What emerges from our review of the literature is that there are interesting (and promising) bridges between concepts and the literature which has dealt with them, in spite of the diverse origins and initial premises. E.g. we speak of “economic, social and territorial” cohesion and / or capital and we do the same thing with respect to vulnerability, although the “territorial” attribute of the latter has not so far been explored and researched, except in a narrow material sense related to buildings, solid infrastructures and land uses, i.e. elements that can be mapped and recorded in Geographical Information Systems¹. As we pointed out in the introduction there is a missing link between vulnerability and territory, which is underlined in the writings of Susan Cutter:

“Vulnerability science requires an integrative approach to explain the complex interactions among social, natural and engineered systems. It requires a new way of viewing the world, one that integrates perspectives from the sciences, social sciences, and humanities. Since vulnerability can refer to individuals (person, housing structure), groups, systems, or places, scalar differences and the ability to articulate between geographic scales are important components. Vulnerability manifests itself geographically in the form of hazardous places (floodplains, remnant waste sites); thus, spatial solutions are required, especially when comparing the relative levels of vulnerability between places or between different groups of people who live or work in those places” (Cutter 2003, p. 6).

Territorial vulnerability (but also vulnerability in general) and territorial capital (but also other types of “capital”) share a common characteristic: they are multidimensional and complex concepts. As to territorial capital, we have repeatedly seen, especially in Roberto Camagni’s analysis, its multidimensional character. Both territorial vulnerability and territorial capital essentially describe an areal unit’s potential or lack of it to face a challenge, either the area’s future development and sustainability or its capacity to withstand shocks and stresses. If we view them in this perspective we can easily see the potential of bringing these concepts closer together in order to better understand vulnerability. Territorial capital analysis can offer a tool for explaining the workings of vulnerability, although it is certainly not the only one.

¹ See e.g. the papers presented by a research team of the Politecnico di Milano, derived from the European research project QUATER (Treu, M.C., A. Colucci and S. Lodrini, Territorial vulnerability analysis: The methodological framework, in C.A. Brebbia, ed., *Risk Analysis IV*, WIT Press, 2004; Treu, M.C, M. Samakovlija and M. Magoni, Territorial vulnerability analysis: The case studies, in C.A. Brebbia, ed., *Risk Analysis IV*, WIT Press, 2004; Baldi, C., M. Martelli and M.C. Treu, Territorial vulnerability analysis: The Environmental Risk Managemens Systems, in C.A. Brebbia, ed., *Risk Analysis IV*, WIT Press, 2004; Treu, M.C, A. Colucci and M. Samakovlija, Territorial vulnerability and local risks, in *WIT Transactions on Ecology and the Environment*, Vol. 84, 2005). These papers are accessible through the website www.witpress.com.

The literature on vulnerability is full of references to the elements of vulnerability of communities and to make a comprehensive list is in itself a major task. However, we can take the features which Wisner *et al.* have listed under “the progression of vulnerability”, to which we have referred already, and use them as an adequate list which we can compare to the elements of territorial capital. For the latter we can use Camagni’s matrix. We should not forget of course that he uses the concept of territorial capital for a totally different purpose, i.e. to determine the development prospects of a region. Therefore the present comparison is a first and perhaps crude approximation which will require further refinement.

In constructing the table that follows (Table 1) we decided to group the elements of vulnerability and territorial capital in 5 categories: Economic, social, natural, manmade - physical and institutional. We have included all elements found in Camagni’s matrix of territorial capital and in the diagrams of vulnerability progression by Wisner *et al.*, without exception. We did however change the terminology in some cases.

Table 1. Correlations between elements of vulnerability and elements of territorial capital.

Categories	Territorial capital (after Camagni)	Vulnerability (after Wisner <i>et al.</i>)
Economic	Fixed capital Economic externalities Limited access goods Networking and linkages of firms Inputs of R&D and technology	Economic system Local investments Local markets Debt and repayment schedules Non-development expenditures Low incomes Livelihoods at risk
Social	Social capital Entrepreneurship Creativity Know-how Proprietary networks Cooperation capability Collective action Behavioural models and values Trust relationships Associative habits	Power structures Social resources Education Appropriate skills Population change Urbanization Social groups at risk Endemic diseases
Natural	Landscape Natural resources	Deforestation Soil productivity Dangerous locations
Manmade physical	Cultural heritage Manmade heritage Social overhead capital Infrastructures Urbanization / agglomeration	Unprotected building and infrastructures
Institutional	University research Partnerships with private and social entities Land governance and planning Collective competencies Dissemination of R&D Encouragement of receptivity	Political system Local institutions (or lack of) Press freedom Lack of disaster preparedness Ethical standards in public life

This first approach can be enriched and further developed with additional material. E.g. we have already mentioned, following Wisner *et al.*, the five forms of capital, which they use in one of their models (human, social, physical, financial and natural). The elements which make up these “capitals” (skills, knowledge, health, human energy, networks, groups, institutions, infrastructure, technology, equipment, savings, credit, natural resources, land, water, fauna and flora) are all typical features of territorial capital. But even as it stands, the above table already shows interesting conceptual bridges, which promise that the analysis of territorial capital can become a useful tool for territorial vulnerability assessment.

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