

THE RELEVANCE OF TERRITORIAL CAPITAL FOR REGIONAL ECONOMIC RESILIENCE: A REVIEW OF CONCEPTUAL ISSUES

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Abstract

This paper attempts to scrutinize the conceptual issues regarding the role of territorial capital in the emergence of a strong, competitive, and sustainable economy, or, in other words, in cushioning regional resilience, 'a term invoked to describe how an entity or system responds to shocks and disturbances.' To this end, the review focuses on conceptual issues related to the influences of territorial assets on strengthening competitive positions at both firm and regional level with the goal of ultimately placing the use of territorial assets within a deliberate policy framework aimed at achieving economic resilience.

Keywords: territorial capital, resilience, regional economy, competitiveness

Introduction

The landscape of specialization and growth has changed radically in the last decades under the influence of the continued dismantling of barriers to flows of goods and services, capital, and people. Ever deeper market integration has strengthened the interplay between mobile factors (i.e. capital and labour) and localized, immobile factors (i.e. tacit knowledge, landscapes, social infrastructure) to the extent that global business networks play a role as important as national economies in allocating resources to the most productive use (Baldwin, 2011). One important consequence consists in the emergence of various forms of economic structures defined within specific territorial confines, such as 'smart city', 'cluster', 'growth pole', 'innovative milieu', or 'knowledge region', that emphasize the increasing impact of territorial capital on growth. A substantial literature incorporates these recent evolutions in searching for answers to many regional issues that policy makers, entrepreneurs and members of the civil society have tried to tackle for long. At city level, for example, the concept of 'smart cities' has gradually gained ground, on the promise of growth features such as intelligent,

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digital, wired, inclusive and democratic. The European Union considers them the drivers of the new economy, “places of connectivity, creativity and innovation” (European Commission, 2011, p. vi).

The link between territorial capital and economic resilience represents a relatively new research interest. It has engaged various authors and policy makers into a challenging process of conceptualizing the terms, clearly defining the geographical area they relate to and establishing measuring tools based on empirical evidence and on solutions that have created a precedent.

This review is proposed on the assumption that both the conceptual and the methodological frameworks regarding the link between territorial capital and a region’s resilience are in a fluid state. After some substantial theoretical advances, as evident for example in the study of ‘agglomerations-networks’ sub-field, time is ripe to assess whether the use of factors specific at territorial level triggers decisions and initiatives that may substitute for proper economic policies.

In the following sections, we scrutinize the conceptual issues regarding the role of territorial capital in the emergence of a strong, competitive, and sustainable economy, or, in other words, in cushioning regional resilience, “a term invoked to describe how an entity or system responds to shocks and disturbances.” (Martin and Sunley, 2015, p.1) To this end, the review focuses on conceptual issues related to the influences of territorial assets on:

- (1) strengthening competitive positions at both firm and regional level;
- (2) improving the standard of living of regional communities; and
- (3) addressing long-term concerns related to sustainable growth and social cohesion.

The research narrows its scope to the EU member states and, consequently, to empirical issues regarding European regions, with the goal to ultimately place the use of territorial assets within a deliberate policy framework aimed at achieving economic resilience.

1. The conceptual link between territorial capital and regional economic resilience

Drawing on a regional policy proposal elaborated by OECD in 2001, the Directorate General Regional Policy (DG Regio) of the European Union Commission (2005) opines in its turn on the role of territorial capital:

Each Region has a specific territorial capital that is distinct from that of the other areas and generates a higher return from specific kinds of investments than the others, since these are better suited to the area and use its assets and potential more effectively. Territorial development policies (policies with a territorial approach to development) should first and foremost help areas to develop territorial capital. (European Commission, 2005, p.1)



Territorial capital as a regional policy concept can be explained as “the system of territorial assets of economic, cultural, social and environmental nature that ensures the development potential of places.” (Camagni, 2008 cited in Perucca, 2014, p.2) The potential of this concept resides in the recognition of possible interactions between factors of different nature. (Perucca, 2014) The economic actors, private or public, consider territorial capital vital for long term sustainable competitive advantage; competitive advantages at the level of a territory are “long-lasting” (Tóth, 2011).

However, there is not a clear understanding yet about what is and what is not territorial competitiveness. Dudensing (2008) approaches the notion from two angles, firstly in terms of territorial productivity and secondly from a broader perspective, which accounts also for other factors like infrastructure, human capital or innovations. One of the factors thought to create real impact in terms of territorial competitiveness is smart specialization. The concept has been introduced in 2010 by the European Commission, in its EU 2020 strategy for increasing competitiveness and originates in Barca report (2009) (European Commission, 2010). As McCann and Ortega-Argilés (2011) observe, there are two characteristics that define smart specialization. The first one refers to the fact that it boosts the activities which are the most competitive, especially those related to research and innovation (R&I) products and secondly, the market size (economies of scale) and the connections among different economic actors are the key to an efficient and successful implementation of smart specialization. A case study on Zlín agglomeration (in Czech Republic) offers some general but useful ideas, among them that smart specialization is a politically influential concept, well suited to measures aimed at human capital development, supporting economic actors’ cooperation, and attracting investors (Jiří *et al.*, 2013).

How to incorporate the concept of territorial capital in a feasible policy framework proves, however, a more difficult task. There are several facets of the process:

Local competitiveness is interpreted as residing in local trust and sense of belonging rather than in pure availability of capital; in creativity rather than in pure presence of skilled labour; in connectivity and relationality more than in pure accessibility; in local identity, besides local efficiency and quality of life. (Camagni, 2008, p.3)

Foremost, a regional policy maker is interested in how economies react to shocks (Martin, 2006; Martin and Sunley, 2011).

Economic resilience emerged as an answer to these policy issues, a “buzzword” in the words of Martin and Sunley (2015), which has found its utility in “the academic, political and public discourse”, besides such other social interests as ecology and psychology.



Economic resilience is at origin a technical term, indicating materials' resistance against external factors that might elastically deform them, affecting their properties and characteristics, and their capacity and speed of recovery to the initial state. The process is based on the alternation between energy absorption and energy release. Apart from the materials science, the term has been also used to a great extent in engineering and construction, or computer networking, and gained new meanings and understandings with time. For example, it has been taken over by macroeconomists who use it as a form of indicating *power*, mainly the power of a national state to counteract other economic, political, natural, socio-cultural, technological adversities and bounce back to the initial path as fast as possible.

Etymologically, resilience comes from the Latin *resilire* and it can be understood as “to leap back, to recover form and position elastically following a disturbance of some kind.” (Martin and Sunley, 2015, p.3) According to its first definition, in Encyclopedia Britannica in 1824 (see Merriam-Webster dictionary)¹, resilience has two main meanings:

“The capability of a strained body to recover its size and shape after deformation caused especially by compressive stress.”

“An ability to recover from and adjust easily to misfortune or change.”

Translated to economic issues, as Martin and Sunley (2015) suggest, economic resilience comes down to understanding a five-pronged set of characteristics:

(1) Vulnerability: the sensitivity of the firms and workers from a region to different types of shock.

Palekiene *et al.* (2015) remark that the degree of vulnerability dictates whether a regional economy constantly suffers from disturbances, or makes effort to counteract, through the process of adaptation. Adaptation – adaptability is a conceptual couple which most of the times raises questions on the appropriate contextual use. “Adaptation is perceived as a path-dependent process maintaining existing paths or primary functions of a system, [while] adaptability often refers to an adaptive ability, in pursuit of a new path creation and structural change” (Hassink and Hu, 2015, p.3). As is the general view in the literature, adaptation is linked to terms like “resistance” and “recovery”, whereas adaptability is related to terms like “reorientation” and “renewal”.

(2) Existence of shocks: the origin, nature and incidence of a disturbance, and implicitly the scale, nature and duration of it.

¹ Resilience Merriam-Webster.com. Merriam-Webster, n.d. Web. 9 May 2017 (retrieved from <https://www.merriam-webster.com/dictionary/resilience>).

The disturbing factor, the shock, is creating a broader understanding on the concept of resilience. Shocks have multiple natures – economic, ecologic, or environmental, and different spatial scales – local, national, or global, and are mostly sudden, unexpected, hardly predictable. Examples of unpredicted shocks are deep recessions, as was the one in the 1930s or the latest one in 2008-2010, which ultimately represent events that destabilize and create contagion effects. Other relevant example of a shock that develops “slowly and incrementally over long periods of time” (Martin and Sunley, 2015, p.14) is climate change.

(3) Resistance: the initial impact of the shock to a region’s economy.

According to Martin and Sunley (2007), the geographical area of an economy is defined through the terms of ‘regional’ and ‘local’, which means (1) they have a great openness towards external events and forces, (2) they consist of a multitude of spatially distributed and often discontinuous networks of interacting heterogeneous economic agents (firms, workers, institutions) and (3) they typically possess fuzzy boundaries and complicated dynamics, involving emergent and self-organizing effects and processes.

Each and every territorial unit, be it city, locality, cluster or region, has a different resistance, therefore, perceives differently the impact of the disturbance. The variable nature of perceived impacts is due to “a complex interplay of compositional, collective and contextual processes.” (Martin and Sunley, 2015, p. 25) An economy with a broader range of interactions between its core subsystems – “structural and business”, “labour market”, “financial” and “governance” – is more prone to overcome the shocks faster, therefore is more resilient socio-economically. On the opposite, the economy with less variety and connectivity among its subsystems will definitely undergo a more difficult recovery process. (Martin and Sunley, 2015)

(4) Robustness: the manner in which firms, workers and institutions from a region adjust and adapt to shocks, taking into account the external mechanism, public interventions and support structures’ role (Martin and Sunley, 2015).

In the presence of disturbances, a system can react in three different ways to shocks: the shocks can be counteracted through a rebound, can be absorbed by the system and can trigger positive adaptation.

The first type of reaction gives birth to “engineering resilience” (Holling, 1973), which increases the efficiency, the stability and predictability of the system. The term is utilized in physical sciences and some versions of ecology. It is the resilience defined as the capacity of the system to “bounce back, to rebound” from shocks to the pre-shock state/path. What is important here are the speed and the extent of recovery towards a stable, equilibrium state.

Secondly, there is the “extended ecological resilience”, which finds its utility in ecology and social ecology. It represents the “ability to absorb shocks” and at



the same time maintaining the “stability of system structure, function and identity in the face of shocks” (Martin and Sunley, 2015, p. 4).

Lastly, there is the resilience understood as “adaptive resilience”. It is therefore a “positive adaptability, in anticipation or in response to shocks”, [also known as] “bounce forward” or “evolutionary resilience” (Martin and Sunley, 2015, pp.4-6). It can be found in psychological sciences and organizational theory and represents the capacity of a system to maintain its main performances in spite of shocks, through structural, functional and organizational adaptation/adaptability.

This variety of meanings attributed to *resilience* has pros and cons. On the one side, “conceptual clarity and practical relevance” are substantially affected. On the other side, however, the core descriptive meaning of the term coming from ecology and engineering is becoming less preferred than the ambiguous sense (Martin and Sunley, 2007).

(5) Recoverability: “the extent and nature of recovery of the region’s economy from shocks and the nature of the path to which the region recovers” (Martin and Sunley, 2015, p.14).

Robustness, redundancy, resourcefulness, and rapidity are generically called the 4R of resilience (Palekiene *et al.*, 2015). The 4R approach to resilience has the purpose to reduce the system losses to a minimum, so that the performance recovers to its initial standards.

“Robustness allows changes in the structure and components of the system owing to perturbations” (Kitano, 2004 cited in Martin and Sunley, 2015, p.6), but the system maintains its ability to preserve its structure without any loss (Tu, 1994 cited by Palekiene *et al.*, 2015, p.182).

Redundancy represents “the ability of an activity (or system) to respond to a disruption overcoming dependence by deferring, using substitutes or even relocating” (Van der Veen and Logtmeijer, 2005 cited by Palekiene *et al.*, 2015).

Resourcefulness is “the capacity to mobilize and apply material and human resources to achieve goals in the events of disruptions” (Bruneau *et al.*, 2003 cited by Palekiene *et al.*, 2015, p.182).

Rapidity represents “speed of return to pre-existing state” (Palekiene *et al.*, 2015, p.182).

Table 1 below presents a synthetic view of the core needs regarding the use of resilience in spatial socio-economic contexts.

Table 1. Concerns related to the use of resilience theory in spatial-economic contexts

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1. Social and economic systems differ in fundamental ways from ecological and physical systems, so that resilience ideas borrowed from latter are not appropriate.
 2. Concept of resilience in ecological and complexity sciences ignores human agency and is depoliticized; in the socio-economic realm, conflict and debate over responses to shocks may be crucial.
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3. Resilience privileges the idea of ‘return to normal’, and is invariably regarded as a ‘good thing’, and often ignores ‘perverse’ resilience—the resistance to change and the preservation of dysfunctional or inefficient structures or systems.

 4. The idea of resilience as ‘return to normal’ associates the concept with equilibrium, whereas spatial socioeconomic systems are rarely, if ever, in equilibrium.

 5. The concept of resilience is easily captured by neoliberal ideology, to prioritize the status quo, and importance of self-reliance, flexibility and role of ‘self-correcting’ market adjustments.

 6. Resilience analysis tends to portray systems as responding dichotomously to shocks, either recovering to original state or pushed to a new state, whereas in reality response is a complex mix of continuity and change.

 7. Resilience thinking emphasizes holism and systems ontology, and presupposes systems are easily defined, whereas regional and local economies are fuzzy and often difficult to demarcate.

 8. The notion of local (regional or city) resilience suggests locally autonomous and endogenous determination, whereas it will depend on how local and non-local actors (such as firms) respond strategically across various spatial scales and levels: i.e. the determinants of local resilience may not be local in origin or nature.

 9. Resilience provides little ‘value-added’ over other concepts used to describe and study regional economic growth and development, such as competitiveness and sustainability.

Source: Martin and Sunley (2015, p. 8)

One of the above listed concerns mentions the idea of a system “returning to normal”.

When we say a person, society, ecosystem, or city is resilient, we generally mean that in the face of shock or stress, it either ‘returns to normal’ (that is, equilibrium) rapidly afterward or at least does not easily get pushed into a ‘new normal’ (that is an alternative equilibrium). (Pendall *et al.*, 2007, p. 2)

On the one side, Martin (2012) considers that the idea of equilibrium does not have to be implicitly related with any of the three understandings of the resilience concept, not even with the “bounce back” one. And at the same time, by definition, economic and social systems are “essentially evolutionary disequilibrium systems” (Martin and Sunley, 2015, p.10). But this does not interfere with the capacity of economic and social systems to make the application of resilience valid. On the other side, multiple equilibriums concept is common for the ecological definition of resilience, which can be explained through “disturbances that can cause a system to flip from one equilibrium to another.” (Hassink, 2010, p.47).

2. A discussion on conceptual issues

The fact that resilience has so many meanings and understandings is, on the one side, beneficial because it encourages research among various disciplines. The downside of it, however, as Martin and Sunley (2015), Bristow (2010) and Hassink (2010) remark, is that a vague understanding on the concept persists. There are three main arguments worth mentioning in this respect:



For one thing there is no universally agreed definition of regional or local economic resilience, [...] Certainly, as yet there is no generally accepted methodology for how the concept should be operationalized and measured empirically [and] there is as yet no theory of regional economic resilience as such and relatively little discussion of how the concept relates to other concepts such as uneven regional development, regional competitiveness, regional path dependence and the like. (Martin and Sunley, 2015, p. 3)

Martin and Sunley (2015) consider that when conceptualizing resilience four main questions have to be asked: resilience of *what*, *to what*, *by what means* and with *what outcome*. Dinh and Pearson (2015) also take the four questions as referential for what they call “community economic resilience” (CER). Accordingly, we organize our discussion around the four research targets.

(1) The ‘what’ question has to indicate clearly the level of economic analysis, be it city, firm, cluster or region, the characteristics of that territorial unit and the methodology and indicators used for measuring resilience (before and after the shock).

Before engaging in the process of measuring resilience, it is necessary to explore the full potential of the analysed territorial unit. In this sense, Martin and Sunley (2015) point out that the economic structure of a region is prone to influence its vulnerability to different types of shocks and it may also define the robustness of that particular region. They offer five scenarios of economic structures, explaining the advantages and disadvantages of each one when faced with adversities and how each one allows for a better robustness growth.

Firstly, there is the structural diversity case, which states that regional economic diversity generally boosts robustness, whereas sectoral specialization reduces it. The second case is economic variety, which takes two forms, modularity and redundancy. Modularity explains that by maintaining different industries “not closely inter-linked locally, or only weakly coupled, in terms of similar competences, input-output relations or supply chain connections” (Martin and Sunley, 2015, p. 27), the regional economic resilience will increase. Redundancy helps a region to reorient its economic structure towards more robust sectors, by using the substitution capacity of the firms in case of failure and the alternative uses of resources.

Thirdly, there is the ‘Rivet Effect’, more present in ecological studies on resilience. This criterion indicates that a shock hits a region based on an economic hub, where a particular firm or sector is the productive core, where the employment base and an entire network of suppliers, and subcontractors contribute to that particular activity. In this case, the outcome might be an economic collapse or, in a more positive scenario, a major decline in the regional activity. Other version of the ‘Rivet Effect’ concerns the regional specialization in ‘new economy’ industries such as “high-technology manufacturing, creative, media, digital, financial and



other business services” (Martin and Sunley, 2015, p. 29), which are themselves different conduits to achieve resilience.

Fourthly, there is the scenario of structural redundancy, which, according to the Martin and Sunley (2015), allows certain companies and sectors to substitute for one another in case of failure or even a region’s resources might “be put to related or alternative uses”.

Fifthly, ‘related variety’ is a concept that does not have a clear impact on resilience yet because on one side, it signals complementarities among subsets of sectors, which generate long-term adaptability of local economy, but on the other side, complementarities reduce modularity and so resilience. The effects are contradictory and the final outcome cannot be measured exactly (Martin and Sunley, 2015).

Lastly, there is the scenario of diversified specialization. According to different studies elaborated across the UK regions (Martin *et al.*, 2013 cited in Martin and Sunley, 2015) or in the US metropolitan areas (Doran and Fingleton, 2013 cited in Martin and Sunley, 2015), structural diversity proved to be a better weapon against the waves of the recent economic recession than specialization.

(2) “To what” question focuses more on the nature of the shock, on its intensity, duration and effects.

Disturbances or shocks can be abrupt, like natural, technological or human-made disasters, like epidemics or economic crises or they can be gradual and predictable, such as demographic or climate changes (Dihn and Pearson, 2015).

Not all shocks affect an economy in the same manner. For example, in ecology, if a shock is too powerful and exceeds the capacity of the economy to absorb it, then, the system will forcefully take one of the alternative equilibrium states, which are presumed to be less favourable than the pre-shock state of the system. However, the analogy with economics is arguable, as the economic effects of a shock can rarely be predicted *a priori*. Moreover, resilience may be limited to the dichotomy between returning to the pre-existing state after the shock or transforming into a different one afterwards. What one has to remember is that resilience is “not an either/or feature or outcome, but a complex process that admits of many possible combinations of change and continuity.” (Martin and Sunley, 2015, p. 10) With this view in mind, growth and prosperity can be generated in alternative ways, which do not necessarily follow a certain path.

Attempts of measuring the regional economic resilience have been made both by using qualitative (interviews, surveys) and quantitative methods (different econometric models). According to Dinh and Pearson (2015), community economic resilience can be measured by the constructive or *ex ante* approach (measuring economic resilience before the shock), or by the performance or *ex post* approach (measuring economic resilience after assessing the disturbances in outcomes, time and cost).



For the first approach, the authors recommend factor analysis or principal component analysis, the resilience being a function of seven factors, like human capital, financial capital, natural capital, physical or built capital, social capital, diversity of economic structure and accessibility. For the second approach, the definitions of the three post-shock measures can be found in Table 2.

Table 2. The post-shock measures and their impact on resilience

Post-shock measures	Definition	Interpreting resilience level
Outcome based Measure	The extent to which the selected economic performance indicator (e.g. living standard, output or employment) deviates from its target outcome, given an external shock.	The less difference is between the actual outcome and its target level, the more resilient the community economy.
Cost based Measure	The deviation of the associated cost for the target outcome from that for the actual outcome given a disturbance.	The less difference is between the actual outcome and its target level, the more resilient the community economy.
Time based Measure	The inverse of the time needed for the local economy to reach a certain level of outcome after being affected by a shock.	The shorter the time needed to recover, the more resilient the community economy.

Source: Adapted from Dihn, H., Pearson, L. (2015)

Capello *et al.* (2015) used the MASST (Macroeconomic, Sectoral, Social and Territorial) model to demonstrate that cities play a major role for regional resilience. Economic resilience increases with the size of the city and type of functions that are dominant. The results of the study indicate that cities hosting activities with higher value-added, factors of production and infrastructure of higher quality and a higher density of cooperation networks have a higher level of economic resilience and also increase the resilience of the regions that they are part of.

Another quantitative measurement was made by Holm and Østergaard (2013) for the information and communication technology (ICT) sector in Denmark to compare the patterns of growth before and after the year 2000. Although conclusive results were not found, some dimensions of resilience were identified among the analysed regions.

Sebatino (2016) assesses the competitiveness and resilience levels of the Sicilian production areas during the economic crisis. The main unit of analysis is the industrial district which represents “the product of a bottom-up process that involves both the local community and the companies operating in the same territory, and [...] the presence of a system of standards of shared values and a common level of trust between local actors that interact in this context.” (Sebatino, 2016, pp. 234-235) Using field survey and other secondary data sources, the author



gathers the values of turnover and employees, from 2009-2013, for four Sicilian productive districts. The results show that the regional industrial district system does not have a great capacity to react to shocks created by the economic recession, but the leading companies adapt better to change, thanks to “their size, degree of innovation, openness to the outside, propensity to export, industrial relations and networking system.” (Sebatino, 2016, p.246)

Based on resilience measurements using qualitative methods such as interviews with local stakeholders, Hervas-Olivier *et al.* (2011) focus as well on industrial district level, for North Staffordshire (in England), to assess whether the ceramics industry has the adaptive capacity to take a new path.

The studies mentioned above show that building and maintaining the resilient capability of an economic structure requires specific factors like high level of connectivity and cooperation among actors, spotting activities which generate a higher added value and innovativeness factors to be strengthened. The quantitative and qualitative measurement processes of resilience have become of utmost importance as they allow a better understanding of the possible disturbing phenomena. A proper evaluation *a priori* and *ex post* shock can contribute to maximizing the effects and minimizing the costs involved, therefore, learning from success cases, might lead to elaborating good strategical policy-making documents.

(3) The “means” question refers to the “mechanism and processes by which a regional or local economy reacts and adjusts to a shock” (Martin and Sunley, 2015, p. 12), which are expected to be influenced by the local factors and ultimately by the shock.

There are two types of determinants that influence the regional resilience (Rose, 2004; Cutter *et al.*, 2008; Martin, 2012): inherent capabilities (the economic structure of the region, the innovation system, the skills base, the competitiveness level before the shock) and adaptive capabilities (the set of actions and decision, which can together help accelerate the regional recovery). According to Rose (2004), mixing the two types of capabilities can create a better regional resilience. Palekiene *et al.* (2015) suggest that the core determinants of territorial capital like “physical and human capital, competitiveness, innovation system, entrepreneurial culture, endowments in natural resources and physical capital” have a great contribution in influencing regional resilience.

Regional resilience policy has become a relevant topic for policy makers in urban areas in recent years. Urban resilience can be explained as the ability of cities to either continue developing their current activities while facing major disturbances, like a terrorist attack or an extreme weather event, or to adapt to long-term environmental disruptions such as climate change (Otto-Zimmerman, 2011). Cities are the territorial units which operate and interrelate at the regional level, “engines designing social, cultural and economic development and growth of urban and regional areas.” (Romanelli, 2017, p.119) Correlated with its capabilities to attract innovation, the city is the territorial unit which can easily become the



conduit between territorial capital, as input and resilience as output. As Wolfe admits (2010, p. 145), “successful regions must be able to engage in strategic planning exercises that identify and cultivate their assets, undertake collaborative processes to plan and implement change and encourage a regional mindset that fosters growth.” Resilience should be practically confirming the existing trends in urban regional development, by allowing greater response awareness to market conditions, strategic management and valuing the endogenous tangible and intangible assets (MacKinnon, Derickson, 2012).

(4) The “outcome” question is connected to the result of the process of resilience, mainly “how well the regional economy recovers from a shock, how long recovery takes and the nature of that recovery.”

The resilient capabilities prove their utility in case of disturbances or shocks. Most of the economic models, for example Friedman (1988), are cyclical, so they assume that the amplitude of a shock is correlated with the future amplitude of its recovery, although there is not necessarily a connection between the amplitude of an expansion and the one of a contraction. What counts in cycle analysis is the wave connecting a shock to its recovery. Martin (2012) raises the question of the recovery which does not have a symmetrical path with the shock. In the case of a shock, the economy might follow either the initial path and recover, because the region’s economy has successfully absorbed the shock, “by reorganizing around a new mode of growth that is in fact more favourable than that which existed before the shock” (case called positive hysteresis), or the shock can be so powerful that the economy switches the path because of a significant destabilization (case called negative hysteresis). In this last case, the resilience is extremely low and the effects are “slower rates of growth of output, jobs and incomes”, in other words, absolute economic depression.

Given the complex mix of external and internal factors contributing to the recovery after the shock, we may argue that the outcome of a disturbing event is impossible to be predicted accurately, and speculative and ex-ante approaches should complement this debatable process.

Table 3. Resilience conceptualisation

Research targets	Empirical results
Of what?	The economic structure of a region is prone to influence its vulnerability to different types of shocks and it may also define the robustness of that particular region (Martin and Sunley, 2015).
To what?	Not all shocks affect an economy in the same manner (Dihn and Pearson, 2015; Capello <i>et al.</i> , 2015; Holm and Østergaard, 2013; Sebatino, 2016; Hervas-Olivier <i>et al.</i> , 2011).
By what means?	There are two types of determinants that influence the regional resilience, inherent capabilities (the economic structure of the region, the innovation system, the skills base, the competitiveness level before the shock) and adaptive capabilities (the set of actions and decision, which can together help accelerate



Research targets	Empirical results
	the regional recovery) (Rose, 2004; Cutter <i>et al.</i> , 2008; Martin, 2012).
With what outcome?	After the shock, the path recovery differs according to the mix of factors involved (Friedman, 1988; Martin, 2012).

Source: authors' compiling work.

Table 3 summarizes the lessons drawn so far. Under the framework of four research targets, the literature findings show that the complex process of regional economic resilience is manifest inside a territorial unit, whether a city, a locality, a cluster, an economic agglomeration, or a region. No matter the geographical area covered, it is of utmost importance to know the characteristics and capabilities of that unit *a priori*, so it can be easier to adopt the best position after the disturbing event takes place. Not of a less relevance are the *ex-post* studies, which contribute to a more sustainable strategy for appropriately responding, adjusting, adapting to shocks or only for taking measures against future threats.

Conclusions

This paper explored how a territorial unit aiming to improve its competitive advantages can incorporate in its policy practice ways, instruments, and methods to sustain economic resilience. Territorial capital, as well as economic resilience, are concepts that have recently drawn much attention from researchers, business practitioners and policy makers alike. We consider that regions, countries, or regional groupings should deploy the most adequate policy measures that would enable territorial units to benefit from their competitive advantages while building up capacity for fast recoverability in case of a shock. In lack of specific theory of economic resilience, the conceptual analysis opens up a broad range of perspectives on the topic.

Policies oriented towards the use of territorial capital have to be designed in accordance with the specific pattern of assets found at the level of the local economy. According to Camagni (2008, pp.3-4), the concept of “territory” is a more appropriate term than abstract “space” when referring to a system which is composed of “localised externalities”, of “localised production activities, traditions, skills and know-hows”, of “localised proximity relationships”, a “system of cultural elements and values”, a “system of rules and practices defining a local governance model”. In other words, a territory benefits from economic, technological, productive, relational, socio-cultural, institutional endowments, which have to be valued systemically and protected in the same integrative manner. Equally relevant, terms like smart city, cluster, agglomeration economy, industrial district also support the policy efforts to achieve strong territorial competitiveness, a successful combination of the 4Rs, and so, a greater resilience. All these conditions confer a certain level of reliability and trust in that particular economic structure, values created in time and desirably maintained through the use of the right economic, financial and political means.



The conceptual issues revolve around four questions any policy maker and stakeholder should ask: *resilience of what, resilience to what, resilience built by what means* and *with what outcome*. The study of resilience helps in finding the adequate targets and means to overcome disturbances - economic crises, terrorist attacks, a demographic or a climate change, that is, a shock defined by its origin, nature, duration, and intensity. Important though these clarifications may appear to be in understanding the new context of growth, more empirical work is needed to measure the level of economic resilience and reflect back on the conceptual framework.

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