

The role of spatial planning policies in fostering regional economic resilience in Greece

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Abstract

The concept of resilience aims to describe the stability of a system against short-term or long-term interference, and its ability to recover and return to a state of equilibrium. It also refers to the notion of reorientation and renewal, meaning the capacity of adaptation, reorganisation and transformation. In this context, resilience seems to be a desirable attribute for any spatial system. During the last decade, there has been a growing interest to apply the concept of resilience to cities and regions, aiming to understand how such spatial systems respond to economic shocks and disturbances. Economic resilience has emerged as a crucial issue in the EU since the beginning of the recent economic crisis that started in 2008. The role of policies for fostering economic resilience has gained significant attention. Nevertheless, the principles based on which such policies should be designed and pursued are still a field of investigation.

In Greece, during the recent crisis, policy responses were principally enacted at a national level and focused upon macroeconomic policies intended to deliver stabilization and recovery. Simultaneously, there has been a long-standing effort to endorse a spatial planning reform, which resulted to a barrage of, sometimes controversial, legal acts. It is highly critical to investigate whether the spatial planning policies that were recently pursued have orientated towards shaping factors of resilience. The present paper aims to respond to this issue and shed light to how policy context helps shape resilience.

Initially a bibliographic overview of the concept of resilience is attempted in order to identify the features that shape the economic resilience of a region. This research will determine the adequate criteria forming the context for the case study. An inclusive description of the new directions of spatial planning in Greece is followed by an evaluation of spatial planning policies at a strategic level in the Athens Metropolitan area. Conclusions will cover the possible role of spatial planning policies in achieving economic resilience at the regional level.

Key words: *Regional resilience, economic resilience, spatial planning, spatial policy, Athens*

1. INTRODUCTION: THE CONCEPT OF REGIONAL ECONOMIC RESILIENCE

The notion of resilience has gained a broad interest recently across a range of disciplinary areas (see literature review in [1]). However, it is still quite fuzzy and its approach and significance can vary substantially between policy and research documents. As a concept aims to describe the stability of a system against short term or long term interference, and its ability to recover and return to a state of equilibrium. It also refers to the notion of reorientation and renewal, meaning the capacity of adaptation, reorganisation and transformation.

In this context, resilience seems to be a desirable attribute for any spatial system. There has been a growing interest to apply the concept of resilience to cities and regions, aiming to understand how

such spatial systems respond to economic shocks and disturbances [2]. At a regional level, two large categories of disturbance are identified [1]: (a) shocks, including disasters or plant closings in places that are heavily dependent on them and (b) “slow burns” including deindustrialization, urban sprawl, prolonged population growth, and global climate change. However, the related dialogue on the role of spatial planning is mainly concentrated on the urban environment (see a recent review in [3]), emphasising on issues related to climate change (e.g. [4]; [5]).

The approaches to regional economic resilience are wide-ranging ([6]; [7] and a related research in [8]). Regional economic resilience may be defined as "the capacity of a regional or local economy to withstand, recover from and reorganise in the face of market, competitive and environmental shocks to its developmental growth path" ([9]: p.7).

Economic resilience has emerged as a crucial issue in the EU since the beginning of the recent economic crisis that started in 2008. The role of policies for fostering economic resilience has gained significant attention, as well as the principles based on which such policies should be designed and pursued (see extensive analysis in [9]). Although studies of the trajectories of the 2008-09 global economic crisis have highlighted the complex role played by geography particularly across Europe where the effects of the crisis were highly geographically uneven ([10]; [9]: Ch. 1), there is limited involvement of the research community in the role of spatial planning in the issue of regional economic resilience. This work aims to cover part of this gap.

Initially an overview of recent bibliography is attempted in order for the features that shape the economic resilience of a region to be identified, providing this way the criteria for the case study evaluation. Then, an inclusive description of the new directions of spatial planning in Greece follows. The evaluation of spatial planning policies at a strategic level in the Athens Metropolitan area will provide the adequate discussion in order to identify the possible role of spatial planning in achieving economic resilience at the regional level.

2. FACTORS AND POLICIES SHAPING ECONOMIC RESILIENCE AT REGIONAL LEVEL

Regional economic resilience has been at the core of the scientific discussions and research activity in the EU during the last decade. One of the most comprehensive researches in the field took place within the “ECR2 - Economic Crisis: Resilience of Regions” ESPON2013 project. The institutional role of ESPON is to systematically analyze the spatial development tendencies in the EU area providing the necessary data and evidence in order for the related policies to be promoted ([11]: p.9). Through EPSON, the interest of a potential European spatial planning field has been focused on spatial data analysis and studies that can justify the intervention at an EU level [12]. ECR2 aimed to “expose territorial evidence that supports policymakers at different administrative levels in making the economic structure(s) in Europe and its countries, regions and cities more resilient to economic crises and a sudden economic downturn” [13]. One of its principal objectives was to understand the factors that make some places more resilient than others as well as the role of territorial policy responses in promoting economic resilience [14]. Given the significant role of ESPON in EU policy making, the specific study is becoming crucial in the process of identifying the appropriate, resilient effective policies.

Table 1. Factors shaping resilience according to the ECR2 ESPON2013 project

Components / factors	Influence on resilience	
	Positive	Negative
<i>Business components</i>		
Dependency on particular sectors or a small number of employers		○
Diverse (non-specialized) economic structure	●	
Dependence on the public sector	●	●
Presence of international companies, with access to financial resources and greater expertise	●	
Strong export orientation to the economy / focus on more modern production techniques	●	
Stable growth patterns prior to an economic shock	●	
High levels of innovation performance	●	
Strong entrepreneurial cultures	●	
<i>People components</i>		
Highly qualified populations	●	
Workforce experience and managerial skills	●	
Labour market flexibility	●	
Level of household disposable income	–	–
Low levels of income inequality	●	
Demographic structure	–	–
Levels of migration prior to the crisis	–	–
Levels of in-migration	–	–
<i>Place components</i>		
Presence of an urban centre	●	
Remoteness from major urban centres		●
Mountain, coastal or border features		●
Higher levels of accessibility	●	
High quality natural environment	●	
<i>Community components</i>		
Strength of social capital networks	●	
Business networks and inter-firm social capital	●	
Community-based initiatives	●	
Fragmented governance structures		●
Collaboration between neighbouring public authorities	●	
Collaboration between different levels of government	●	
Collaboration between government and economic and societal partners	●	
Limited powers of the local government		○
Strong strategic planning approach	●	

● tangible influence; ○ with exceptions; ● limited evidence; – no relation observed

Source: authors' elaboration based on [14]

Regarding the *factors that shape resilience*, they are inherent properties that can help a region react to disturbances, which can be grouped into four broad categories, referred to as “the foundations of resilience” ([14]: p.72): i) Businesses, economy and the business environment, ii) people and population, iii) place-based characteristics and iv) community, or societal, characteristics. Table 1 constitutes an effort to systematize these factors and their influence on resilience. The project suggests that:

- i) The form and structure of the economy highly influences the resilience of a region: initial strengths and weaknesses of regions, their industrial legacy, the size of the market and access to a larger external market.
- ii) A region’s population can influence its ability to withstand – or recover from– an economic shock.
- iii) Although in some countries the territorial characteristics of regions may have some influence on the observed level of resilience, there is no consistent pattern to this – resilience depends on wider context than the ‘physical’.
- iv) Based on mainly qualitative data, a number of community features do appear to have some impact on resilience.

Other researchers have also recorded similar factors that enable a region to adjust or adapt over time. Christopherson et al [15] identify the following: strong regional system of innovation; emphasis on factors that create a ‘learning region’; modern productive infrastructure (transport, broadband provision, etc.); skilled, innovative and entrepreneurial workforce; supportive financial system providing patient capital; diversified economic base, not over-reliant on a single sector; close collaborative relations between companies and other organizations; diverse economic basis in terms of ownership structures etc. Palekienea et al [6] summarize the work of other researchers (e.g. [16]; [17]; [18]) on the factors making a region resilient: strong innovation system; learning region; experienced, skilled, innovative and entrepreneurial workforce; a diversified economic base; a modern production base which has modern infrastructure; high degree of regional specialization; existence of supportive financial system to provide funds; the existence of competitiveness; the existence of a supportive system of governance with science, innovations and industry. The authors support the view that each factor is different in each region and changes over time.

Summing up, as a result of the previous analysis the following general factors that are positively associated with more resilient regions can be identified:

1. Economy: more diverse, export-orientated economies (contrary to the dependency on particular firms, sectors etc.) with the presence of international companies, and with a higher share of service-based activities contrary to the strong concentrations on construction and agricultural activities. It has to be mentioned that the significance of manufacturing is less clear.
2. Workforce: flexible and adaptive workforce, with higher levels of skills and qualifications
3. Innovation capacity: innovation capacity and performance of the region
4. Green economy activities: sustainability-based activities complementing mainstream economic activities.
5. Governance: governance quality social networking and community-based responses,
6. Institutional Learning capacity: Institutional adaptivity and learning

Regarding the *role of territorial policies in fostering resilience*, the ECR2 project ([14]: pp 88-91) argues that policy responses to an economic crisis include one or more of the following: *Economic stimulus packages, Employment support, Promoting flexible working, Supporting training, Promoting entrepreneurship, competitiveness and innovation, Encouraging diversification, Tax and investment incentives, Easing eligibility rules and providing access to credit, Government reform and institutional change, Leadership and dialogue, Supporting community responses*. Some of the above policies are “classic” territorial policies, while others are

not, but are considered to have a territorial dimension as regards their impact on various places. Diversity, skills, innovation and good governance are the four crucial features what policy-makers should seek for when seeking to develop a resilient community. This particular research highlights, among others, that policies promoting resilience should follow a place-based approach recognizing the special characteristics and challenges of some places and that these policies should be developed through complementary actions at the sub-national and national scale ([14]: p.103).

Kakderi and Tasopoulou ([19] investigated the potential role of national and sub-national policies in shaping regional economic resilience, focusing on a Greek case study, the Region of West Macedonia. Based on the literature review, they argue that “factors of resilience may be found in different aspects of the system such as the structure of the economy, the social capital and the system’s governance” ([19]: p.1437). The role of policies can be threefold. They can be either policies in the form of preventive interventions (precautionary planning) which aim to shield the region against shocks and disturbances; they can be policies which aim to stabilize the region and alleviate the negative consequences of the crisis; or they can be policies that promote processes of transformation, reorientation and renewal in order for the region to recover from a crisis.

Based on the work of others [20; 21; 22; 23; 24; 16], Kakderi and Tasopoulou [19] refer to the basic principles based on which policies for regional resilience should be designed: they have to be flexible; the success of one measure should not influence the success of another; they have to be place-based, sensitive to the geographic, social, economic and political context; they have to be open and outward-looking; they should be placed on the basis of an ongoing process, setting long-term objectives; they should be the output of horizontal collaboration between actors at the regional and local levels, and of vertical complementarities with policies at the national level; they should be the result of flexible structures of governance. As for the latter, the specific research presented by the authors reveals that in practice programmes at the regional level are far more efficient in creating conditions of resilience in the area, highlighting, however, that such programmes should be assisted by actions of coordinating and empowering local actors in the pursuit of sustainable bottom-up policies.

3. PLANNING FOR RESILIENCE IN ATHENS METROPOLITAN AREA: THE ATHENS MASTER PLAN

The crisis in Greece emerged in 2010 as a massive budget deficit with a simultaneous inability to attract further external finance. To repay the huge sovereign debt, the Greek governments agreed with European Commission, International Monetary Fund (IMF) and the European Central Bank (ECB) on a series of bailout programmes (2010-2018). The related austerity measures and the delay in the implementation of necessary institutional and structural changes finally culminated in a prolonged recession.

The related policy responses were principally enacted at a national level and focused upon macroeconomic policies intended to deliver stabilization and recovery ([19]). Some major spatial policies applied during the period of the crisis, mainly focus on revenue collection. These include an extended tax imposition on private property, an extensive privatisation programme of public real estate assets and companies and the "regularisation" of illegal or semi-illegal buildings (called "afthereta") in exchange for the payment of a fee.

Simultaneously, there has been a long-standing effort to endorse a spatial planning reform, which resulted to a barrage of, sometimes controversial, legal acts. The revision of urban and regional planning legal framework of the country (L.4269/2014 and L.4447/2016) emphasizes on securing the possibilities for a "flexible", yet fragmented, spatial allocation of investment activities

incorporating previous controversial regulations, such as provisions to facilitate private investments of strategic importance sliding over the mainstream spatial and planning legislation.

A new Athens Master Plan (AMP) known as the Regulatory (or Strategic) Plan of Athens (L.4277/2014) recently updated the first one, enacted in 1985. The previous AMP had the ambitious target to curb urban sprawl, reduce social disparities and enhance environmental protection. In practice, the plan was implemented successfully up to a point and it was rapidly bypassed as the preparations for Olympic projects entailed major transformations of the urban area that ran into contradicting provisions of the Master Plan [25]. In general, the Master plan encompasses the physical planning structure of the production sector, the transportation system, the technical infrastructure, as well as the land and residence policy. It includes measures for the planning of areas of special interest or special problems, and it has a coordinating role in relation to the projects and studies related to the spatial planning of the Region and undertaken by all the other public authorities or bodies [26].

The main strategic objectives applied by the new AMP are (a) balanced economic development and strengthening of the international role of Athens, improvement of competitiveness, increase of production and employment in all activity sectors, (b) sustainable spatial development, effective protection of the environment and cultural heritage and adaptation to climate change, and (c) improvement of the quality of life by balancing the distribution of resources and the benefits of development. The above objectives are compatible with those of the previous regulation. However, the emphasis on improving competitiveness and enhancing the production process is recognized as an effort of adaptation to current circumstances, notably the economic crisis, ensuring a development direction as a result [27; 28].

Thereafter, there is an analysis of the elements of the provisions of the AMP which relate to the factors presented in the previous section. These provisions are considered as policy directions that are in place to assure the economic resilience of the region.

3.1 More diverse, extroverted economy / service-based activities

The first strategic goal of the AMP recognises the need for a diversified economic basis and it pursues the development of all activity sectors, as opposed to the previous Plan which aimed to narrow the secondary sector. According to the relevant provisions, the primary sector is maintained and strengthened in order to contribute to the self-sufficiency of the region, but also to achieve environmental benefits (preservation of landscape, biodiversity and agro-ecosystems), alongside with the secondary and tertiary sectors. It is intended to support industry and to reinforce innovative entrepreneurship by establishing new low and medium nuisance manufacturing activities in mixed-use areas, particularly where there is appropriate vacant building stock. The manufacturing activities should be located in organized -planned- zones, linked with research and production through related clusters. The network of organized manufacturing and business activities is linked to the spatial organization of wholesale, warehouse and logistics systems, pointing out the access to the region's gateways in relation to means of public transport. Priority is given to the establishment of logistics, storage and commerce businesses.

As regards the tourism sector, the AMP seeks to strengthen the attractiveness of Athens-Attica as a European metropolitan tourist destination of international and national magnitude. Emphasis is placed on City Breaks as well as on the development of special and alternative new forms of tourism, such as congress, sea and medical, for which new infrastructure is planned (Annex XIII).

The spatial organization proposed by the AMP creates conditions of extroversion, since it identifies specific poles of national and international scope: (a) The Athens-Piraeus Pole, is the traditional executive management center and economic center of the country. Eleonas, currently a dynamic

component of this pole, is emerging as an area of strategic importance for enhancing the region's development potential and competitiveness, concentrating high added value activities (manufacturing activities combined with a developed tertiary sector, transport, education and research, technology, culture, sports, health, care, welfare). (b) The Metropolitan Pole of Hellenikon - Agios Kosmas at the former Airport, is a metropolitan pole of international magnitude contributing to rendering the capital into a major center of economic, environmental and innovative development, as well as a tourist destination, business center and leisure pole in the wider region of the Eastern Mediterranean. (c) The System of Supplementary Poles in the Greater Area of the new International Airport, the main gateway to the country, specialises in business, transport, agricultural production, manufacturing, high technology and tertiary sector activities.

Enhancing internationalization, through the appropriate spatial organization of the production activities and services, is one of the priority areas of the AMP Action Plan (article 35).

3.2 Flexible and skilled workforce

Attica constitutes an important educational center in the country, bringing together the largest university institutes and a skilled workforce. The only relevant implicit reference of the AMP is related to the concentration of institutions in the area of Zografou – Agia Paraskevi municipalities constituting a Research and Educational Center with specialization in higher education, research and health (hospitals). However, the pursuit of specific activities such as knowledge intensification (see next section) presupposes the existence of the necessary specialized scientific workforce.

3.3 Supporting the Innovation performance of the region

AMP seeks to create appropriate spatial conditions for linking research and production, for exploiting know-how and innovation and for generating new knowledge through spatial organizations such as science-technology parks, incubators of new businesses, clusters or complementary enterprises with common high-level infrastructure. On a spatial basis, the corresponding activities are concentrated mainly in Elaionas (the innovative business, research and technology pole), in the Metropolitan Pole of Hellenikos (innovative development), in Thriassio (technology and applied research) and in the international airport area (cluster of innovation).

3.4 Green, sustainability-based activities

The effective protection of the environment and adaptation to climate change is one of the three main objectives of the AMP. However, the proposed activities and actions focus on the protection of the natural environment and biodiversity (article 17), aiming at improving the quality of the urban environment (e.g. creation of a green spaces network, management of communal areas, wetland rehabilitation etc) and at developing key environmental infrastructures (protection and monitoring of water conditions, Sewage Treatment Centers, etc.). There is limited reference to the development of environmental (green) entrepreneurship by creating a cluster in the Thriassio development pole and at the coastal zone of Piraeus (wider port area).

3.5 Governance quality - social networking and Institutional adaptivity and learning

In Greece, the planning system is centralised and at the same time a general lack of horizontal and vertical coordination and a profound gap between spatial and socioeconomic planning is apparent; Space and economy remain planned separately from each other provoking a governance deficiency [26; 29]. In the case of Athens-Attica there was a recentralization procedure of the metropolitan spatial planning responsibilities. The Organization for Planning and the Environment of Athens (ORSA), a special, flexible unit which was mainly responsible for the implementation of the AMP, in 2014 was included in a Public Administration cost reduction programme and its competencies have been transferred to the headquarters of the Ministry.

The reference to the role of civil society is limited. For example, the organisation of clusters in development poles (article 11) refers to the pursuit of cooperation between the public sector, educational and research institutions, the private sector and the local authorities. It is worth noting that even the new spatial planning legislation does not include any provisions on public participation in the planning procedure but only links to the Strategic Environmental Assessment consultation process.

3.6 Institutional adaptivity and learning

This factor is examined in terms of adaptability and learning both of those involved in the implementation process of the AMP and of the process itself. All plans and programs with spatial interventions, as well as those that have concrete spatial impacts, have to be in accordance to the objectives and directions of the new AMP. The Ministry, in co-operation with the co-competent bodies, monitors and evaluates the implementation of the AMP and identifies discrepancies. The Plan’s provisions include the issue of relevant reports every two years, which should be taken into account by all those involved in the implementation of the new AMP.

A monitoring system referred in the law as “Observatory of Spatial, Environmental and Socioeconomic Developments” (Art. 37 of L.4277/14) provides support to the evaluation process of the AMP by creating a database and using a geospatial information system, processing of monitoring indicators and evaluation of spatial, socio-economic and environmental data of Attica. During its operation, the organization of a broad network of stakeholders and pooling of spatial information can ensure synergy and effective monitoring of the implementation. In fact, until today (April, 2019), there has been no report on the assessment of the AMP while the Observatory has not yet operated.

4. CONCLUSIONS

The policies implemented in Greece since 2008 mainly aimed at addressing the large deficits in the public sector. The measures implemented did not proceed to a radical transformation of the planning system but principally focused on providing more investment-friendly tools. The Region of Attica has gained a new Master Plan which, according to its main objectives, strengthens production diversity. Furthermore, it adopts a place-based approach recognizing the special characteristics of the area and highlighting its comparative advantages. Table 2 summarizes and evaluates the coverage of the Resilience Factors identified before, by the AMP promoted policies.

Table 2 Evaluation of the policies applied by the AMP

Policies / Factors	Development axes and poles	Urban development	Production activities	Environmental policies	Infrastructure	Governance scheme /Action plan
Diversity	+++	o	+++	o	o	+
Skilled workforce	+	+	+	o	o	o
Innovation	++	+	+++	o	o	o
Green activities	+	+	+	+	+	o
Good governance	o	o	o	o	o	+++
Learning capacity	o	o	o	o	o	++

+++ : Provisions which substantially contribute to the enhancement of the factor

++ : Provisions which satisfactorily contribute to the enhancement of the factor

+ : Limited / implicit coverage of / reference to the factor

o : does not apply

Evaluating the response of the AMP in relation to the factors, the policies concerning the development of axes and poles and the production activities promote the diversity and innovation of the Region. Environmental policy emphasizes on basic infrastructures with a preventive character. Urban development policies may improve the quality of life, an element of importance for the attraction of advanced workforce, but in general their resilience potential is limited.

The AMP governance and monitoring scheme might have a positive effect on the horizontal collaboration between actors at the regional and local level while enhancing the institutional learning capacity of the region. However, the weakening of metropolitan governance mechanisms in post-crisis administrative policy and the apparent inability to implement the AMP until now, pose concerns about the real potential of the proposed system. The important role of Athens metropolitan area at a national level needs special attention and treatment. A special purpose unit of Metropolitan Governance ensuring flexibility and interdisciplinary synergies might be a solution to this direction allowing the departure from ineffective bureaucratic paths.

Overall, the AMP does not incorporate a clear orientation towards resilience issues. In a way, this is expected as it was largely developed before 2011 but the finalization of its content and its institutionalization have been significantly delayed. The policies the AMP adopts can have a positive, indirect or direct, effect on those factors that form a resilient region. This effect could have been more profound if its role as a tool for coordinating horizontal policies was more effectively activated. An effective monitoring and feedback system that would significantly improve planning flexibility and the learning capacities of the governance structures would contribute in the same direction. Unfortunately, the lack of such integrated systems is a well-known pathology of the Greek planning policy in general.

The literature (eg. [19]) states that the role of policies in fostering resilience can be threefold: preventive policies, stabilization policies and transformative policies. In the case of the AMP, it appears that the policies adopted in order to pursue its strategic objectives fall mainly into the second type of policies (stabilization). The AMP considers the effects of the negative consequences of the recent economic crisis and, in a degree, aims to alleviate them and stabilize the region. At the same time, it can be argued that some of the AMP's policies are in place to promote processes of structural transformation and reorientation (transformative policies). This argument is mainly reflected on the pursuit of supporting the innovation performance, which has also a strong spatial "flavor" and could help build diversity into the regional economy. Lastly, our research did not recognize any stated intention to embrace a precautionary planning approach (preventive policies), with the exception of forwarding certain infrastructures, which could shield the region against future shocks and downturns.

The above-mentioned results lead to another critical feature that influences the levels of resilience, i.e. the ability to learn from past events [14]. This feature functions complementary to the structural features and presupposes evaluation of past crisis and an ability of the governance structures to learn, adapt and foresee. Given that the launch of the AMP took place not long after the beginning of the crisis, it was not seen as a direct tool to learn from the crisis, adjust and prepare for future downturns although it incorporates parameters that can shield the region against such phenomena in the future.

Lastly, the research leads to the conclusion that, the community and societal aspect of the AMP is clearly degraded. Despite the extended consultation period with the key stakeholders, AMP lacks provisions relevant to social networking, community-based initiatives and community capacity building which are considered to assist a region's resilience. Additionally, there are no provisions

regarding specific participation and consultation processes during the implementation, which again leads to the need to reconsider the traditional and dominant top-down approaches to planning.

References

1. Pendall, R., Foster, K., Cowell, M., 2007. Resilience and Regions: Building Understanding of the Metaphor. UC Berkeley: Institute of Urban and Regional Development. <https://escholarship.org/uc/item/4jm157sh> (accessed February 20, 2019).
2. Müller, B., 2010. *Urban Regional Resilience: How Do Cities and Regions Deal with Change?* (Ed.). German Annual of Spatial Research and Policy. Springer, Heidelberg. ISBN 978-3-642-12784-7.
3. Meerow, S., Newell, J., Stults, M., 2016. Defining urban resilience: A review. *Landscape and Urban Planning*, 147,38–49.
4. Lua, P., Stead, D., 2013. Understanding the notion of resilience in spatial planning: A case study of Rotterdam, The Netherlands. *Cities*, 35, 200–212.
5. Albers, M., Deppisch, S., 2013. Resilience in the Light of Climate Change: Useful Approach or Empty Phrase for Spatial Planning?. *European Planning Studies*, 21(10), 1598-1610, DOI: 10.1080/09654313.2012.722961.
6. Palekienea, O., Simanavicieneb, Z., Bruneckienec, J., 2015. The application of resilience concept in the regional development context. *Procedia - Social and Behavioral Sciences*, 213, 179-184. DOI: 10.1016/j.sbspro.2015.11.423
7. Simmie, J., Martin, R., 2010. The economic resilience of regions: towards an evolutionary approach. *Cambridge Journal of Regions, Economy and Society*, 3(1), 27-43, DOI: 10.1093/cjres/rsp029
8. Courvisanos, J, Jain, A., Marendah, K., 2016. Economic Resilience of Regions Under Crisis. *Regional Studies*, 50, 629-643.
9. Bristow, G., Healy, A., 2018. *Economic Crisis and the Resilience of Region. A European Study* (Eds). Edward Elgar Publishing Ltd. Cheltenham UK. ISBN: 9781785363993.
10. Capello, R, Caraglui, A, Fratesi, U., 2015. Spatial heterogeneity in the costs of the economic crisis in Europe: are cities sources of regional resilience?. *Journal of Economic Geography*, 15(5), 951-972.
11. Waterhout, B., 2008. *The Institutionalization of European Spatial Planning*. TU Delft. <http://resolver.tudelft.nl/uuid:d303640d-2f76-41c8-8e74-088c4600cd8d> (accessed February 27, 2019).
12. Zetter, J., 2002. Spatial Planning in the European Union: A Vision of 2010. *European Spatial Planning* (Ed. A. Faludi), Lincoln Institute of Land Policy, Cambridge, Massachusetts.
13. <https://www.espon.eu/programme/projects/espon-2013/applied-research/ecr2-economic-crisis-resilience-regions> (accessed February 20, 2019).
14. ESPON, 2014. ECR2. Economic Crisis: Resilience of Regions, Final Report | Version 31/August/2014, Applied Research 2013/124/2012, https://www.espon.eu/sites/default/files/attachments/ESPON_ECR2_Final_Report.zip (accessed January 30, 2019).
15. Christopherson, S., Michie, J., Tyler, P. (2010). Regional Resilience: theoretical and empirical perspectives. *Cambridge Journal of Regions, Economy and Society*, 3, 3-10.
16. Bristow, G., 2010. Resilient Regions: Replacing Regional Competitiveness, *Cambridge Journal of Regions, Economy and Society*, 3, 153-157.
17. Clark, J., Huang, H.I., Walsh, J., 2010. A typology of ‘Innovation Districts’: what it means for regional resilience. *Cambridge Journal of Regions, Economy and Society*, 3, 121–137.
18. Howells, J., 1999. Regional systems of innovation? (Chapter 5). *Innovation Policy in a Global Economy* (Eds D. Archibugi, J. Howells and J. Michie), Cambridge University Press, 67-93.

19. Kakderi, C., Tasopoulou, A., 2017. Regional economic resilience: the role of national and regional policies. *European Planning Studies*, 25:8, 1435-1453. DOI: 10.1080/09654313.2017.1322041.
20. Center for Local Economic Strategies, 2010. *Productive local economies: Creating resilient paces*. Manchester.
21. Bristow, G., Healey, A., Wink, R., Kafkalas, G., Kakderi, C., Espenberg, K.,...Carey, H. (2013). Economic crisis: resilience of regions (ESPON ECR2, Applied Research 2013/124/2012, Inception Report, Version 17/08/2012.
22. Gaillard, J., 2010. Vulnerability, capacity and resilience: Perspectives for climate and development policy. *Journal of International Development*, 22(2), 218-232. DOI:10.1002/jid.1675.
23. MacKinnon, D., Derickson, K. (2013). From resilience to resourcefulness. *Progress in Human Geography*, 37(2), 253-270. DOI:10.1177/0309132512454775.
24. Dawley, S., Pike, A., Tomaney, J., 2010. Towards the resilient region?: Policy activism and peripheral region development (SERC Discussion Paper No. 53). <http://econpapers.repec.org/paper/ehllserod/33523.htm>.
25. Serrao K., Asprogerakas E., Ioannou B., (2009) "Planning Culture and the interference of major events. The recent experience of Athens", in Knieling J. & Othengrafen F. (eds) *Planning Cultures in Europe Decoding Cultural Phenomena in Urban and Regional Planning* (pp. 203-218), Ashgate (Aldershot). (ISBN-10: 0754675653, ISBN-13: 978-0754675655)
26. Asprogerakas, E., 2016. Strategic Planning and Urban Development in Athens. The Current attempt for Reformation and future challenges. *Sustainable urban planning & Design Symposium*, Keynote Speaker, May 13, 2016. The Town Planning and Housing Department / Cyprus Urban Planning Council.
27. Serrao, K., Greve, T., Asprogerakas, E., Balampanidis, D., Chani, A., 2016. Athens, a capital in crisis. Tracing the spatial impacts. *Cities in Crisis, Socio-spatial impacts of the economic crisis in Southern European cities* (Eds. J. Knieling, F. Othengrafen, Routledge, Taylor & Francis Group, London. ISBN: 9781138850026.
28. Skayannis, P., 2013. The (master) plans of Athens and the challenges of its re-planning in the context of crisis. *International Journal of Architectural Research*, 7(2), 192–205.
29. Asprogerakas E., Zachari V., (2012) "In search of EU spatial policy and the prospects of an integrated planning approach in Greece", *Regional Science Inquiry Journal*, Vol III -1, pp. 87-105 (in Greek).