

Editorial: Resilience in the Space-Economy – in search of the X factor

Guest editors:
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1. The context

The ‘*X Factor*’ is a British reality show – broadcasted all over the world – in which a heterogeneous set of contestants showcase their musical talent so as to obtain the winning bid from a jury. The X factor refers to the critical condition that has the most significant influence on the final result. This popular television series on the *X factor* documents in an original way how several competing candidates in a performance contest steal the show. It is not only the professionalism, originality or beauty which matters, but also many other – often immeasurable or invisible – factors, such as personality or motivation which play a role. The X factor is a complex determinant of a dynamic process or competition to win a tournament.

The currently fashionable notion of the X factor essentially finds its roots in the seminal scientific works of Harvard economist Harvey Leibenstein, who introduced in several path-breaking publications, in particular, ‘Beyond Economic Man’ (1976) and ‘General X-Efficiency Theory & Economic Development’ (1978), the concept of the X-efficiency factor as a major but forgotten determinant in explaining the performance and survival of organisations. He argues that – in addition to conventional tangible production factors such as labour or capital – there is usually a critical driving force that explains the difference in achievements between two organisations, even if they have the same input structure or equal competitive conditions. This factor, called X-efficiency, often refers to invisible psychological factors like human effort, personal motivation or group spirit which make the difference, in both private and public sectors. The growth trajectory of a corporate organisation – with upturns and downturns – is thus, to a large extent, dependent on human factors which drive complex organisations, including countries, regions or cities.

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X-efficiency may also play a clarifying role in the analysis of the resilient evolution of nations or regions. Even though standard input factors, like human capital, are important ingredients of socioeconomic performance – also after a disturbance or shock –, in reality there are several other – often intangible – drivers that co-determine the socioeconomic development trajectory of nations or regions. Such factors capture regional entrepreneurship, innovative habitus, intensity of social capital, cultural attitudes, or biased experiences or perceptions regarding real-world events. This also prompts a challenging research question in a resilience context: is a resilience trajectory a mechanical nonlinear complex evolution that drives a system – once brought out of equilibrium after a disruption – back to its original state or functioning, or is such a trajectory co-determined by a specific or unique intangible human or social intervention mechanisms without a pre-determined outcome? Consequently, the manifold constituents of resilience trajectories – especially the human, social and governance characteristics – are essentially X factors and deserve a profound scientific attention.

Resilience research already has a long history that dates back to the 1980s. It found its origins in biology and natural sciences but, meanwhile, it has also found applications in many social life studies as well as in natural sciences. There is an avalanche of theoretical or analytical studies on resilience in several domains of society. In all cases, shock resistance and responsiveness play a critical role; a shock is defined as an unexpected or unpredictable event that leads to a perturbation in an otherwise stable system, either positive or negative. The impact of a shock may be measured by its amplitude, its duration and its propagation (in terms of spread and intensity of diffusion). A shock is different from a ‘stressor’, which refers to structural pressures that undermine the robustness of a dynamic system (e.g., shortage of natural resources, permanent influx of migrants). In all cases, such impacts may comprise economic, environmental, social, demographic, health, political or technological characteristics. It goes without saying that analysing and modelling the complex resilience patterns and conditions of dynamic systems is a formidable task.

Resilience is a concept with theoretical, methodological and applied features. In a spatial-economic context, it reflects the capacity of a socioeconomic system (country, region, city) to find a stable equilibrium path after an initial disruption (Shaw and Maythorne 2013; Martin and Sunley 2014; Boschma 2014; Cellini and Torrasi 2014). Resilience analysis is also able to highlight the vulnerability of a system to various shocks, and hence it is also useful for tracing policy strategies and actions for recovery and transformation to a new development pattern.

During the last decades, the notion of resilience has gained much popularity in geography and geography-related sciences, such as urban planning, regional science, geopolitics, or economic geography. The main idea behind this concept is that a territory or any dynamic system, in general, may be subject to various shocks and/or pressures that produce quantitative or qualitative transformations of the

system. However, not all territories manage to entirely recover following a shock, and therefore, the challenging task for spatial sciences is to identify the factors contributing to appropriate territorial responses. Although the potential of geography for analysing, identifying, and providing solutions in the field is much greater, the resilience concept has been mainly applied in geography in studies on natural disasters' consequences on the affected regions and on the impact of economy-related shocks on regional development. Given the complexity of such phenomena, appropriate analysis techniques are required in order to properly tackle the issue of spatial resilience and to enhance the added value of geography, thus to more consistently connecting academic views to policy-making. This special issue of EJES aims to bring together new theoretical approaches and empirical research on spatial resilience, focusing on the relevance of the resilience concept for regional growth and the connection between the territorial dimension of resilience and economic, social or ecological issues. It contains contributions on: the relation between spatial planning and the capacity of territories to face internal and external shocks; the role of natural, social, economic, institutional and policy-based factors in shaping resilience capacity; the drivers of resilience and how resilience can capture regional dynamics; empirical studies on regional policies and measures for boosting the overall and sectorial resilience capacity of regions; cross-scale perspectives and integration of multi-scalar approaches in resilience models; and smart adjustments in financial and dynamic business markets. We will now provide a concise synthesis of the various articles in this special issue of EJES.

2. The content

The publications in this special issue provide a broad and interesting panorama of new thinking on the spatial dimensions and policy challenges of resilience. The various contributions in this issue can be classified into three thematic clusters, viz.: (i) *resilience and structural transformation of territories*; (ii) *new analysis frameworks and interpretations of resilience in a spatial context*; (iii) *resilience and regional development in Europe*. We will now briefly summarise the successive articles put together in the three above mentioned categories of contributions.

(i) *Resilience and structural transformation of territories*

Regions and cities are always in a state of flux and do not automatically achieve a structurally high level of socioeconomic performance. The resilience concept articulates the need for a dynamic adjustment and responsive governance after an unanticipated perturbation. The first article in this issue, on the relevance of resilience for an effective transformation of the complex space-economy, written by Jana Ostarkova and Michaela Stanickova, deepens and broadens our insights into the conceptualisation and operationalisation of resilience. They illustrate their overview on the basis of the COVID-19 crisis as a shock cascading from one system to another,

and propose a plan for a systemic resilience approach to prepare socioeconomic systems for future shocks.

The next article, by Bjorn Asheim and Svarre Herstad, positions resilience in the framework of regional innovation strategies for smart industrial transformation. Clearly, innovativeness is an X factor for obtaining a resilient trajectory. The authors provide an evolutionary perspective on resilience and particularly emphasize industrial path diversification for securing the adaptability of an economy in transition.

In a subsequent article, by Patricio Aroca, Karima Kourtit, Peter Nijkamp and Roger Stough†, the authors propose the novel concept of ‘prosilience’ in order to advocate radically new and innovative strategies for regions in decline after a serious structural shock. They use the notion of a ‘phoenix region’ to argue that an external disruption of an old industrial sector (in this case, the mining sector) calls for unconventional survival strategies so as to develop and conquer new markets. Their Schumpeterian interpretation is largely in conformity with the previous article by Asheim and Herstad.

(ii) New analysis frameworks and interpretations of resilience in a spatial context. Resilience is not a static concept in a stable space-economy. It is permanently adjusted to new policy questions and challenges of the space-economy. A well thought novel perspective on resilience is offered by Alina Profiriou and Corina-Cristina Nastaca, who address the importance and key role of resilience in public administration institutions. The authors present an informative meta-analysis of existing studies in order to identify the most important drivers of institutional resilience. They suggest qualitative and quantitative indicators for institutional resilience capacity factors, an idea which is essentially a search for relevant X factors.

Next, Juan Carlos Martin addresses the question of the solidity and robustness of EU federalism in the wake of the perturbations caused by COVID-19. He analyzes the citizens’ responses to a major involvement of EU institutions to control the pandemic. He employs an ordered probit model to estimate the citizens’ responses from a resilience viewpoint and finds much heterogeneity among EU countries although, in general, the needs for collective EU responses are not contested.

In a final article in this second cluster of contributions to the special issue of EJES, Umut Turk presents an interesting multi-level modelling study on contextual effects in distance education outcomes during the COVID-19 pandemic. He asks whether remote learning opportunities are an effective way to achieve resilience in the educational sector. In general, experiences appear to be positive although infrastructure availability and city-level heterogeneity may sometimes lead to mixed findings.

(iii) Resilience and regional development in Europe

Resilience is not only an interesting concept in academic circles; it has also entered many policy arenas. It has, meanwhile, become a buzz word in many regional development debates. A first and original contribution to a better understanding of resilience as an eye-catcher in regional development analysis and policy is provided by Alexandra Sandu, Alexandru Banica and Ionel Muntella. They examine urban resilience as an instrument to decode the post-socialist socioeconomic and spatial transformations of cities in Central and Eastern Europe. Based on a sample of 76 cities, they address socioeconomic and spatial resilience. The authors find that there are substantial differences in adjustment patterns ('multiple speeds'), in which different socioeconomic resources appear to be critical (an X Factor).

Another quantitative study, written by Laura Kivi and Tiiu Paas, looks into the dynamics on European labour markets before, during and after the depression. They particularly examine the spatial interactions of employment rates and they find that spatial interactions of regional labour markets are resilient to economic downturns, particularly from the perspective of coordination strategies for national and regional labour markets.

Next, Mark Entin and Dmitriy Galushko investigate the resilience of EU policy in the context of its post-pandemic development. They monitor the key measures taken by EU institutions to combat the pandemic and propose three scenarios for a renewed development of the EU in the future. They conclude that a necessary condition for resilience is to be found in greater unity and cohesion in Europe (which is another X Factor).

The European space-economy shows many signs of shocks, but also of recovery patterns. This observation is clearly present in another study on European recovery, carried out by Consuela-Elena Popescu, Alexandra Horobet and Georgiana Vriuceanu. These authors investigate the business adjustments in the EU after the financial crisis, based on the economic performance of various attribute categories of industries (e.g. ownership, technological intensity, size). Based on a solid statistical analysis, this study concludes that the business landscape in Europe is varied after the financial crisis, in particular, with more flexible adjustments of smaller companies in Europe.

Also focused beyond the eastern borders of the EU, Loredana Simionov, Gabriela Pascariu and Nadia Bureiko investigate EU's paradigm shift towards resilience, thus turning its attention from state to society, from a general top-down to a bottom-up approach. More specifically, their paper analyses how the EU's performance as a transformative actor is being perceived by citizens beyond its eastern borders, mainly in the border regions of Ukraine and Republic of Moldova and explores the implications for building a more resilient society in the Eastern neighbourhood.

Finally, Iurie Besliu, Oleg Petelca and Veronica Garbuz address the importance of value management models for financial resilience estimation in the context of Moldova. They examine many joint stock companies in the country, and test three models of financial resilience of enterprises. Market capitalisation seems to be a critical factor in their resilience research on this small economy.

3. Contest

Is there a critical *X factor*, exerting the greatest impact on socioeconomic outcome, in the resilience trajectory of regions or cities? The space-economy (Isard, 1956) is a complex, multi-layered and multi-scale phenomenon, with strong and weak constituents in its structure and evolution. However, a fragility in one of the subsystems (e.g., bankruptcy of a major industry in a peripheral area) may not only dramatically affect the area concerned, but also other adjacent regions, or the entire country. The way back to the initial situation – or to any other equilibrium state with a robust performance – calls for many policy efforts, not only in terms of financial or human capital, but also in terms of human responsiveness, creative strategy development or political-cultural resistance attitude (the above mentioned *X*-efficiency factor). Resilience is, therefore, in the end, not a matter of a proper mathematical manipulation of a complex dynamic system's trajectory (Barro and Sala-i-Martin, 2004), but a matter of full-scale human agility and responsiveness so as to 'make the best out of the worst' ('blessing in disguise').

From this perspective, responsive resilience – sometimes also called 'prosilience' – is the secret road to a sustainable and balanced development of the space-economy. There is no spatial system without fluctuations and disruptions, but the main challenge is to keep a fragile and uncertain space-economy 'on course', a strategy that needs not only solid economic measures, but also unconventional strategic responses. Governance of the space-economy geared towards resilient outcomes and smart transformation calls for a Schumpeterian innovative attitude among regional or urban stakeholders (Wedemeier, 2014). This special issue of EJES has demonstrated that decision-making in a resilience context may need painful choices so as to ensure a balanced development trajectory of the area under consideration. Resilience policy is essentially based on a responsive 'learning by doing' habitus.

Apparently, *the* critical *X Factor* does not exist in the complex evolution of regional or urban economies. The space-economy is a world full of heterogeneity. Clearly, there is a multitude of decisive factors, such as human resources, social attitudes, economic history, institutional frameworks, technological modes, and many more. And there is no 'one size fits all' resilience mechanism, as regional and urban development is place-based in nature. However, in general, in case of a shock, the degree of joint responsive habitus of stakeholders and governance agencies – especially from the perspective of 'learning by doing', 'innovative and creative

mind’ and ‘citizen orientation’ – may be seen as a fruitful ‘shock therapy’. It seems thus plausible that the X factor in resilience policy is mainly human and social in nature.

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