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REVIEW

of doctoral thesis entitled: *The future of shrinking in the EU: potential policy impacts in light of pressing pandemic, environmental and institutional challenges,*

written by Flavio Besana

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Planning, Adam Mickiewicz University in Poznań,
under supervision of Prof. Tadeusz Stryjakiewicz

and Dr Kai Böhme (Assistant Supervisor),

Poznań and Heisdorf 2022, pp. 266.

The dissertation submitted for review has been assessed in terms of the methodological, content and formal criteria.

1. Assessment of the methodological aspect of the dissertation

The topic selection for the dissertation can be regarded as appropriate. The Author aptly notes that Europe's population is dwindling, and the negative trend is expected to accelerate in the decades to come. Shrinkage is a complex net of social, economic, environmental factors contributing to demographic decline which is the common denominator of a downward spiral concerning roughly one quarter of European territory. This dissertation seeks to couple shrinkage case studies (cities, regions) with an aggregated perspective, tying the shrinkage closer into the European policy debate. It centres around shrinking areas grappling with environmental, institutional and pandemic-related challenges, and aims to provide future-oriented insights not only into the vulnerabilities, but also into territorial capital.

The purpose of the dissertation is to perform a cross-temporal analysis of both the state of play and a potential future for Europe's shrinking areas in view of pandemic,

environmental, institutional and societal challenges within the European Union. With regard to this purpose, the dissertation's general research question is posed as: *What are the potential territorial impacts of selected European policies on the future of shrinking areas?* This question is subsequently specified with the following sub-questions:

1. *What are the profiles and future demographic outlooks of European shrinking areas?*
2. *What are the potential impacts of selected European policies on future trajectories for shrinking areas?*

2.1 *What are the potential territorial impacts of Covid-19 restrictive measures on European shrinking areas?*

2.2 *What are the potential territorial impacts of the Just Transition Fund on European shrinking areas?*

3. *What is the potential impact of the Conference on the Future of Europe on the European policy debate on shrinkage?*

The problem-oriented title of the dissertation, along with the research questions, clearly indicates the subject matter of the dissertation. Though the time span of the study encompasses the period between 1991 and 2050, the years 1991-2018 served for the shrinkage identification, whereas the period of 2018-2050 is of a forecasting character as regards the future of the shrinking areas in Europe. From the spatial perspective, the scope of the dissertation, in a wider sense, involves 27 EU members (without the United Kingdom), whilst in its narrower sense, using in-depth analyses, it looks into the municipalities (LAU 1/ LAU 2) of these European countries. The data collected for the analysis are secondary and were obtained from Eurostat and national statistics offices.

The dissertation employs – an increasingly popular in socio-economic geography – place-based approach and place-sensitive policies. The array of the methodological tools used by the Author includes:

- data gathering and processing from existing sources to compile an original database on European shrinking areas at municipal level (LAU 2 and LAU 1),
- an original statistical demography model to define profiles of shrinking areas in the future,
- adaptation and application of TIA methods for the challenges,
- multicriteria analyses of social, economic and environmental indicators to analyse the exposure and sensitivity of shrinking areas,
- qualitative content analysis with open coding to citizen contributions to the Conference on the Future of Europe,

- comparative statistical analyses (mainly descriptive) within European shrinking areas, and between them and average European territories.

The arrangement of the contents is also directed at addressing the research question. The dissertation is comprised of eight chapters (the introduction is featured as Chapter 1, whereas conclusions as Chapter 8), divided into 34 subchapters, bibliography, list of tables, list of maps and graphs, annexes (to Chapter III, IV and V). A comprehensive bibliography contains 198 items that are adequate for the selected research problem.

The chapters are set in a logical order, and their structure is well-balanced. In Chapter 1, which makes up a preface to this doctoral dissertation, the Author outlines shrinkage from the European angle and policy debates, defines the research objective with their justification, research questions, data, research methods, spatial and temporal scopes, as well as terminology and definitions used in the thesis. Chapter 2, which is divided into three parts, veers more towards theoretical and methodological issues. The first subchapter provides definitions and a conceptualisation of shrinkage, e.g. by means of juxtaposing the shrinking areas with other kinds of areas, such as sparsely populated areas and territories with geographical specificities, inner peripheries and inner areas, shrinking rural areas, lonely places and left-behind places. The second part of Chapter II looks at the policy dimension of the dissertation by reviewing specific instruments and strategic documents on territorial disparities (e.g., Cohesion Policy and European structural and investment funds, Long term vision for rural areas 2040, The New Leipzig Charter and the EU Urban Agenda, The Territorial Agenda 2030) and macrotrends and challenges the EU is faced with (different consequences of Covid-19, environmental challenges pertinent to energy transition and industrial reconstructing and institutional challenge, such as the quality of government and citizen discontent) and their indirect relation to local development. At the end of this part, it presents an ongoing conceptual debate on how to tackle disparities from a theoretical perspective. In its third part, Chapter 2 proffers Territorial Impact Assessment (TIA) tools along with methodology pertaining to demographic modelling for local population projections.

The following four chapters (Chapter 3, 4, 5 and 6) are at the analytical core of the dissertation. Each of them is dedicated to one research question. Chapter 3 contains a proposal for the classification of shrinking areas in Europe, and, based on statistics, it puts forth the historical trajectories of those areas in the years 1991-2018, together with an original model of population projections at local level for the period of 2018-2050. Chapter 4 – using TIA tools – elucidates the statistical findings on the potential territorial impact of Covid-19 restrictions

on future development in Europe's shrinking areas. The same methodological approach is implemented in Chapter 5, which concerns the influence of the Just Transition Fund on the shrinking areas. Chapter 6, in turn, examines how shrinkage is perceived and addressed by European citizens by means of carrying out an analysis of the debate in the nine-month Conference on the Future of Europe.

Chapter 7 pivots around a cross analysis of present and future shrinking areas, whilst Chapter 8 provides a methodological reflection on contributions and limitations of the study, as well as potential avenues for further research and policy recommendations.

Taking all of the points into account, the topic selection for the dissertation, its justification, objectives, material, time-related and spatial scopes, research methods and data sources, and layout of the contents have not been found to raise any reservations.

2. Assessment of the content aspect of the dissertation

In response to the first research question, the Author thoroughly analysed the population change during the periods of 1991-2001-2011-2018, assuming that the shrinkage is accounted for by a population decline in municipalities (LAU 2 with more than 5,000 inhabitants in 2001) with an average of at least 0.15% per year in 1991-2018 (at least 4.05% from 1991 to 2018). The Author thus classified EU countries into five categories:

- very high incidence: shrinking municipalities > 70% (Lithuania, Bulgaria, Latvia, Estonia),
- high incidence: 50% < shrinking municipalities < 70% (Croatia, Hungary, Finland, Portugal, Czech Republic),
- medium incidence: 30% < shrinking municipalities < 50% (Romania, Slovakia, Slovenia, Poland, Greece, Sweden),
- moderate incidence: 10% < shrinking municipalities < 30% (Germany, France, Malta, Ireland, Spain, Italy, Denmark),
- low incidence: 1% < shrinking municipalities < 10% (Austria, Netherlands, Belgium).

Of the 4,160 municipalities affected by shrinkage, 2,190 (52.6%) are in the lowest size range of [5,000;10,000]. Small towns are ranked second with 1,021 (24.5%). Medium-sized towns represent 15.4% (645 cases), whereas large towns account for 4.8% (199). This signifies that over 97% of European shrinking municipalities are below 100,000 inhabitants.

The intensity of shrinkage is then assessed in consonance with the following categories:

- moderate: [0.15% - 0.30%] yearly / less than two times the baseline (26.2% municipalities),
- intense: [0.30% - 0.75%] yearly / two to five times the baseline (45.3%)
- severe: [0.75% - 1.2%] yearly / five to eight times the baseline (18.2%)
- hard: [$> 1.2\%$] yearly / more than eight times the baseline (10.3%)

However, the intensity of population loss has proved to not be contingent on the size of municipalities. The analysis of shrinkage in 1991-2018 has allowed for a division into five pathways:

- *persistent shrinkage*: the most severe case of shrinkage where population dwindled in all three periods, accounting for a loss of at least 4.05% as compared to the initial population (0.15% per year),
- *late shrinkage*: describes cities where the population loss exceeds 4.05% (0.15 per year), but the decline was recorded in the last two periods only, while the cities were still growing between 1991 and 2001,
- *discontinuous shrinkage*: describes cities where the overall population decline exceeds 4.05% but it occurred along an interrupted path of decline. These fell in 1991-2001, rebounded between 2001 and 2011 and fell again in 2011-2018,
- *positive outlook*: describes cities where the overall population loss exceeds 4.05%, but the drop stopped before the last period of observation. In other words, these are the shrinking municipalities that grew in the last period 2011-2018,
- *negative outlook*: an additional type describes municipalities that do not fulfil the general condition of 4.05% of population loss over the period of observation but which were subject to a significant population loss (0.15% per year) in 2011-2018.

Nearly two-thirds of the municipalities experience persistent shrinkage and primarity pertains to large rural areas, as well as small and medium-sized towns.

For forecasting purposes, the Author used a model amalgamating the linear projection model and the share of growth model (both relating to trend extrapolation methods) in a linear way with two correction coefficients. As a result of the model application, the following future shrinkage categories have been obtained:

- regrowth: the projection is positive for 2050,
- stabilisation: the projection is negative but less than 0.15% per year in 2050,
- moderate: the projection is a loss of between 0.15% and 0.3% per year in 2050,
- intense: the projection is negative with a loss between 0.3% and 0.75% per year in 2050,

- severe: the projection is negative with a loss between 0.75% and 1.2% per year in 2050,
- hard: the projection is negative and greater than 1.2% per year in 2050.

A mere 3% of the currently shrinking municipalities are expected to regrow in 2018-2050, while an additional 7.9% is expected to stabilise. The cross-analysis between past and future trajectories of shrinkage prove that shrinkage is very difficult to reverse. The share of regrowth and stabilisation is higher for the positive outlook cases, as almost 70% of these are forecast to restart declining despite the positive trend in 2011-2018. The same situation applies to municipalities with discontinuous shrinkage, where again only 30% are predicted to regrow or stagnate with low to neutral population projections. Municipalities with late or persistent shrinkage in the past, are forecast to consolidate the negative outlook and continue declining at varying paces until 2050. This are essential conclusions drawn in an answer to the first research question.

The second research question (2.1.) is answered in Chapter 4. The Author, on the one hand, identified potentially adverse drivers of sensitivity for shrinking areas, i.e., reliance on tourism, reliance on international trade, quality of governance, regional GDP per head, national debt, share of employment in micro-enterprises, share of self-employment, share of people exposed to poverty and social exclusion, share of youth unemployment and cross-border employment. On the other hand, the Author enumerated potentially favourable drivers of sensitivity, i.e., employment in information and communication, access to broadband, teleworking preparedness and online interaction with public bodies. By way of the analysis performed, the Author arrives at a conclusion that shrinking areas are spared from suffering the most devastating socio-economic consequences of pandemic restrictions in the short term. However, their negative demographic trajectories, vulnerability resulting from lower quality government and lower economic productivity, and their consistent structural digital divide put their medium and longer-term development prospects in jeopardy. The territorial impact of Covid-19 restrictive measures is neutral today, but specific aspects of vulnerability are predicted to worsen in the longer view, widening territorial inequalities for shrinking areas.

Chapter 5 provides an answer to the third research question (2.2). The research investigates whether shrinking areas have sound territorial capital and favourable socio-demographic preconditions to turn the Just Transition Fund into the major opportunity for revitalisation and restructuring it promises to be. The European regions that have the biggest number of shrinking municipalities within their Just Transition Fund territory are:

- Slaskie region in Poland has the highest number of 58 shrinking LAU 2 units having the Just Transition Fund opportunity. Also, Dolnośląskie in Poland has a lot of 38 LAU 2 units.
- Pohjois- ja Itä-Suomi region in Finland has the second highest incidence with 51 shrinking municipalities exposed to the Just Transition Fund.
- In France, Nord-pas-de-Calais has the third highest incidence with 46 LAU 2 units.
- Germany is an interesting testing field for the impacts of the Just Transition Fund on shrinkage dynamics. Sachsen-Anhalt (38), Dresden (28), Leipzig (25) and Brandenburg (25) are all regions where shrinkage will coincide with the energy transition in many municipal units.
- In Spain, Galicia (37) and Asturias (25) are the two (neighbouring) regions where shrinkage will be significantly intertwined with the transition.
- In Romania, Sud-Muntenia (37) and Sud-Vest Oltenia (30) are also facing considerable shrinkage and eligibility to the Just Transition Fund.

The multicriteria analysis of sensitivity to the Just Transition Fund was based on two pillars altogether, i.e., I - degree of structural shrinkage (defined by crude rate of net migration, generational dependency ratio, Gross Value Added per inhabitant, long-term unemployment, and people at risk of poverty and social exclusion), II – green territorial capital for the Just Transition Fund (defined by mining reliance ratio, persons with tertiary education and/or employed in science and technology, accessibility to universities, SMEs innovating in-house, R&D intramural, taxonomy of technological innovation, index of green economy theoretical potential, employment in circular economy, and number of Greentech clusters per million inhabitants).

Furthermore, the multicriteria analysis of sensitivity suggests that for many of the areas the Just Transition Fund will not help tame the shrinkage. According to the Author, upwards of 50% of the shrinking areas exposed to the Just Transition Fund display unfavourable pre-conditions for a successful green transition driven by the policy, either because they suffer deeply structural shrinkage (Hungarian, Lithuanian, Spanish, Portuguese and Estonian shrinking areas), or because they have little green territorial capital (Polish and Czech shrinking areas), or due to both of the elements coexistence (Bulgarian, Italian, Latvian Romanian and Slovak shrinking areas).

In the Author's opinion, the Just Transition Fund can be a gamechanger for roughly 4% of shrinking areas (all in the three Nordic countries, France and Belgium) with optimal territorial capital, non-structural shrinkage and an acceptable demographic outlook. For the

rest, the impact will either largely depend on the ability of local governments to leverage on their limited territorial capital (5% of all shrinking areas), or it will come out as neutral or negative (10% of all shrinking areas). The remaining 81% will not profit from the policy. If we take into account a larger policy design (EU Green Deal), the Just Transition Fund will see a closure of traditional industries and their employers, the impacts of the policy on social, economic and demographic conditions may, according to the Author, turn out to be negative in the medium and longer term (except for the 4%).

In Chapter 6, the Author attempts to offer an answer to the fourth research question relating to the potential effect of the Conference on the Future of Europe (2021) on the European policy debate on shrinkage. Also, in this chapter that the Author scrutinises shrinkage-oriented ideas and concepts put forward by citizens at the aforementioned conference. The Author distinguishes their three types:

- supporting ideas: ideas that directly or indirectly make proposals to mitigate or revert shrinking and depopulation trends, or raise awareness about the topic and call for action,
- contrasting ideas: ideas clearly in favour of further agglomeration and urbanisation to the detriment of peripheral territories, or ideas that advocate depopulation as a positive trend that should be expedited,
- neutral ideas: ideas with no direct or indirect link with shrinkage or depopulation, ideas with a very general focus, or ones that are clearly unrelated to shrinkage issues.

The analysis, in the Author's view, reveals that the impact is particularly low in *quantitative* terms as shrinkage topics were featured in only 2% of 4,576 ideas analysed, even though more than 20% of Europeans live in shrinkage conditions. However, from a *qualitative* perspective, the analysis reveals that the impact of engaging citizens in the future of shrinking areas has a considerable positive potential. In fact, 119 shrinkage-related ideas include innovative proposals and show that citizens have a vision for addressing the issue.

Chapter 7 contains the cross-analyses of the research results, which aims to trace relationships between shrinkage, macrochallenges, exogenous shocks and policies, as well as ties the results to the existing knowledge on shrinkage from both academic and policy angles. This discussion devoted to the results unfolds in two phases – the present and the future of shrinkage. Therefore, Chapter 7 is a synthesis of the aforementioned deliberations.

Meanwhile, Chapter 8 comprises an elaborate set of conclusions drawn upon the research procedure used. First of all, each and every research question has been answered with an in-depth and unobvious answers. By achieving its goals, the thesis might be deemed to be of great cognitive value.

Second of all, employing an original toolbox, as well as adapting the existing methods and combining them with each other proved to be adequate for the research topic, which underpins a methodological merit of the dissertation.

Third, the good application qualities of the dissertation are demonstrated through the recommendations issued to the EU member states and EU bodies (European Commission, European Parliament), and also to the regional authorities both in terms of the current and future action plans, relating to, for instance, Cohesion Policy. Also, the role and the tasks the local authorities should be assigned with have been indicated. Another salient conclusion drawn from the dissertation is the need for a greater involvement of the people living in the shrinking areas in the EU-wide, nationwide, regional and local debates.

The interesting points made in the dissertation give rise to several counterarguments and side notes. First and foremost, it is worth pointing out that the difficult reversibility stems from the so-called “depopulation of the second stage”. In the first stage the prevalent factor behind population decline is migration, whereas in the second stage the natural decrease, or the “extinction”, come to the fore, as there are not too many people who could emigrate.

Second, the state’s attitude to the demographic decline plays an important role (“state” is understood as both the government and the local authorities). Professor Michał Kulesza of the University of Warsaw pointed to the phenomenon of “social steppe-formation process”, consisting in the economically driven closedown of schools, post offices, healthcare facilities and other public institutions, which additionally propelled depopulation tendencies in the shrinking areas.

Third, forecasting up to 2050 entails a significant risk of unexpected events. I think that the Author (and also most European politicians and citizens) did not anticipate the outbreak of the Ukraine war, the full outcome of which remains unknown. Various estimates predict that Poland might, in a longer perspective, become home to some 1.5 million Ukrainians, mainly women and children. Ukrainian refugees have also fled to other European countries, e.g., Germany. It all raises a question whether and, if so, to what extent the influx of Ukrainians will impact the European shrinking areas. There is also the issue of climate-driven migration from Africa to Europe – will it happen? Plus, the ensuing questions of when it will happen and to what extent? Also, will it reshape Europe’s demographic patterns and, if so, how?

Fourth of all, the Author looks rather critically at the EU’s Cohesion Policy within the framework of shrinking areas, at the same time noting some positive changes expected to take effect in 2021-2027. Perhaps, it would be appropriate to underline that the policy’s Objective

6 for 1994-1999 pertained to the development and structural adjustment in the sparsely inhabited regions (below 8 persons per 1 km²). Since then, the number of goals has been curtailed, but Objective 1 remained dedicated to the economically underdeveloped regions (including those with dwindling populations). The reduction in the number of goals allows for a more flexible approach to prodevelopmental funding of undertakings in underdeveloped regions that not necessarily experience a demographic decline (as the demographic decline itself, as the Author also remarks, is not a sufficient reason to label them as “shrinking areas”).

Overall, with respect to the content assessment, it should be noted that Flavio Besana’s doctoral dissertation is an innovative, original and well-documented monography that addresses significant modern issues. Also, it might serve as the basis for further academic and political discussion at both European and national level. Hence, it is my firm belief that the dissertation is worthy of being published as a monography or as a series of scholarly papers.

3. Formal aspect of the dissertation

The dissertation has been written using adequate language. Its extensive set of 36 tables, 8 maps and 6 graphs is definitely one of the strengths of the thesis. However, doctoral dissertations on the whole do not include vast summaries delivered at the beginning of the treatise. It is more typical of reports or comprehensive official documents. In addition, bibliography, as well as lists of tables, maps, and graphs should not be numerated. Apart from that, the formal aspect of the dissertation does not raise any concerns.

Conclusion

Given the methodological, content and formal aspects of the thesis, I declare that the doctoral dissertation of Flavio Besana complies with the requirements laid down in Article 187 of the Act of 20 July 2018 Law on Higher Education and Science (Journal of Laws 2018, item 1668, as amended), i.e.:

- provides an original solution to a research problem
- corroborates the Author’s general theoretical knowledge in the field of socio-economic geography and spatial management

Furthermore, the Author has presented an ability to carry out independent scientific research.

In view of all the aforementioned points, I consider the dissertation eligible for further proceedings in the doctoral degree procedure. At the same time, I call on AMU’s Council of

Socio-Economic Geography and Spatial Management to award Flavio Besana's dissertation with a distinction.

Andrzej Misrauk

Lublin, 14 September 2022