

# Victim of its own success?

## Resilience in small peripheral territories

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### Abstract:

Resilience has been emerging as a valuable concept on the field of local and regional development, however the debate is rarely focused on peripheral small territories facing structural problems. The case study of Vila Velha de Ródão, a small municipality in the Centro Region, Portugal, aims to bring to the discussion not only the importance of resilience as a strategic asset on socioeconomic fragile territories, but also the potential it entails for investigating the bottlenecks and the opportunities for dealing with structural change and anticipating more competitive and sustainable development paths. Facing an acute depopulation phenomenon together with an ageing process, Vila Velha de Ródão has been, along the last decades, very successful in creating, maintaining and, lately, expanding its industrial fabric, essentially based on its pulp and paper micro cluster. If only measured by the capability on job creation, no doubt about its resilience, nonetheless one must be aware of potential lock-in effects and the danger this always poses to these kinds of mature mono industrial economies. It is thus fundamental that this old industrial municipality avoids falling into a trap of rigid specialization and be a victim of its own relative success, anticipating future shocks through a preventive cross- disciplinary approach, an *ex-ante* evaluation study of Vila Velha de Ródão resilience.

**Keywords:** Resilience; Peripheral regions; Pulp and paper industry; Vila Velha de Ródão; Portugal.

### Resumo:

A resiliência vem emergindo como um conceito valioso no campo do desenvolvimento local e regional; no entanto, o debate raramente é centrado em pequenos territórios periféricos que enfrentam problemas estruturais. O estudo de caso de Vila Velha de Ródão, um pequeno município da Região Centro, Portugal, visa trazer à discussão não apenas a importância da resiliência como um ativo estratégico em territórios socioeconómicos frágeis, mas também o potencial que isso implica para investigar os bloqueios e as oportunidades para lidar com mudanças estruturais e antecipar caminhos de desenvolvimento mais competitivos e sustentáveis. Diante de um fenómeno de despovoamento agudo, associado a um processo de envelhecimento, o município de Vila Velha de Ródão tem sido, nas últimas décadas, muito bem-sucedido em criar, manter e, ultimamente, expandir o seu tecido industrial, essencialmente baseado no *micro-cluster* de celulose e papel. Se apenas medido pela capacidade de criação de empregos, sem dúvida quanto à sua resiliência, é preciso estar ciente dos possíveis efeitos de aprisionamento e do perigo que isso sempre representa para esse tipo de economia mono industrial madura. Nesse sentido, é fundamental que esse município, com essa forte tradição e implantação industrial evite cair numa espécie de armadilha, associada à eventual excessiva rigidez do padrão de especialização, e possa ser vítima de seu próprio sucesso relativo, antecipando choques futuros por meio de abordagens multidisciplinares preventivas, no quadro do que se poderia designar como avaliação *ex-ante* da resiliência de Vila Velha de Ródão.

**Palavras-chave:** Resiliência; Regiões periféricas; Indústria de celulose e papel; Vila Velha de Ródão; Portugal.

## Introduction

Resilience is not only about short-term responses, which prevent a territory from disruption or failure. Instead, territorial resilience is about structural change and structural and long-term economic regeneration, as this is the way for territories to counterbalance economic decline. It is therefore deceptive to see territorial resilience simply as a mechanical reaction to shocks, without debating it.

This paper intends to be a contribution to the ongoing discussion about the importance that the concept of resilience has on territorial development. It begins by the theoretical framework and a reference to relevant scholarly literature. Then, it will present the case study of an industrial peripheral municipality in Portugal, Vila Velha de Ródão, pointing out to the idiosyncrasy of its development path and discussing the way the notion of resilience can be appropriated by the local stakeholders. The paper will end with some final remarks, including some recommendations of policy relevance for enhancing territorial resilience.

### 1. Resilience – concept and potentialities on territorial development

Over the last two decades a new buzzword has arrived at the academic, political, and public agendas: the notion of resilience, a notion that has the objective of describing how an entity or system replies to economic turbulences and adversities. The concept of resilience has quickly become part of the theoretical and analytical vocabulary of regional and local economic studies. It became an imperative in policymakers' lexicon at all levels of governance and has featured in an abundant number of studies and policy papers (David, 2018; Frölich et al., 2018).

Territorial resilience can be understood as the capacity for positive adaptation shown by some places to face adverse situations that generate serious impacts, resulting from crises caused by phenomenal processes (Pendall et al., 2010; Martin & Sunley, 2015; Bailey & Turok, 2016; Karlsson & Rouchy, 2018). Resilience

therefore corresponds to a dynamic process of deliberate work, aimed at attaining a better adaptation to the new context, with effects that will only turn out to be perceptible in the medium to long term. Therefore, even though all territories may be vulnerable and at risk to a greater or lesser extent, not all of them will necessarily be resilient, since it is not an inherent or everlasting quality, but a social creation – that is the reason why Simmie & Martin (2010) interpret resilience as an ongoing process rather than recovery to a (pre-existing or new) stable equilibrium state.

Understood in this sense, assuming a closer link to the format and content of territorial planning, this process of searching for resilience, as suggested by Gherhes et al. (2018), must start from a realistic diagnosis of the socio-economic scenario, as well as the weaknesses and potentialities of the territory; then, from there, implement the mobilization of resources and carry out actions aimed at overcoming inertia and inherited blockages that jeopardize its upgrading trajectories, applying economic and social innovation strategies that allow finding new answers. It is on this sense that Dawley et al. (2010) suggest that the notion of regional economic resilience offers the possibility to local economies to identify their own capabilities to cope with economic shocks and act upon it to influence the development path. This implies that although regions have different capabilities and capacity to respond to shocks, they can also actively redirect their development path towards stronger resilience. A deep understanding on regions owns adaptive capacities as well as their weaknesses and vulnerability to external developments is necessary for building capacity to anticipate shocks, either by preventing them or by minimizing their negative impact (Teigão dos Santos & Partidário, 2011; Crespo et al., 2014; Ženka et al., 2017).

For a territory, being resilient does not only consist in generating resilience and adaptation capacities that allow it to maintain or rediscover the bases of its development and specificity as a result of more or less fierce shocks (“static resilience”), but also to conceive and arrange new resources and additional capabilities that allow it to adjust positively into the transformation dynamic driven by the rapidly changing socio-economic and environmental context (“dynamic resilience”)

(Christopherson et al., 2010; Bristow, & Healey, 2014; Gonçalves, 2018; Iacobucci & Perugini, 2021).

An important and unsolved matter remains, regarding how peripheral regions faced with a diversity of structural handicaps, nurture resilience through the development of path creation and the opening up of new and competitive productive branches. A critical feature seems to lay on the understanding of how economic and manufacturing variety and the longstanding dichotomy of specialization versus diversification keep on influential in debates of what sorts of regional and local economies might be likely to adaptation or demonstrate adaptability. In low density peripheral regions this seems an important research question that must be addressed, for many local economies depend on a narrow productive basis with, often, only a few branches. According to Sensier et al. (2016), the notion of regional economic resilience offers local economies the possibility of identifying their own capabilities to cope with economic shocks and act upon this to influence the development path. This is an understanding very much aligned with the evolutionary approach to economic and social resilience, which accentuates on regions' ability to adapt to continuous changing conditions and to redirect towards new development paths (Boschma, 2015; Fröhlich & Hassink, 2018).

The concept of resilience, thus, offers a lens through which to examine and deepen our understanding on a territory's ability to cope with uncertainty. This paper makes a case for the need to explore a broader account of conditions and features (capacities) that can make territories more resilient, specially taking into account the need to bring to this debate the example of a peripheral small economy. The logic is that looking at outcomes alone – employment or GDP – may not be sufficient to provide meaningful information about why some local or regional economies were able to resist and recover from a shock and others were not, or indeed whether those territories would be able to withstand future shocks. On this ambit, the resourceful region concept advanced by Nijkamp (2016) seems a re-interpretation of resilience, as it emphasizes and questions the conditional framework for a competitive sustainable regional development, taking for granted that

each territory has a portfolio of development possibilities and conditions (resources or capabilities) which should be (re)combined and boosted so as to ensure the highest territorial performance.

As a corollary, the idea that this context of being locked-in can only be dislodged by an external shock must also be qualified. As there is on-going endogenous dynamism, the directions for future development may be shaped from the inside, including events that lead to the creation of a new development paths, including the “branching of paths”, or the “breaking” of paths, as Garud et al. (2010) put it.

## 2. Ready for unfavourable winds? Resilience in Vila Velha de Ródão

Vila Velha de Ródão is a small peripheral municipality that belongs to the Centro Region (NUTs II) and Beira Baixa Intermunicipal Community (NUTs III), in Portugal. With only 3304 inhabitants in 2021, it has been suffering the consequences of the rural exodus phenomenon since the 1950, when its population was almost the triple – the population density is now only 10.0 per square kilometer.

Table 1 – Vila Velha de Ródão: some indicators

Vila Velha de Ródão (Município)	2001	2011	2021
Population	4085	3517	3304
Demographic density (inhabitants/Km <sup>2</sup> )	12.4	10.7	10.0
Ageing index	522,5	583,7	517,6
Pensioners (% of the population)	-	61,1	60,5
Unemployment rate	5,1	4,3	3.8

Source: INE/IEFP

Besides, its demography shows a significant ageing index – in fact the ratio of the number of elderly persons

aged 65 and over to the number of young persons (from 0 to 14) is about 5.2. Most of the people thus lives on their generally low pensions.

Its economy has a particular feature for it relies heavily on a pulp and paper company that was established in 1971 and that, ever since, has been nearly the only industrial stakeholder and has allowed to see this case as not only as mono-industrial but, virtually, as a mono-company municipality.

The industrial activity, associated with the pulp sector, maintains the dynamics and innovation capacity that has been recognized for decades in this part, where the company, CELTEJO, which belongs to the Portuguese ALTRI group, is dedicated to the production of bleached eucalyptus kraft pulp, employing directly about 225 workers (and an estimated 250 jobs, indirectly, specially associated to the forest activities and the wood supply) with a current production capacity that exceeds 250,000 tons. The vast majority of its production is destined for the export market, over 80%. Moreover, the sector has been reinforced during the last decade, first with an investment of the Portuguese firm Navigator (firstly, AMS, Star Paper), in 2009, that produces tissue paper, intended for the consumer and professional market segments. It targets its production to the Iberian, French, Moroccan, and Portuguese-speaking African countries (PALOP) markets. It CELTEJO through a pipeline. This innovative form of supply enables Navigator aiming to become the most effective tissue paper company in the Iberian Peninsula, as it has reduced by 20% the provision cost as well as its energy expenditure. The investment generated 240 jobs. In 2016, another investment took place, on the same production area of the paper tissue, by Paper Prime, a Portuguese company that now accounts for nearly 210 jobs. Finally, in 2018 another firm, Roclayer, invested in the production of special compounds, essentially based on paper and other extruded coated renewable materials, which aims to create the necessary protection and barrier to ensure the quality of the packaged products, as well as the processes and industrial purposes for which they are intended. Roclayer not belonging to the pulp and paper sector, is included, nevertheless, on what we can call the local pulp and paper micro cluster. Navigator and

Paper Prime are among its most important clients. It created 60 jobs.

From 2001 until 2018, the total employment in Vila Velha de Ródão, grew from 752 to 1090 jobs, an increase of 45.0%. The pulp and paper sector that had just one enterprise in 2001 was then responsible for nearly 30% of the total employment and a massive 65% of its industrial basis; in 2018, with three enterprises of the pulp and paper sector structuring the local economy those numbers increased, being now 38.2% and over 90%, respectively.

The unemployment rate in Vila Velha de Ródão is amongst the lowest in Portugal, 3.9% in 2018. Having been passing through a long structural adjustment along the last decades, its agro-food sector is still important as a vehicle of job creation (olive oil, cork, cheese) on the primary sector, but, mainly, the local economy has evolved towards tertiarisation, very much based on personal and social services, thus biased towards welfare public jobs and away from market services.

Table 2 – Employment on the pulp and paper sector in Vila Velha de Ródão (2001-2018)

	2001		2011		2018	
	Jobs	%	Jobs	%	Jobs	%
Pulp	234	100.0	223	60.6	217	45.7
Paper	0	0.0	145	39.4	450	54.3
Total	234	100.0	368	100.0	667	100.0
% of total employment	-	30.0	-	33.2	-	38.2
(% of industrial employment)	-	(65.0)	-	(73.6)	-	(90.0)

Source: GEP/MTSSS

The gradual contraction on the primary sector was accompanied by this growth of the service sector that accounts for about 58% of the local employment and also by, as explained, the deepening and densification of the pulp and paper filière. As mentioned, the singularity of this local economy is mainly because it has not

deindustrialised, the economic transition was able to guarantee a strong manufacturing sector which, nevertheless, that was not enough to counteract the depopulation phenomenon.

During this last decade Vila Velha de Ródão, on the one hand, demonstrated clear symptoms of vitality. In fact, the local economy enabled the emergence of a micro-cluster based on an abundant natural resource which created a growing number of jobs and generated added-value that is only partially locally retained – although all four companies belong to Portuguese economic groups, only one, Roclayer, has its headquarters on the municipality of Vila Velha de Ródão. On the other hand, the local economic profile narrowed: it does not depend directly, as before, on a single company but keeps being mono-industrial, with all the threats that this situation implies – the risky lock-in trajectory seems to have been embraced as if there was no alternative.

On this ambivalent context, this example of a small peripheral economy might be a good illustration for the discussion of resilience, territorial resilience. It raises the question of the conceptual adequacy to the reality of those territories that are not vertebrate by a diverse economic basis: if only measured by the capability on job creation, no doubt about its resilience, nonetheless one has to be aware of potential lock-in effects and the danger this always poses to these kinds of economies. It is thus fundamental that this old industrial municipality avoids falling into a trap of rigid specialization based on a mature sector. Local pulp and paper firms are connected in terms of input–output relations: it is well-known that if a local productive system is highly vertically connected, then even a firm (or sector) -specific shock can have a negative effect on local resilience through propagation mechanisms.

The logistics were the key factors that attracted all companies to Vila Velha de Ródão. The pulp industry, CELTEJO, taking advantage of the proximity for the supply of the main raw material, eucalyptus wood, and, also, of the easy water supply from the nearby river Tagus. Two other firms, Navigator and Paper Prime, benefit from the reduction on the transport costs of

pulp through a pipeline and also have a significant reduction on their energy bills. All of them, with an important export-oriented profile, also take advantage from the location of Vila Velha de Ródão, especially regarding the sales both to Lisbon and Madrid metropolitan areas: being a peripheral municipality, it occupies nevertheless, an advantageous central location in terms of the products delivery.

The innovation drivers of these companies are located outside Vila Velha de Ródão. In fact, there is only minor links of these establishments to higher institutions nearby – and R&D activities are accomplished mostly in-house and with the support of RAIZ, the Forest and Paper Research Institute, located in Aveiro. One can identify a dynamic Centro Region Innovation system, nonetheless, besides RAIZ, there are no substantive and strategic links to the companies (Santos, 2018). Being part of economic groups well inserted in the global economy, the companies have its main innovation inputs coming from both technological suppliers, mostly from Finland or Sweden on the pulp industry, and Italy and Germany, on the paper industry. Being firms that adopt strategies based on volume and scale, the gains are acquired through increases in productivity. The tendency to exploit economies of scale entails a continuous increase in the volume of production which, in turn, requires a constant technological upgrading.

It is important to underline the proactive role the local government has had on this trajectory, by providing firms with free industrial duly infrastructure land and by having a permanent cooperative behavior. For instance, with an aged and shrinking population, one of the critical problems that affects the pulp and paper sector is the deficit of qualified human resources, a bottleneck that faces additional constraints due to the lack of lodgment provision for the newcomers. In face of this shortage and without response from the private sector, the municipality both initiated the construction of new houses to rent (or sell) and granted tax incentives to stimulate the renovation of the old and nowadays inadequate housing stock. Simultaneously, several other measures were adopted to help solving the problem: the local government implemented a free pre-school and basic obligatory scheme, including meals,

transport and books; it created, too, a regime of monetary incentives for the installation of new families on the municipality; and it also has been adopting birth support financial instruments, as a long run measure to fight depopulation. Additionally, one has to mention the fact that the municipality is passing through a strategic planning process. With the help of the Polytechnic Institute of Castelo Branco, one of the main objectives is precisely to equate different future scenarios for the municipality, including the accomplishment of foresight exercises to minimize the effects of potential lock-in economic problems. It is on this highly specific and ever-changing context that resilience might constitute an important useful instrument. In fact, resilience theory provides an interesting framework for applying analytical techniques to anticipate the effects of turbulences and thus, besides having an intrinsic heuristic value, it also incorporates a rich analytical and operational potential that can serve the aim of local strategic planning and development. As a corollary, the idea that this state of being locked-in can only be dislodged by an external shock must also be qualified. As there is on-going endogenous dynamism, the directions for future development may be shaped from the inside, including events that lead to the creation of a new economic trajectories (Kubbeckzko et al., 2006; Rametsteiner & Weiss, 2006; Huggins & Thomson; Rizzi et al., 2018).

Local or micro-regional patterns of adaptive resilience are closely related to the performance and competitiveness of individual local firms. Therefore, one must be aware that they can be shaped more by extra-regional factors (demand, product life cycle or position in international value chains) than by particularities of local and regional contexts, assets, and mechanisms, while also important (Steen & Karlsen, 2014; Stanickova & Melecký, 2018). This observation seems to be valid mostly for small export-oriented economies, as it is precisely the case of Vila Velha de Ródão. We are aware, however, that more profound research is needed to explore the plurality of dimensions the resilience concept encompasses in order to better characterize the resilience of peripheral rural communities, such as Vila Velha de Ródão. On this ambit, the methodology proposed by Colussi (2000) may constitute a very useful tool, as it has already been applied to a rural

Canadian case. The method defines five key functions for the vitality of the community's local and regional economy, based on four dimensions of resilience and twenty-three characteristics common to resilient communities. This way, the methodology opens up the way for a more precise and detailed analysis of community functions and for the creation of what Colussi (2000) called the Portrait of Community Resilience.

## Conclusion

Knowing more about the local and regional impact of possible negative shocks is obviously not just a theoretical and academic exercise. It is fundamental if policy stakeholders are to find means in which to overcome the more damaging consequences but also, essentially, build on the new prospects that may emerge for territories. It is thus of great significance to identify the factors that condition a region's resistance and ability not only to recover but, mainly, redesign the development paths towards more competitive and sustainable territories. The resilience notion suggests that it may bring additional comprehension to this problematic. In fact, resilience also incorporates a normative facet that seems to be associated to a more operational and policy-making dimension.

Especially for peripheral territories facing structural development problems, there seems to be an urgent need for implementing an ex-ante resilience evaluation. Mainly now, that the current economic situation is expanding and thus may enable an increased clearance and comfort, local governments could benefit from creating a collective learning framework with the aim of providing anticipatory intelligence about future strategic action, so to avoid disruptive events that may affect the socioeconomic fabric of their territories. It is increasingly important for territories to understand how improved outcomes might be ameliorated and interpreted and how institutional capacity might be enhanced to enable the diversity of territorial stakeholders to anticipate to and be better prepared for the future.

Vila Velha de Ródão constitutes an illustration of the kind of challenges some small municipalities may face

in terms of the multifaceted notion of resilience, a territory attempting to turn the disadvantages of peripherality and mono industrialisation into the new assets of a desired inversion of the existing potentially risky trends. Yet, to fully apprehend the potential it encompasses, it appears a limitation if used exclusively to consider as a tool to understand how to return to a pre-shock equilibrium state or path, without saying anything about the capacity of an economic system to adapt or move to a better development path. Although there is no mainstream approach to measure and categorise resilience and, thus, no specific strategies for strengthening the resilience of territorial economies, it seems worth to explore and investigate its analytical and political potential. In this sense, we argue for the reformulation of the resilience operational value and, accordingly, suggested that *ex-ante* local resilience evaluations, helping places to find and strengthen what could be the drivers of their context-specific capabilities to anticipate shocks and formulate a place-based resilience strategy.

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