

Research project abstract

> Integrating the circular economy at the heart of the economic resilience of urban systems

Faced with global - environmental, economic, social, health and geopolitical – challenges, regions must deal with multiple successive crises. These crises have not the same impacts everywhere, revealing discrepancies in the capacity for resistance and recovery of different regions (Martin, 2012; Talandier & Calixte, 2021a). For instance, the Grenoble region has developed through a so-called technopolitan model, i.e. based on relations between academics, researchers and manufacturers, and their engagement to develop one and then several business parks dedicated to innovation and scientific and technical research. This Grenoble historical model clearly saw its limits emerge when the region's economy has been strongly impacted by the 2008 economic and 2020 pandemic crises. (Talandier, 2019).

To support regions in a process aimed at fostering economic resilience, three hypotheses are proposed. The first one is to question the productive drivers, but also the other **drivers of economic development**: residential, tourist and public, which moreover are among the most impacted by the COVID-19 crisis (Davezies, 2008; Talandier & Calixte, 2021b). As a second hypothesis, it is necessary to open the analysis of the explanatory factors – mainly related to the economic dimension – to other variables, including the environmental dimension – which is rarely considered despite the fact that, in the context of the **ecological transition** and with a prospective aim, it plays a critical role (if we consider for example the resource exploitation, the acceptability of ecological impacts, the change in mentality of young graduates, etc.) (Barles et al., 2011). The third point is that it is necessary to think about the resilience of regions not as an administrative scale but as **systems** to properly take into account regional interactions, knowing that the economic resilience of a sector is also dependent on factors and decisions that play out in other regions (Meerow et al., 2016). My doctoral thesis therefore integrates the **circular economy** at the heart of these three facets of the processes of **economic resilience of urban or regional systems**.

A mixed methodology is used, combining quantitative and qualitative approaches. In the first part, we analyze and compare the 2008 economic crisis and 2020 coronavirus crisis impacts, at a national scale (at the intercommunalities or employment zones grid). In the second part, we account for the interactions of flows systems and we study in depth the other questions, in particular the environmental ones.

My presentation will focus on this qualitative part. I am currently conducting semi-structured interviews with a panel of structuring establishments for the economy of the Grenoble region (selected according to their size, technological innovation, international openness, regional anchoring, solidarity and social utility, risks and ecology).

The analysis revolves around four axes: 1- **anchoring**, the link of these establishments to the region, and the **assets of the region** (companies and training regional ecosystems...); 2- **metabolism**, i.e. their incoming and outgoing material (raw materials, products, waste), energy (electricity, gas, water) and human resources flows, as well as their subcontractors and partners networks; 3- **risks or vulnerabilities** that could jeopardize their activity (competition and dependencies within the local economic system, critical resources, dependencies on national and foreign governance, natural and climatic risks...); 4- future environmental and social **issues** for which they are preparing, with what action plan (carbon neutrality objective...), with what financial aid, for what reasons, faced with what obstacles, and finally how local authorities could help them to expand in an urban or regional resilience strategy integrating these socio-ecological transition issues (collaboration and needs pooling between companies, ecological projects promotion...).

From this study, the first results already show that one of the determinants of economic resilience of urban systems is a **better circulation of sectors or economic circuits**, when thoughts relate specifically to relocation of economic activities, distances reduction, or improving product design and resource consumption.

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