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Historical trajectories of currently shrinking Portuguese cities: A typology of urban shrinkage

Daniel Alves [a,*], Ana Paula Barreira [b], Maria Helena Guimarães [b,c], Thomas Panagopoulos [b]

[a] Faculty of Social and Human Sciences, New University of Lisbon, Av. de Berna, 26-C, P-1069-061 Lisbon, Portugal
[b] Research Centre for Spatial and Organizational Dynamics (CIEO), University of Algarve, Campus de Gambelas, Building 9, P-8005-139 Faro, Portugal
[c] Landscape Dynamics and Social Processes Group, Instituto de Ciências Agrárias e Ambientais Mediterrânicas (ICAAM), University of Évora, Núcleo da Mitra, Edifício Principal, Apartado 94, 7002-554 Évora, Portugal

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ABSTRACT

Cities develop according to different patterns, undergoing population growth during some periods and decline (shrinkage) during others. Theories attempting to understand these behaviours include: 1) shrinkage is a natural process in the life cycle of a city, alternating with periods of growth, or 2) shrinkage is an extreme event that places cities into a continuous decline process with no return to population growth. We use retrospective data over a period of 130 years to study 25 Portuguese cities currently facing population decline, and show that both theories coexist in time and space. Five types of shrinking city are revealed: "Persistent Early Shrinkage" due to exodus from the rural periphery, "Metropolitan Shrinkage" due to the challenges of urban sprawl, "Recent Shrinkage" in de-industrialisation hotspots, "Cyclic Shrinkage" occurring in political transformation cores, and "Mild Shrinkage" due to life-style disamenity. As diversity of city population trajectories appears to be the norm in both Portugal and other Western European countries, the incorporation of this range into the management of urban transitions is recommended in order to reinforce city resilience.

1. Introduction

Population decline in cities has been reported throughout history (Beauregard, 2009; Oswalt & Rieniets, 2006). Urban development has complex stages of growth, stagnation, and decline. The dynamics of growth and shrinkage are well described in the urban life-cycle theory (van den Berg, Klaassen, Rossi, & Vijverberg, 1982), in which periods of population boom alternating with population decline are interpreted as a natural cycle; however, more recent observations have questioned this view (Champion, 2001; Metzger, 2000). The emergence of the concept of shrinkage and the hypothesis of a continuous (no-return) process of decline associated with drivers such as economic transformations, demographic changes, suburbanization, and political and environmental transformations have brought about a new way of looking at the phenomenon of urban population loss.

The two theoretical branches of urban development, namely, urban life cycle and continuous decline, are often regarded separately, with most of the relevant literature supporting one or the other (e.g. Friedrichs, 1993; Mykhnenko & Turok, 2008). The urban life cycle can be explained with resilience theory (Holling, 1973) and the product-life-cycle model (Levitt, 1965), where long-established cities eventually become less popular, although resilience allows some of them to self-organize in response to sudden changes, which have become more unpredictable under globalization. Continuous decline can be understood in terms of the post-Keynesian regional growth theory, which supports the argument that disparities between territories in regards to per capita income are permanent and self-perpetuating and can be reinforced by certain events as explained by cumulative causation mechanisms (Alexiadis, 2013). Nevertheless, a combination of the two approaches (life cycle and continuous decline) might prove productive for explaining population migration flows, given the flexibility that would be introduced into the analysis (Haase, Bernt, Grobmann, Mykhnenko, & Rink, 2013; Haase, Rink, Grossmann, Bernt, & Mykhnenko, 2014).

In the present work, we empirically demonstrate that cities develop according to different patterns of transition between growth and decline. The study tracks population figures during 130 years in 25 shrinking Portuguese cities. Here, as in Beauregard (2009) and Turok and Mykhnenko (2007), depopulation is viewed as an indicator of urban decline. This paper presents a historical perspective of shrinkage by examining demographic, economic, political, and social drivers of the phenomenon. The identification of different patterns of urban evolution adds insights to the phenomenon of shrinkage in Portugal, as well as to the overall discussion regarding urban theories used to explain population decline.

* Corresponding author.
E-mail addresses: alves.r.daniel@gmail.com (D. Alves), aprodrig@ualg.pt (A.P. Barreira), mguimaraes@ualg.pt (M.H. Guimarães), tpanago@ualg.pt (T. Panagopoulos).

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2. Literature review

The way in which cities evolve, showing periods of population increase followed by periods of inhabitant decline, has received attention from scholars since the early works of urban planners Rust (1975); Berry (1977), and van den Berg et al. (1982). This cyclic process has been given different designations, including decline, decay, abandonment, deurbanization, urban crisis, and demographic change (Haase et al., 2014). However, only after the 1980s did the term 'shrinkage' begins to appear in the literature, most probably because this type of transformation had by that stage reached more countries and cities (Oswalt & Rieniets, 2006; Turok & Mykhnenko, 2007). Beauregard (2009) referred to shrinking cities as pertaining only to those U.S. cities that had lost population since the 1980s, with cities that had undergone reductions in inhabitants during the periods 1820–1920 and 1950–1980 being defined as aberrant and declining cities, respectively. In Europe, urban decline has been reported in the Anglo-Saxon literature since the end of WWII and urban shrinkage has been introduced more recently (since the late 1980s) by German scholars (Hoekveld, 2014).

An initial examination of urban population evolution leads to the conclusion that episodes of growth and decline have been part of the life cycle of the city. According to this view, European urban transformation in the past two centuries followed such a pattern, showing a sequence of urbanization, suburbanization, and deurbanization (van den Berg et al., 1982; Buzar et al., 2007). Facing city shrinkage, local governments developed and implemented policies aimed at attracting back the people who had previously left cities for the suburbs or other towns. Nevertheless, some other studies have reported population decline as a continuous process rather than a cyclical one (Metzger, 2000). Champion (2001) argued that the development of Western Europe since the 1970s had created a variety of life-course trajectories of urban development.

Life-cycle and continuous-decline theories are usually approached separately, meaning that empirical observations have led to supporting one or the other. The fact that the theories evolved in different periods and within their own disciplinary perspectives probably explains this. However, as pointed out by Haase et al. (2013), the two views can coexist. In fact, a bridge between the two approaches would add flexibility and an integrative analysis of population decline, because historical trajectories portray plural shrinkage realities rather than invariant processes (Haase et al., 2014).

Studies of how the populations of cities evolve cover a range of durations, with shrinkage being observed over both long and short periods of time. Beauregard (2009) studied the large cities of the U.S. over two periods, 1820–1920 and 1950–2000, and found that cities lost inhabitants over both long and short time frames. Mykhnenko and Turok (2008) examined city evolution between 1960 and 2005 for Eastern European countries, and found a medium-term decline (during the last 15 years) as the predominant trajectory, followed by a recent decline (during the last 5 years). Turok and Mykhnenko (2007) analysed a set of European countries for the same time span, and found that the shrinkage of cities in Western Europe is less prevalent than that in Eastern Europe. However, those authors identified population decline in 22% of the Western European sample cities and 13 of these registered long-term decline (lasting 25 years).

The phenomenon of shrinkage has been studied using various sets of countries (e.g. Rieniets, 2005, for Western European countries; Mykhnenko & Turok, 2008, for Eastern European cities; Turok & Mykhnenko, 2007, for both Western and Eastern European cities; Groβmann, Haase, Rink, & Steinführer, 2008, for several Poland and Czech Republic cities; and Beauregard, 2009, for the United States). Besides searching for the pattern of urban shrinkage, those studies also investigated the underlying causes and suggested diversified typologies, promoting a continuing and intense debate about how to best understand the phenomenon (Haase et al., 2013; Hoekveld, 2014).

The main types of shrinkage identified in Western Europe are those relating to deindustrialization, suburbanization, comparative disadvantages due to globalization, political and environmental transformations, and demographic changes (Haase et al., 2014; Oswalt & Rieniets, 2006). Wu, Zhang, Chu, and Chu (2013) rearranged the typologies around three concepts: "shrinkage is imposed", which includes political, economic, and environmental crises; "shrinkage due to comparative disadvantages", which relates to differences between places in economic opportunities, lifestyles, and/or climatic conditions; and "shrinkage due to societal/global changes", which includes fertility decline, ageing, resource depletion, and climate change. In many cases, there are overlapping reasons for the loss of population (Cortese, Haase, Grossmann, & Ticha, 2014; Couch, Karecha, Nuissl, & Rink, 2005).

During the 1950s, industrialisation caused a flow of population from urban hinterlands into city centres in northern Europe (Cheshire, 1995). The decline in population after deindustrialisation in Europe was a process that first affected the northern countries, after the 1970s, and subsequently reaching countries in southern Europe.

Changes in the economic profiles of cities promoted new preferences of city residents who, supported by the availability and accessibility of transportation options, moved out of city cores, leading to urban sprawl and suburbanization (Clark, 1989; Couch et al., 2005). In Europe, these processes impacted first the northern countries (in the 1950s) as a result of the greater wealth of the inhabitants of these countries, and then gradually spread into southern countries (Cheshire, 1995).

Globalization has affected cities and countries unevenly (Martinez-Fernandez, Audirac, Fol, & Cunningham-Sabot, 2012; Oswalt, 2005), with smaller cities and those not included in international networks being the most affected (Cunningham-Sabot & Fol, 2007; Elzerman & Bontje, 2015). The neoliberal economic trend that emerged from the post-Fordist period has challenged the capacity of former industrialized cities to retain inhabitants. Globalization has also brought a new role to suburbs, with some of them emerging as new development poles, at the expense of increasingly empty city centres (Audirac, Cunningham-Sabot, Fol, & Moraes, 2012; Martinez-Fernandez et al., 2012). As such, deindustrialization and suburbanization have affected mainly larger cities, but more recent economic transformations have caused population loss and economic declines across a broader spectrum of cities.

Political and environmental drivers have also been used to explain population loss (Groβmann et al., 2008; Oswalt & Rieniets, 2006). The fall of the Berlin Wall had a very substantial impact on the cities of the former East Germany, and epidemics as well as environmental shocks have been identified as causes of population decline (Cheshire & Magrini, 2006; Vale & Campanella, 2005). Further, demographic changes that emerged from reductions in fertility rate have also promoted a decrease in the number of inhabitants living in cities (Klingholtz, 2009).

Table 1 proposes a shrinking city typology that summarizes the international reports of city shrinkage referred to above. The main shrinkage types reflect societal and global changes and comparative disadvantages (Wu et al., 2013). The scalar dimension of the different causes of shrinkage, city size, and the location of shrinking cities should also be taken into consideration (Geys, Heinemann, & Kalb, 2007). Furthermore, when categorizing shrinking cities, the time span of the process should be considered. According to Turok and Mykhnenko (2007), a separation between episodic and continuous shrinkage should be taken into account to describe the historical dimension and to separate long-term trends from short-term 'events'. The causes identified for each type of shrinkage overlap to a large extent those described by Oswalt and Rieniets (2006), aggregating causes such as low fertility rates, changes in economic profile, legal constraints due to changes in political regime, and lifestyle transformations, as well as reasons related to climate, all of which emerge from demographic, economic, political, social, and environmental drivers.