

Food deserts in Sweden? The accessibility to retail in 1998 and 2008

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Abstract.

The notion 'food desert' was coined by a respondent in British interview study in the mid-1990s, to describe a neighbourhood missing a proper grocery or supermarket. Obviously, it was a very well formulated concept, as it was picked up by politicians and introduced into the wider debate in the society. That paved the way for more thorough studies in Britain and soon in other countries too. Today, halfway into the second decade of the 21st century, a huge literature has developed, mainly within the fields of retail studies and health studies. The lion's share of it refers to food retail, but also other kinds of retail (e.g. accessibility to pharmacies, banks, etc) have drawn some attention. Although it could be argued that a 'food desert'-literature has developed since the late 1990s, it should be noticed that accessibility to food as well as other retailers has been studied, let be to a smaller extent, for at least 40-50 years.

However, the results of the studies of food deserts are not coherent at all. They are generally limited to a certain city or area, but in fact, they are often contradicting even within the same country (with similar sets of regulations, similar market situations, similar urban histories, etc). The differing results might well (at least partly) be explained with reference to differences in the set-ups of the studies. Among the most common differences in set-up, is the employment of different criteria for an area to qualify as a food desert. Another point of difference is that the areas employed in the studies, generally are delimited for other purposes than the study of food deserts and thus run the risk to be exposed to the modifiable-area-unit-problem (MAUP), i.e. that the results might be a consequence of the way a geographical subdivision of a city (or rural area) have been carried out, rather than the accessibility to food retail as such.

In this study, the possible presence of food deserts in Sweden is addressed. It has been noticed that the retail in Sweden (like in other countries) tends to be relocating from rural areas and from the built-up areas of cities, to their outskirts. In the general societal debate this has been described as a threat to established concentrations of retail both in cities and in rural areas. However, the population is relocating too, and it is an empirical issue, whether the city centre, a neighbourhood centre or an external shopping centre is closest to different residential locations as well as how the distances to nearest shop change over time.

The empirical focus of the study is on Sweden, but the study is of a more general interest as we are able to handle the problems of differences in the set-ups (mentioned above) in a more preferable way than usual. Firstly, we have country-wide data and are thus able to consider different types of cities, towns and areas. Secondly, thanks to the remarkable geographical resolution of the data employed, the risk of MAUP can be minimized. Thirdly, again thanks to the good data, we can avoid the, generally ill-founded, operation to stipulate criteria for food deserts. Instead, we are able to present a detailed mapping of the accessibility to retail in different residential locations continuously and to supply these locations with some characteristics of their surroundings individually. To be able to monitor the development over time, data from both 1998 and 2008 have been employed.

Each and every populated coordinate in Sweden and each and every shop (according to the Swedish business register) have been plotted on a digital map. The shops have been supplied with Voronoi-polygons (i.e. the borderlines between the polygons are drawn exactly between two neighbouring shops). In that way each and every residential coordinate in the country is associated with its nearest shop. Then the distance between each and every residential coordinate and its nearest shop have been calculated. Finally, the individual residential coordinates have been supplied with information concerning their residents and their immediate and wider surroundings.

We will be able to present results concerning the shares of populations residing at certain distances from their nearest shop in different kinds of areas, the socioeconomic and demographic status of these people and which kinds of immediate residential milieu they live in. In this way we will also be able to link their living circumstances to other attributes (e.g. possession of driving license and access to car, attributes which has been attributed importance in the food-desert-literature). However, instead of stipulating any criteria of a 'food desert', we will leave it to the reader to grant such a status to a type of area. The reason for this is that, notwithstanding the discussions and considerations in the literature up to present, there is hardly any scientific answer to questions concerning whether 1 km, 2km or 5km is a reasonable distance to a shop supposing the people living there have got their own transportation or not.