

How Cross-Border Shopping Contributes to Functional Cross-Border Regions: Evidence from Mobile Big Data from Europe

Authors

Olle Järv^{1,2}

1) University of Tartu, Estonia

2) University of Helsinki, Finland

Abstract

One of the main objectives of the EU is to enhance integration and cohesion within internal border regions by strengthening political, economic, and social ties through cross-border cooperation and governance. While institutional and economic ties across borders are well examined and understood, people's perspectives are less well known. Beyond potential access to cross borders, people's actual interactions and cross-border practices are challenging to capture. Yet these social interactions contribute to the (re)production of functional cross-border regions. Besides cross-border commuting, one significant yet overlooked interaction relates to routine cross-border shopping and the use of services. To provide new insights into how shopping and service use create functional cross-border regions, we use human mobility as a tool to capture this phenomenon.

Here, we use a mobile big data source to reveal people's cross-border mobility behaviour and examine movements across state borders linked to shops and shopping centres in Europe. By separating flows from both sides of a border, we show how the proportion and directionality, temporal rhythms, and spatial extent of cross-border mobility flows enable us to characterize functional border regions from the perspective of shopping and service use. We compare workdays and weekends, and statistically examine which regional characteristics are associated with functional cross-border regions from the perspective of shopping and service use. Our initial findings suggest different types of cross-border shopping behaviour, both in temporal rhythms and spatial patterns. We conclude by addressing how shopping and the use of services across state borders contribute to functional cross-border regions as one important layer, and we discuss ways of using mobile big data to support policy and planning in border regions in the European Union and beyond.

Keywords: cross-border mobility; functional cross-border regions; big data approach; cross-border shopping; Europe