Commuting links between settlement hierarchy levels in Hungary

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The interaction between the home and workplace has been a central component of urban and regional economic theories (Clark et al. 2003). According to the latest data, in 2011, one-third (1.3 million) of the employed persons commuted daily in Hungary. Compared to 2001, the ratio increased by 4.1 percentage points (up to 34%), and this fits into the global trends as the separation of the location of residence and workplace is becoming more and more common (Reggiani and Rietveld 2010). The phenomenon is fuelled mostly by suburbanisation. This process was at its peak in the 2000s when many people moved from big cities to the surrounding areas, mainly families with stable wealth conditions. The employed members of these families typically kept their jobs at the city of the previous residence.

Who are defined as commuters?

Data about commuting in Hungary are available only via censuses. The latest census was conducted in 2011, and according to the definition, daily commuters are employed persons whose workplace and residence are not in the same municipality. Persons, who do not commute daily but frequently (e.g. every 2–3 days) are also considered daily commuters.

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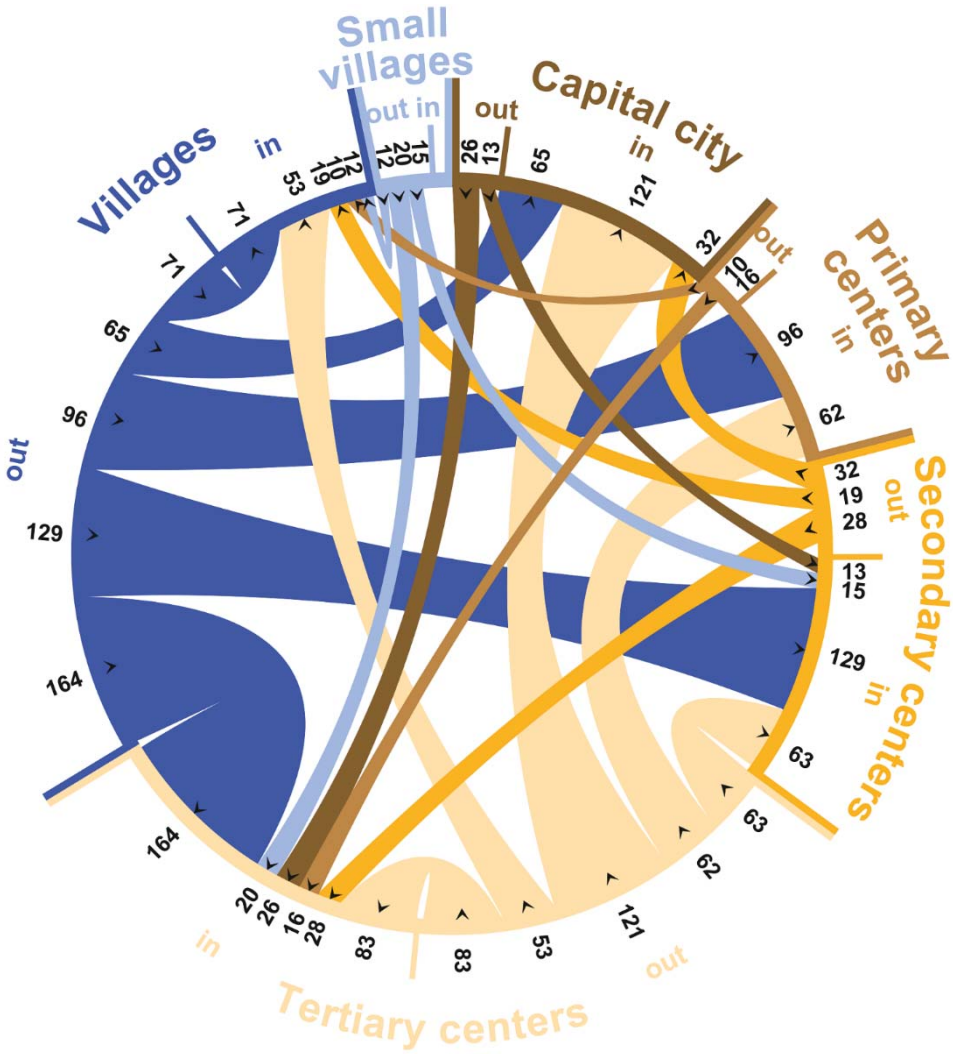
Commuting links between the settlement hierarchy levels in Hungary, 2011*



* The diagram was created using the Corel Draw programme.

What are the hierarchy levels?

We intended to classify Hungarian municipalities based on their position in the hierarchy. As of 1 January 2014, towns were classified into four groups – capital city, primary centres, secondary centres and tertiary centres, and villages were classified into two – villages and small villages.

The classification of towns was carried out using a wide variety of statistical data: we used (altogether 23) indicators considered effective to measure town

functions and its extent (e.g. data on population, economics, administrative service, education, etc.). The value of each indicator was normalised, and if more than one indicator covered the same function (e.g. for the health care service function, we used the number of general practitioners and number of hospital beds), their values were averaged for that particular function. By averaging the normalised values for the functions, each town was assigned a composite-indicator value; then based on it, they were classified into four groups by the Natural Breaks method developed by George Jenks (Jenks 1967).

Villages were divided into two groups based on population: villages are municipalities with population of over 500 persons and small villages are municipalities with population of under 500 persons.

We note here that our classification of towns was based purely on legal status. We did not examine whether they effectively have real town-functions.

Hierarchy levels	Number of municipalities
Capital city	1
Primary centres	8
Secondary centres	29
Tertiary centres	308
Villages	1,684
Small villages	1,124

Commuting-relations consisting of more than 10,000 commuters are shown only in the chord diagram, and values are displayed in thousand commuters. Commuters working in different or unknown localities or abroad are not included.

Commuting can be the result of either individual choice (e.g. persons moving to the suburban zone for better life conditions without changing the workplace) or external force (e.g. people living in smaller settlements facing difficulties finding an appropriate workplace locally). In the latter case, people typically commute to a near settlement at a higher hierarchy level.

Overall, significantly more people commute to the capital city and to primary and secondary centres than out of them. Most of the people commuting to the capital city live in tertiary centres (121 thousand persons), and the primary and secondary centres host the most commuters from villages (96 and 129 thousand persons, respectively). Spatial structure is the reason for this difference: Budapest has many tertiary centres in the neighbourhood, whereas the suburbs of primary and secondary centres are dominated by villages. Commuting between the three highest hierarchy-levels is not significant because the distances between towns belonging to them are typically greater.

Commuters living in a tertiary centre or a village have the workplace typically in a settlement that is higher in the hierarchy, although several commute to settlements on the same level in the hierarchy (from tertiary centre to tertiary centre: 83 thousand persons; from village to village: 71 thousand persons). Commuting from tertiary centres to villages is also remarkable.

In conclusion, the village-town (suburb zone-centre) commuting relation is still dominant, but commuting on the same hierarchy-level (from town to town and village to village) and from the centre to the suburb zone is also increasing. The growing intensity and dispersity of commuting points to the trend of polycentric development should be considered as a modern (post-modern) process (Bertaud 2003, Lin et al. 2012).

REFERENCES

BERTAUD, A. (2003): *The Spatial Organization of Cities: Deliberate Outcome or Unforeseen Consequence?* World Development Report 2003: Dynamic Development in a Sustainable World, World Bank, Washington.

CLARK, W.–HUANG, Y.–WITHERS, S. (2003): Does commuting distance matter? Commuting tolerance and residential change *Regional Science and Urban Economics* 33 (2): 199–221.

JENKS, G. F. (1967): The Data Model Concept in Statistical Mapping *International Yearbook of Cartography* 7: 186–190.

LIN, D. et al. (2012): *The Effects of Polycentric Development on Commuting Patterns in Metropolitan Areas* Presentation on RSA Global Conference, Beijing.

REGGIANI, A.–RIETVELD, P. (2010): Networks, Commuting and Spatial Structures: An Introduction *Journal of Transport and Land Use* 2 (3/4): 1–4.