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Big Data for Territorial Dynamics and Housing



Big Data & Housing

1. How to support cities and regions to ensure decent and affordable housing for all citizens?
2. Where to find data on this issue?



Big data and Housing – reflection on affordability

- in European larger cities, **decent and affordable housing is increasingly hard to get access to** (Pact of Amsterdam, 2016 ; *The Action Plan of the Partnership on Housing of the UE Urban Agenda*).
- Since the 1990s, housing prices have on average increased faster than the income of residents (renters and buyers) in major post-industrial city-regions :
 - **the unequal situation and increased affordability gap.**
 - For prospective homeowners : increased affordability gap leads to a socially-selective access to housing markets, yielding more spatial exclusion and increased social tensions
 - The cost of ownership impacts rents, and also the availability of housing to let.
 - For owners, real estate has become a major component of housing wealth. But local markets are also volatile. Housing prices are therefore unstable and contingent upon the market's continuous restratification within and across neighborhoods. Real estate influences the local conditions through which household wealth is accumulated or lost.

Big data and Housing – reflection on bridging data from heterogeneous sources

- One major issue is **the lack of harmonized spatial data to map and monitor affordability** in Europe.
 - data by OECD and Eurostat are disseminated respectively at the national and at the city levels,
 - but the dataset are far from complete in term of thematic and geographical objects available
- Novelty of the approach : to fill this data gap at the local level (1km Grid, LAU2 and FUA), we collected and bridged different spatial datasets which have so far been employed separately :
 - **Conventional data** are provided by traditional statistical offices. robust processes of harmonization and validation
 - **Unconventional data** are extracted from various platforms and sources (“big data”). institutions (administrative, fiscal reasons), but not originally designed for research. Also derived from harvested data, made available by ISP (Internet Service Providers) by the means of API, or scraped.
- The datasets are structured as spatial data with harmonized indicators, that allow **to compare between cities and within cities**, to examine the unequal spatial patterns of housing affordability