// Big Data for Territorial Analysis and Housing Dynamics

(affordability, unequal access to housing, FUA)
Policy context on housing dynamics in Europe
FUA: policy question 1.
A balanced development (solidarity, inclusive growth, the reduction of economic disparities

- 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.
Map 2-1 Urban Audit Perception Survey on housing and prices

Easy to find good housing?

Share of surveyed persons strongly disagreeing to the question: is it easy to find good housing at reasonable price? 2015 (%)
- 17
- 34.9
- 23
- 17
- 7.5
- 4

Total population, around 2015
- 540,000
- 150,000
- 50,000

Regional level: Cono Cities (version 2017)
Source: ESPON Big Data for Territorial Analysis and Housing Dynamics, 2010
Origin of data: Eurostat, 2010
(C) UMS RIATE, for administrative boundaries

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FUA: policy question 2. collecting the set of data to support spatial analysis (…) and balanced territorial development

- To inform 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.
Owned dwellings

Proportion of households living in owned dwellings, around 2011 (%)
- Grey: No data

Total population, around 2015
- 2256037
- 1000000
- 500000
- 100000

Regional level: FUA (version 2017)
Source: ESPON Big Data for Territorial Analysis and Housing Dynamics, 2019
Origin of data: Eurostat, 2019

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Methodological Outline and Main Results
Data collected in FUAs

- the lack of harmonized spatial data to map and monitor affordability in Europe.
- 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
  - Unconventional data
  - harmonized indicators, that allow to compare between cities and within cities
Affordability (rental) – national income, 2019

Map 3-12 – Affordability (rental) – national income, 2019 (Warsaw, Lodz, Krakow)
Map 3-26 – Affordability (apartments) – municipal income, 2019 (Paris)

Map 3-27 – Affordability (apartments) – national income, 2019 (Paris)

Map 3-28 – Affordability – difference between municipal and national income (apartments), 2019 (Paris)
Map 3-10 – Advertized price for property rental, 2015-2019 (Geneva)

Map 0-47 – Rental profitability, 2019 (Geneva)
Discussion and Conclusion
Time of work (full income) required to buy 1 sq. meter (2019)

Source: Fotocasa (ES), Leboncoin (FR), Domporta (PL), Homogoto (CH), National statistics (municipal income), EU-FILC Survey (national income).

Method: The indicator corresponds to the average price per sq. meter divided by monthly income.

Realisation: ESPON Big Data for Territorial Analysis and Housing Dynamics, 2019

Figure 3.3 – Time required to buy 1 sq. meter (2019) – Webscraped data

With: time_loc (number of months of case-study income / municipal income required to buy one square meter), time_natd10 (national income, first decile), time_natd50 (national income, fifth decile / median), time_natd90 (national income, ninth decile).

![Graph showing the time required to buy 1 sq. meter in different cities with different indicators.](image-url)
Access to decent and affordable housing in European FUA

▪ the increased and unequal affordability gap
▪ housing costs exacerbate differences, inequalities and segregation
▪ Inflation has been ubiquitous during the last two decades, but the hierarchy of neighborhoods has been maintained, and extended to the inner suburbs. This hierarchization leads to a strong, very selective / filtered ownership access, by income, now constrained also in the inner ring of the region, in former blue-collar.

▪ Important processes, gentrification and touristification are preeminent, but many factors can be highlighted
  ▪ Urban dynamics and growth
  ▪ Local contingencies in the structure of submarkets.
  ▪ An effect of how the investment is driven by public policies and ordinary financialization
Comparing Airbnb and real-estate offer: Barcelona, 2019

Figure 3.7 – Comparing Airbnb and real-estate offer (Barcelona)
Thank you

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