

**ESPON**



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Interreg

# **House for All:** Access to Affordable and Quality Housing for All People

# 1 Access to Affordable and Quality Housing for All People

The European Research Project “Access to affordable and quality housing for all people” (House4All) aims to provide a comprehensive and comparative overview of how housing policies are delivered across the ESPON territory and develop a comprehensive definition of housing affordability at the EU level, taking into account a broad range of indicators and the diversity of European territories and their specificities. In addition, the project investigates and maps the current public policies regarding affordable and quality housing in Europe. It points out to what extent these are coordinated at different geographical levels and integrated in spatial planning and territorial development policies, as well as aligned with territorial development strategies.

To that end, the project develops three main outputs. First, a Pan-European

mapping of housing affordability and quality at a regional scale based on a combination of webscraping data and traditional sources. Second, a European Housing Policy Compendium outlining the structure of national housing markets, policies and governance. Third, a set of case studies to investigate how affordable and quality housing can be delivered on the ground. Ultimately the project results shall help to provide recommendations to policymakers across Europe at different geographical levels on how to create and provide access to affordable and quality housing.

The project started in September 2023 and will be finalized in July 2025.

**DISCLAIMER: The mappings are a first proof of concept that shows the extend of what will be produced in the framework of the HOUSE4ALL project!**



Picture: <https://www.wien.gv.at/stadtplanung/aspern-seestadt>

## 2 The Project Consortium

The House4All consortium is led by TU Wien, where several research units collaborate for the purpose of this research. The TU Wien Research Unit **Urban and Regional Research (SRF)** which is headed by Prof. Dr. Franziska Sielker, acts as the Project Lead. Further involved are the **Research Unit Sociology** and the **New Social Housing Centre**, which serves as an intermediary between politics and academia.

**Housing Europe** is the European Federation of Public, Cooperative & Social Housing. Since 1988 it is a network of 46 national & regional federations gathering 43.000 housing providers in 25 countries. In the project, Housing Europe is tasked with the development of the housing policy compendium.

The Budapest based **Metropolitan Research Institute (MRI)** was founded in 1989. Its work is dedicated to housing, social problems and urban development with excellent knowledge on both conceptual and empirical matters regarding housing.

**MCRIT** is a planning consultancy aiming to support livable cities and regions while having longstanding expertise in political decision-making support that integrates quantitative and qualitative assessments of multiple

assessment criteria. Further, **InAtlas** as a Big Data and Location Intelligence company focusing on geomarketing and data analytics, offers a specific expertise in web scrapping. Both institutions are responsible for data analytics and mapping activities in the project, where a key is to complement existing data platforms with a Pan-European web scraping.

The Department of Architecture of the **Aalto University**, complements the project expertise with housing research experience and methodologies for comparative case studies on housing policies in Europe.

The Department of Architecture and Urban Studies of the **Politecnico de Milano** further enriches the consortium with its extensive expertise on case study research and analyzing vulnerable groups, in the context of urban and housing policies.

Finally, **Spatial Foresight** brings in the expertise of the ESPON Compass project in the development of the housing compendium and relates to EU funding mechanisms for housing project implementations.



### 3 Regional Housing Affordability

Currently there is no Europe wide systematic availability of data on housing affordability on a regional level from traditional data sources. We thus turn towards web scraping to obtain an indication of housing costs in terms of purchasing and renting. Since affordability is also a question of income, we complement the scraping data with traditional data sources to compute several affordability indicators. This approach thus allows us to produce a Pan-European map of housing affordability.

There are two main sources behind the affordability mappings we use in the project. These are real estate listings collected through web scraping and administrative data on income obtained from Eurostat. The spatial unit of analysis are NUTS3 regions. Prices are averages per region calculated from a dataset collected on 2024/03/07, computed after data cleaning (removal of outliers and non-complete ads). Income is approximated with GDP per capita in Euros (latest available), which currently appears as the best consistently available proxy on NUTS3 level. Note that

Rent affordability spending 40% of monthly income (m<sup>2</sup>)

**DISCLAIMER**

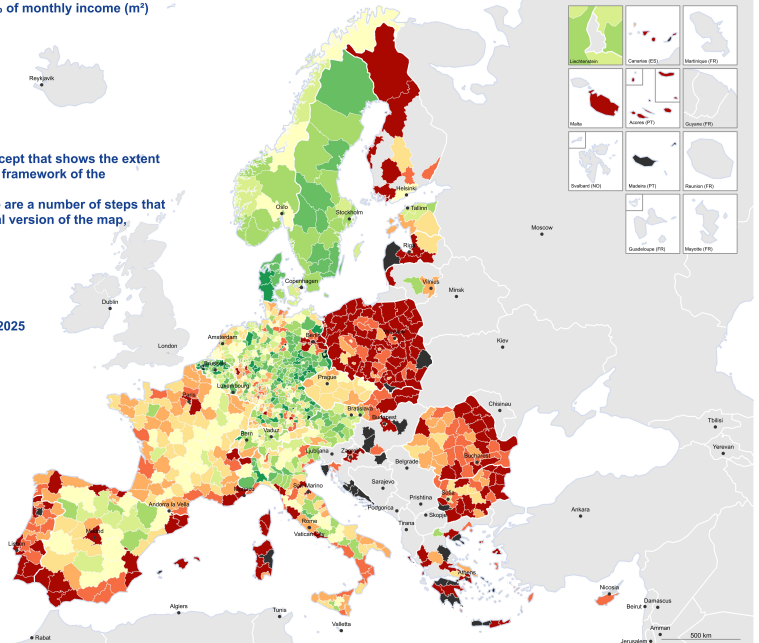
This map is a first proof of concept that shows the extent of what will be produced in the framework of the HOUSE4ALL project. It is work in progress and there are a number of steps that need to be taken towards a final version of the map, namely:

- data cleaning
- data harmonisation
- gap completion

Final maps will be available in 2025

**Legend**

- Less than 30 m<sup>2</sup>
- Between 30 and 50 m<sup>2</sup>
- Between 50 and 60 m<sup>2</sup>
- Between 60 and 70 m<sup>2</sup>
- Between 70 and 80 m<sup>2</sup>
- Between 80 and 90 m<sup>2</sup>
- Between 90 and 100 m<sup>2</sup>
- Between 100 and 120 m<sup>2</sup>
- Between 120 and 150 m<sup>2</sup>
- Between 150 and 200 m<sup>2</sup>
- More than 200 m<sup>2</sup>



data for Slovenia, Finland, Hungary and Lithuania is currently lacking, but will be available soon in full.

### 3.1 Rental Housing Affordability

The first two maps depict rental housing affordability across the ESPON space. One indicator displays the maximum square meters that can be rented with 40% of a person's monthly income. The second indicator displays the percentage of monthly income required to rent an average 100 square meter dwelling. Both maps show a widely similar picture of rental housing affordability

including a substantial geographical divide between western, central and eastern Europe. Poland, Bulgaria and Romania appear to have very low levels of rental affordability, which may be due to the residual character of the rental market in these housing systems. Regions containing and surrounding capitals such as Paris, Berlin, Lisbon and Madrid are frequently less affordable compared to the rest of the country. Furthermore, coastal regions tend to be less affordable in comparison to inland regions, particularly in Spain and France. In Italy there is a substantial difference between the west- and the east coast.

Percentage of monthly income to rent 100m<sup>2</sup>

**DISCLAIMER**

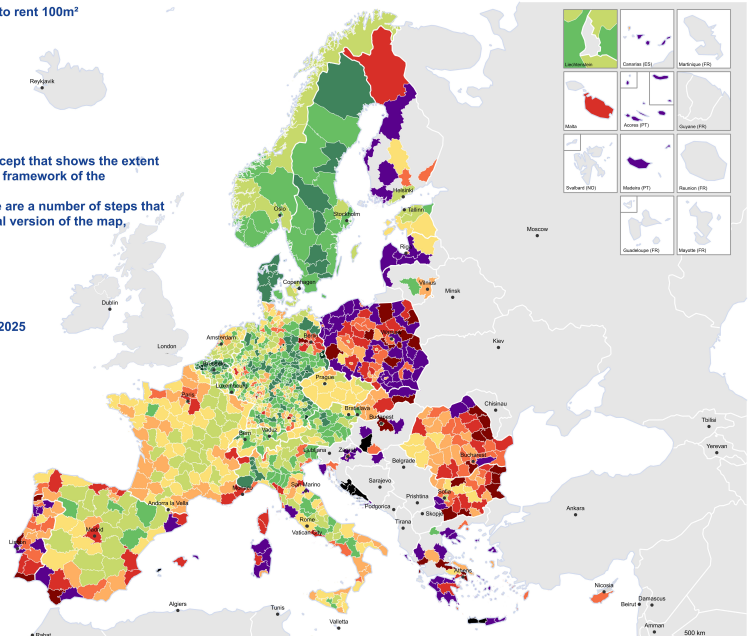
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- data cleaning
- data harmonisation
- gap completion

Final maps will be available in 2025

**Legend**

- Less than 20%
- Between 20% and 30%
- Between 30% and 40%
- Between 40% and 50%
- Between 50% and 60%
- Between 60% and 70%
- Between 70% and 80%
- Between 80% and 90%
- Between 90% and 100%
- Between 1 and 2 persons income
- More than 2 persons income



## 3.2 Affordability of Buying

The second pair of maps shows housing affordability in terms of purchasing. Again, one indicator displays the size in square meters that can be bought with 40% of the average income earned

over 10 years. The second indicator shows the number of years needed to buy a 100 square meter dwelling when spending 40% of the annual income.

Affordable m<sup>2</sup> with 40 percent of 10 years income

### DISCLAIMER

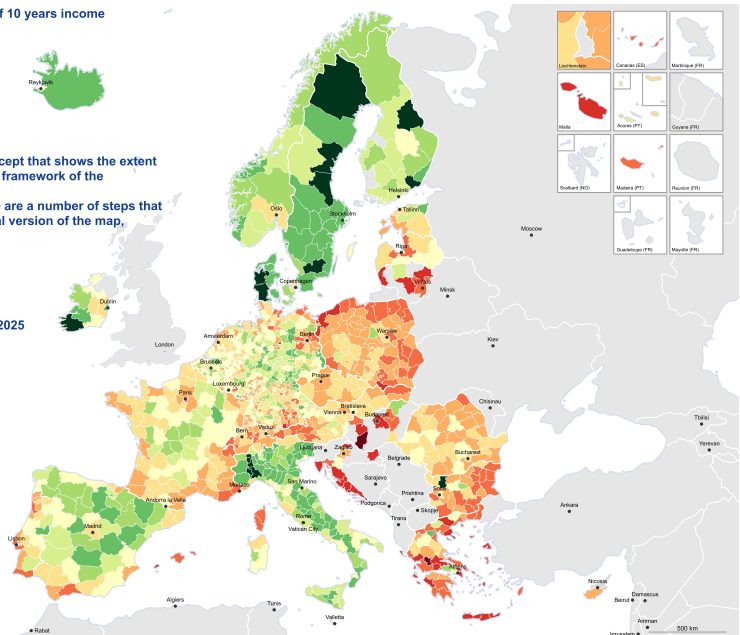
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- data cleaning
- data harmonisation
- gap completion

Final maps will be available in 2025

### Legend

- Less than 25 m<sup>2</sup>
- 25 to 50 m<sup>2</sup>
- 50 to 75 m<sup>2</sup>
- 75 to 100 m<sup>2</sup>
- 100 to 125 m<sup>2</sup>
- 125 to 150 m<sup>2</sup>
- 150 to 175 m<sup>2</sup>
- 175 to 200 m<sup>2</sup>
- 200 to 300 m<sup>2</sup>
- More than 300 m<sup>2</sup>



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Number of years to assume buying 100m<sup>2</sup> spending 40% of annual income

## DISCLAIMER

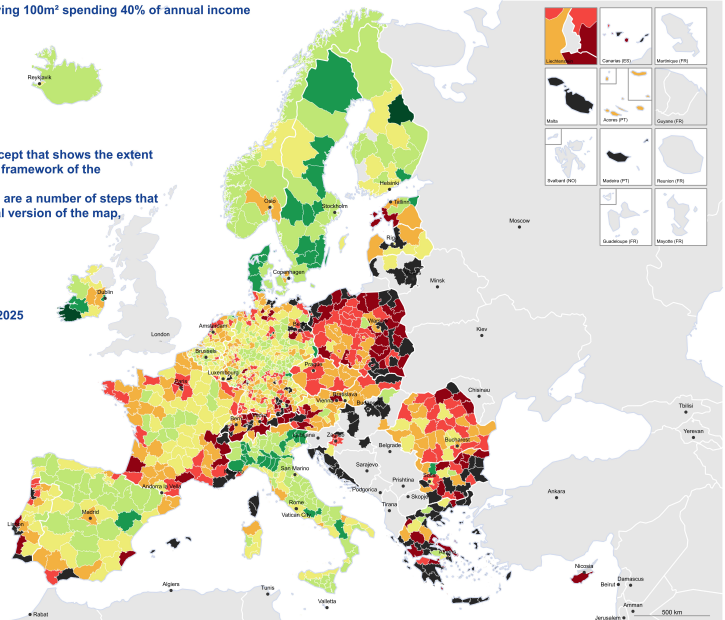
This map is a first proof of concept that shows the extent of what will be produced in the framework of the HOUSE4ALL project. It is work in progress and there are a number of steps that need to be taken towards a final version of the map, namely:

- data cleaning
- data harmonisation
- gap completion

Final maps will be available in 2025

## Legend

- Less than 5 years
- 5 to 10 years
- 10 to 15 years
- 15 to 20 years
- 20 to 25 years
- 25 to 30 years
- 30 to 35 years
- More than 35 years



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Reference date: 01/12/2023  
Source: ESPON HOUSE FOR ALL 2024  
Original data: ESPON HOUSE FOR ALL 2024  
© EuroGeographics for administrative boundaries

Similar to the rental affordability analysis both maps show a widely similar picture of purchasing housing affordability. Although Eastern European countries again appear rather unaffordable, the overall picture is much more heterogeneous. Particularly, the alpine regions show rather low levels of affordability. Again, regions containing and surrounding capitals such

as Paris, Berlin, Lisbon and Madrid are frequently less affordable compared to the rest of the country. Furthermore, coastal regions tend to be less affordable which is also clearly visible in the Netherlands and Germany, Portugal, Spain and France.

## 4 National Housing Price Distributions

The following 'violin charts' represent a visualization of national sales and rental price distributions. The depiction of price distributions serves to analyze the relative availability of certain price segments. The following charts are for the data scraped in March, April and May of 2024, and use only valid advertisements for any type of housing.

Data is displayed by country separating sales (blue) and rental (orange). Along the Y axis we see the price from lower to higher. The X axis represents the frequency of the price values in the data. Thus, a higher X value means more advertisements for that given price region.

The charts are double normalized so that they can be compared across

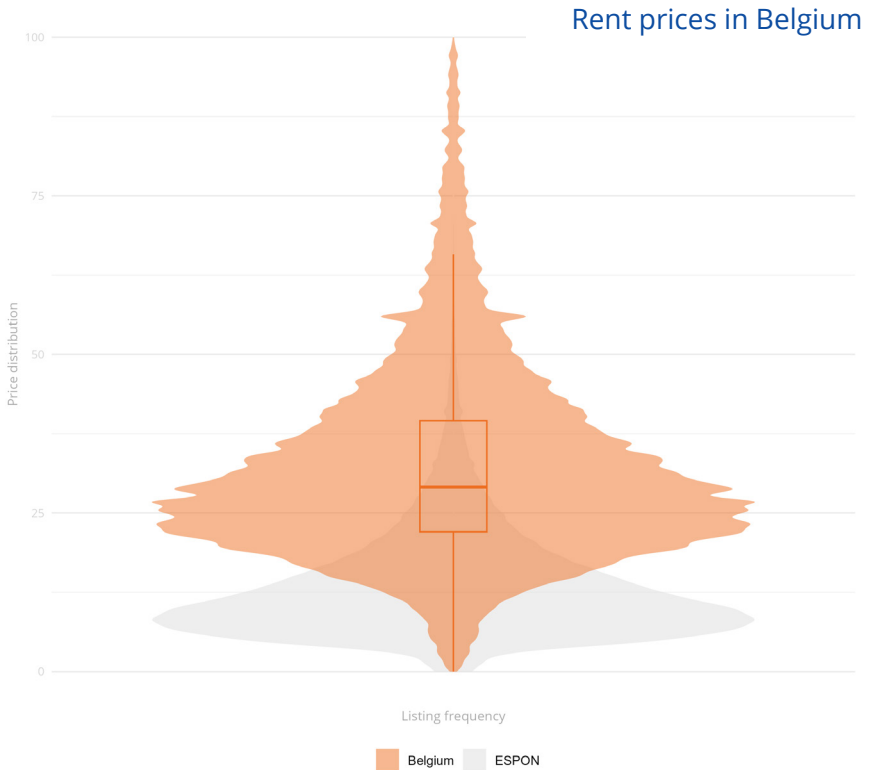




different countries. This means prices for each individual country are transformed to a 0-100 scale instead of showing the absolute values. The same happens for the frequency as the sample for each country differs significantly. On the charts we further included conventional box plots visualizing the median, quartiles and extreme values. Both are plotted against the unrestricted data distribution of the whole ESPON-space as a benchmark.

## 4.1 The Example of Belgium

The depicted example of Belgium shows that there is a much higher market activity of median priced housing units compared to the ESPON-space both in terms of sales as well as rentals. Particularly, there is a severe lack of very affordable rental units at the lower end of the price distribution.

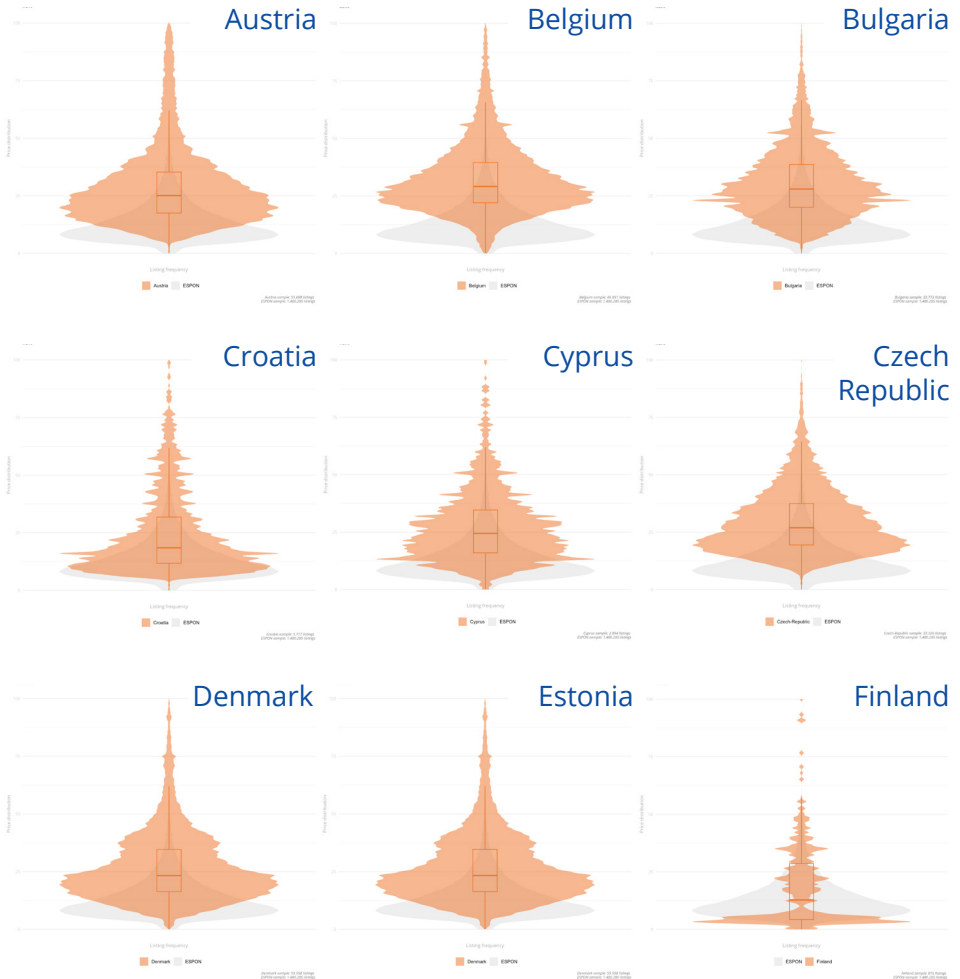


Belgium sample: 46,951 listings  
ESPON sample: 1,480,285 listings

## 4.2 Rent Distributions Across the ESPON Space

The violin plots presented next are based on data scraped March, April and May of 2024. These results are preliminary and will likely change

as additional data is scraped over the course of the project. Whilst not all ESPON countries are currently represented in this publication due to ongoing data processing, figures for all countries will only be available at the end of the House4All project.

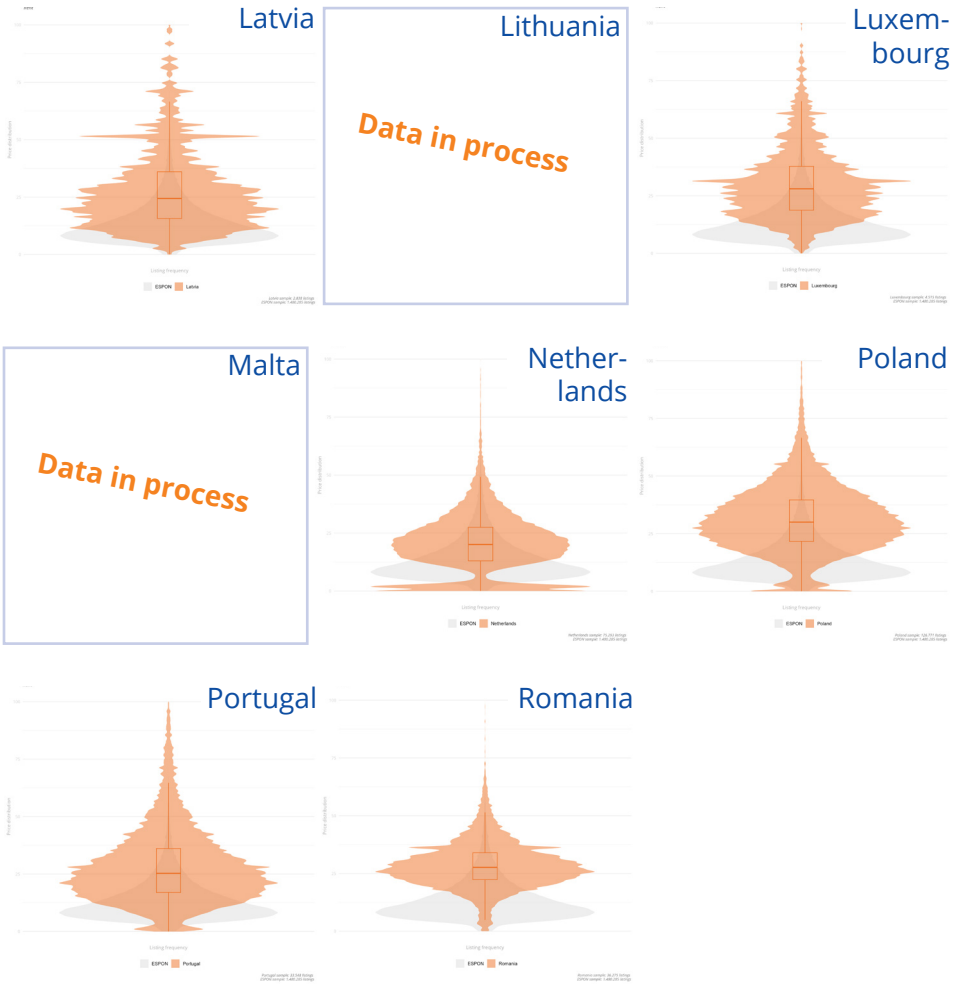




Virtually all countries in the current sample, which are supported by a substantial number of observations, tend towards a right-skewed distribution. Thus, there tend to be strong outliers in the more expensive rental segment and much less so in the cheaper segments.

In most countries the median priced market segment also has the highest market activity.

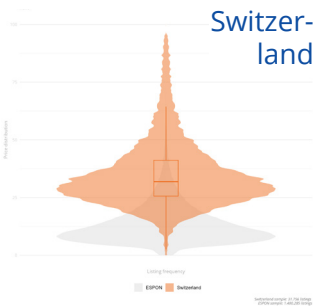
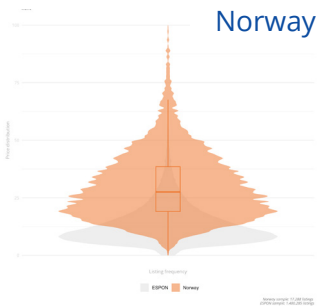
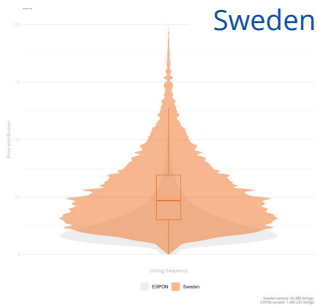
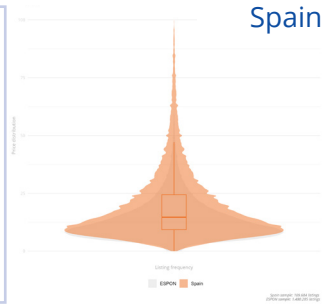
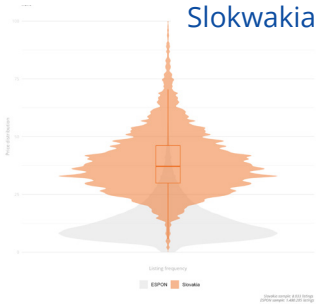
Interestingly, some countries like the Netherlands display a bimodal distribution with an unexpectedly



high concentration of advertisements on the very low end of the rent price distribution. However, several countries including Greece, Italy, Spain and Finland exhibit a single mode at the very low range, suggesting that the rental market in these countries

is mostly providing housing to lower income groups.

The Italian rent price distribution is a surprising match to the ESPON wide distribution. Noteworthy, Switzerland and Romania exhibit a surprising



similarity when it comes to the distribution of adverts across rent price segments. Meanwhile, Poland is the only country which exhibits a close to normal rent price distribution with a high degree of symmetry around the highest density segment.

A similar set of charts with respect to purchase prices is already available but has not been included in this publication.

## KEY FINDINGS

- Webscraping of housing price data allows to map regional housing affordability levels at current market rates.
- Housing affordability outcomes vary significantly both within and between European countries.
- There are substantial regional differences between rental and purchasing housing affordability.
- Scraped housing price data also allows for valuable insights into the market activity of certain price segments.
- Size, Quality and Location have profound implications for the affordability of a housing unit.

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## FURTHER STEPS

- Webscraping will be repeated continuously throughout the project to gain local and reliable data on housing prices and quality.
- Both the price as well as the income data will be corrected to account for differences in the national regulations and taxation.
- Additional indicators with respect to the quality of housing will be derived from the data.
- A Housing Policy Compendium will complement the data analysis by providing a comprehensive and comparable analysis of housing policy and governance across the ESPON space.
- Case studies in multiple European cities will further allow to investigate good practice housing projects and policies in greater depth.



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Disclaimer:

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