European Commission

Who owns the city?

Exploratory research activity on the financialisation of housing in EU cities

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Abstract

This report resumes the main findings from *Citown,* an exploratory research activity on the financialisation of housing in EU cities. The study follows indications that over the past years investors have been increasingly active on urban housing markets, using housing as a vehicle for wealth and investment, rather than considering it a social good. This development is assumed to have a negative effect on housing affordability, especially for the lower and middle classes. This study serves to get a better understanding of housing financialisation through an open–minded and investigative approach, providing stepping-stones for future research. The study includes three main research components (seven city case studies; advanced analyses of Amsterdam housing data; descriptive data on institutional investment in multifamily property) supported by two experts workshops. Most findings confirm the assumption that housing financialisation negatively impacts housing affordability. At the same time, it becomes clear that causality is complex, pointing to the housing system as a complex myriad of factors that either directly or indirectly influence and reinforce each other. The study further indicates that to better understand housing financialisation across EU cities, as well as its consequences, more (harmonised) data are needed.

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Executive summary

This report resumes the main findings from *Citown,* an exploratory research activity on the financialisation of housing in EU cities. Housing financialisation is understood in its most basic terms, referring to the process whereby investors use housing as a vehicle for wealth and investment, considering it a commodity rather than a social good. The study follows indications that over the past years investors have been increasingly active on urban housing market. This development is assumed to have a negative effect on housing affordability, especially for the lower and middle classes.

The study does not depart from strict predefined hypotheses. Instead, it aims to get a greater basic understanding of housing financialisation through an open–minded and investigative approach. As is often the case with exploratory research, it largely builds upon the observation of a small selection of cases, identifying the main concepts, research priorities, data-collection methods, and analytic approaches. It serves to have a better understanding of the financialisation of housing, but it will not provide conclusive results. Rather, it helps to develop ideas or hypotheses, and to improve future research design.

The study consists of several components. First, an expert workshop has been organised to discuss data and methods to study the financialisation of housing. Following this workshop, local experts commissioned by the Joint Research Centre (JRC) conducted case studies on respectively Athens (GR), Barcelona (ES), Berlin (DE), Lisbon (PT), Paris (FR), Porto (PT), and Vilnius (LT).

Second, within the context of this research activity, JRC established a City lab with the City of Amsterdam, whereby JRC performed advanced analyses on Amsterdam housing data, providing insights into the city's price dynamics.

Third, data on institutional investment in multifamily property (2013-2019) are analysed[1] for Amsterdam (NL), Barcelona (ES), Berlin (DE), Madrid (ES), and Stockholm greater area (SE).

Finally, a second two-day expert workshop was organised to discuss the findings from the city studies, as well as to compare

[1] Data are obtained through Savills Consultancy B.V. Amsterdam. Savills estate agents have over 700 offices throughout Europe, Asia Pacific, Africa and the Middle East, providing advice and analysis to clients globally, with specialists in commercial, residential and rural property research.

policy measures that intend to curb or stimulate the effects of housing financialisation.

City studies

All city studies point to housing financialisation during the period under analysis, although in different ways, and in different degrees.

In Athens financialisation largely takes the form of small-scale and mostly non-corporate investors' activity, instead of large-scale institutional investment. This activity is combined with, and substantially depends on, the increased demand for tourist accommodation and residence permits obtained through the Golden Visa programme.

In Barcelona, the weight of transactions by legal entities increased by 19% between 2014 until 2017, and in 2018, the absolute volume of institutional investment in multifamily property (mostly buy-to-let) rose substantially. However, these investments account for a relative small share of private rentals, as traditionally private owners and small investors hold the majority of these apartments. As a consequence of the high returns on tourist accommodation (paired with a strong demand), long-term private rental became increasingly unaffordable.

In 2010/2011, almost 7% of the dwellings in Berlin belong to private companies, such as banks, insurances, and funds. Although the share is limited, it stands for recent changes in ownership patterns and increased investor presence. Institutional investment shares in multifamily property trends a bit downward between 2013-2019, whereas absolute institutional investment volumes peaks in 2013 and 2015, stabilising the years after. While there are signs of financialisation, the city strictly regulates the housing market, minimising (negative) impacts, and maximising control over housing affordability.

In Lisbon and Porto the link between finance and housing appears to have consolidated due to increased international demand for housing, and the strengthened role of financial agents. The housing market largely recovered from the great financial crisis (2008) based on high demand for tourist accommodation and related investments, such as the Golden Visa programme. Tourist accommodation has been especially important for the rehabilitation of the city centres.

In Paris, house prices seem mostly driven by low interest rates and credit distribution that favours the high-income groups. There are little indications for a strong role of institutional investors. It is observed that the rental market is squeezed between self-occupied ownership, and affordable housing for low-income groups. The contraction of a private intermediate rental market is of growing concern, whereas middle-income households experience increasing difficulties to access affordable housing.

In Vilnius, housing development largely halted in 2008-2010 due to the great financial crisis. Subsequent years the city saw increased investment in construction. Particularly the share of luxury apartments increased, with a record number of developments in 2018. Another changing feature is the demand for rent, with investors getting ready to develop this market further. Local investors play an important role in the housing market. In recent years, the construction sector has also been stimulated by foreign investment funds, specifically from the Nordic and Baltic countries.

Overall, all cities studies describe a selection of policies (not exhaustive) related to the current housing market situation. In general, regulation focuses on increased restriction of short-term rental

activity, and support to housing affordability.

Furthermore, several cities seek ways to improve market transparency by means of better and more data collection on transactions, type of sellers/buyers, and rental prices. Especially data on institutional investment are hard to obtain for public authorities.

Amsterdam city lab

In recent In years, the Amsterdam rental market increasingly privatised. At the same time, both sales and rental prices rose significantly. The analyses conducted by JRC show that private individuals systematically pay more per square meter (buy to live) than investors. This fuels the assumption that professional buyers have better deals, based on better access to capital, and possibility to buy in bulk. It is believed that most of the professionally bought property returns to the market as tourist rental, luxury rental, small studio housing for singles, and renovated turn-key apartments for sale.

Institutional investment

Next to the independent city studies, data on institutional investment (2013-2019) indicate that overall the share of institutional investors in multifamily property investment has increased since 2013 (examining Amsterdam, Barcelona, Berlin, Madrid, and Stockholm). It is assumed this follows from available capital of institutional investors, and growing interest due to significant compression of gross initial yields in key European residential markets. This points to the perception that the growth and security of an income stream become stronger. The increase in the share of institutional investment is mainly seen in Amsterdam and Stockholm, and especially since 2016. In general, foreign investment shows largest shares (relative and absolute) around 2016 and 2017 and is most dominant in Barcelona and Madrid. However, in Stockholm a clear peak is visible in 2019, when foreign investment tops domestic investment (56%).

Avenues for future research

Findings from this exploratory research activity suggests that to better understand housing financialisation across EU cities, more data (harmonisation) is needed, as well as a more thorough definition and operationalisation of key concepts, such as financialisation, investors, affordability, and middle class. For example, the city studies point to different forms of financialisation, from buy-to-let by small investors, to

institutional investment by means of real estate shares.

The majority of city studies confirm the assumption that housing financialisation negatively impacts housing and affordability, implying a causal relationship. At the same time causality is complex, with plausible endogeneity issues, interaction effects, and non-linear relationships. Several modelling techniques can be considered to further disentangle (parts of) such dynamics, however, these techniques all require highly specialised research skills and more data.

Finally, the study makes clear that policy plays an important role in the degree to which housing is, or can be, financialised, while the type of policy development and implementation largely depends on institutional factors. Thus, to understand the financialisation of housing, also the governance of housing should be understood (or the lack of it). The assessment of housing financialisation cannot be restricted to city level only, whereas developments at regional, national, EU, and global level have local level impacts.

1. Introduction

This report resumes the main findings from *Citown,* an exploratory research activity on the financialisation of housing in EU cities. Housing financialisation is understood in its most basic terms, referring to the process whereby financial actors use housing as a vehicle for wealth and investment, considering it a commodity rather than a social good[2].

The study follows indications that over the past years (institutional) investors have been increasingly active on urban housing markets within the EU. This development is assumed to negatively impact housing affordability, especially for the lower and middle classes. However, more research is required to get a better understanding of the phenomenon, its dynamics, and possible consequences[3].

This study is exploratory, meaning that it does not depart from strict predefined hypotheses. Instead, it aims to get a greater basic understanding of housing financialisation through an open–minded and investigative approach. As is often the case with exploratory research, it largely builds upon the observation of a small selection of cases, identifying the main concepts, research priorities, data-collection methods, and analytic approaches. It serves to get a sound grasp of the financialisation of housing, but it will not provide conclusive results. Rather, it helps to develop ideas or hypotheses, and to improve future research design, paving the way for further research on aspects of financialisation.

The study consists of several components. First, an expert workshop has been organised to discuss data and methods to study the financialisation of housing. Following this workshop, local experts commissioned by the Joint Research Centre (JRC) conducted seven city studies, focused on Athens (GR), Barcelona (ES), Berlin (DE), Lisbon (PT), Paris (FR), Porto (PT), and Vilnius (LT). The period under analysis spans approximately from 2008 to 2018. Each city study departs from the same basic structure and research questions. At the same time the approach is open and flexible, leaving room to describe context specific situations.

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[2] See also: https://www.ohchr.org/EN/Issues/Housing/Pages/FinancializationHousing.aspx;
as well as the JRC The Future of Cities report, chapter on affordable housing: https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/future-cities

[3] See article by Saskia Sassen (2015) in The Guardian: https://www.theguardian.com/cities/2015/nov/24/who-owns-our-cities-and-why-this-urban-takeover-should-concern-us-all

Furthermore, within the context of this research activity, JRC established a City lab with the City of Amsterdam, exchanging data, knowledge and skills on the topic. More specifically, JRC performed advanced analyses on Amsterdam housing data, providing insights into the city's price dynamics.

In addition to the city studies, data on institutional investment in multifamily property (2013-2019) are analysed[4] for the following cities: Amsterdam (NL), Barcelona (ES), Berlin (DE), Madrid (ES), and Stockholm greater area (SE).

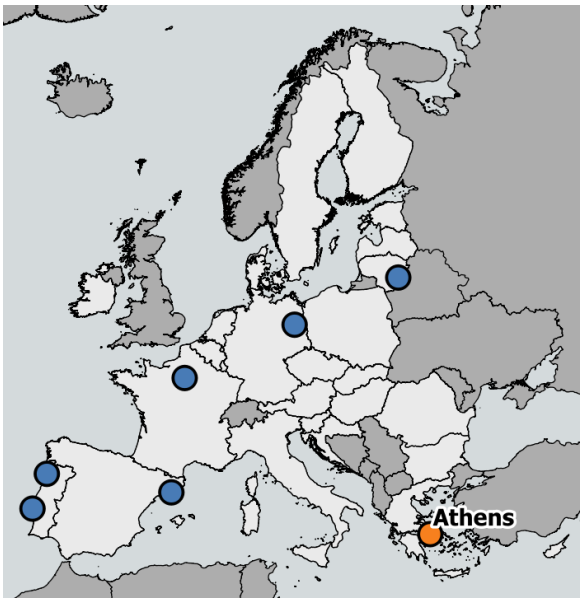
Finally, a second two-day expert workshop was organised to present the findings from the city studies, as well as to discuss and compare policy measures that intend to curb or stimulate the effects of financial actors on the housing market in cities.

This report summarises the main findings from all research components. The contributions from the workshop are mainly processed in relation to avenues for future research.

commercial, residential and rural property research.

2. City Studies

All city studies presented in this chapter are summaries of research conducted by local experts, commissioned by JRC.



2.1 Athens

Based on a study by:
Nikos Karadimitriou
Bartlett School of Planning
UCL

Background

Athens has a high percentage of owner-occupied dwellings compared to other European cities. It is estimated that in 2013 in the conurbation of Athens the percentage of owner-occupied dwellings was 63.7%, whereas private rental tenants were approximately 29%, and 6.5% of dwellers were hosted for free (Emmanuel, 2015).

There is insignificant social rental housing in Greece. The 'ESTIA' refugee housing initiative, set up after 2015, is one of the few exceptions. ESTIA emulates a social rental housing programme, using existing stock (around 4,500 units nationwide of which about half in Athens) for those with urgent housing needs (UNHCR, 2019).

The production of social housing for ownership has historically been a small percentage (approx. 3%) of the overall annual housing production. However, the private market caters for a broad range of social strata. This is in part due to the ample supply of land and to the morphology of the Athenian block of flats which is flexible enough to accommodate socially diverse residents on the same block.

Central Athens lost a significant proportion of its middle and upper class residents from the 1980s onwards to inner and outer suburban areas. These residents however, often retained ownership of their city centre properties. Therefore, many of the middle and upper strata that left, still kept links to the inner city.

In 1991, in metropolitan Athens 22.8% of the dwellings were empty, whereas in some areas of the city centre empty dwellings represented more than 30% or even 40% of the total stock. In 2011, there were 132,000 empty dwellings in the municipality of Athens, and the percentage of empty dwellings in Attica was 29% (ELSTAT, 2019c; Maloutas and Spyrellis, 2016). Many of those areas are hotspots of the current short-term rental boom, which is beginning to lose its momentum. See figure 1.

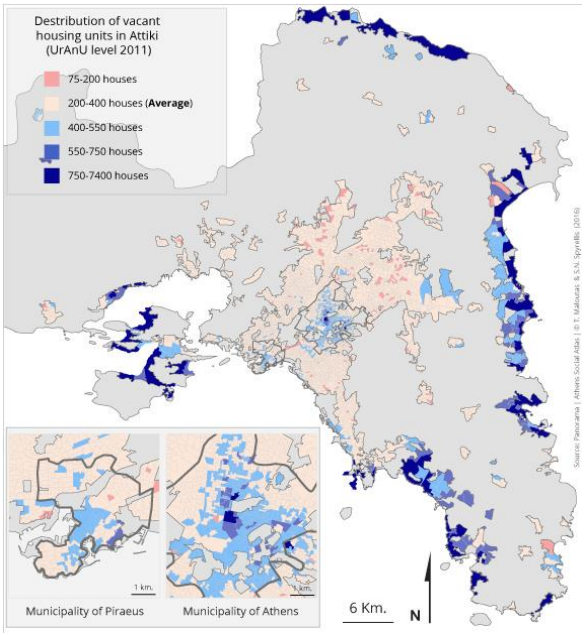


Figure 1. The concentration of empty dwellings in Attica in 2011.
Source: Maloutas and Spyrellis 2016.

The entry of Greece to the Eurozone was followed by a dwelling construction boom that peaked before the planned introduction of Value Added Tax (VAT) in purchases of new built housing (ELSTAT, 2019a, 2019b; Bank of Greece 2019a). The territorialisation of the construction boom was greatly influenced by the transport infrastructure put in place for the 2004 Olympic Games. The subsequent crash in construction after its peak in 2005, coincided with a crash in residential property prices after 2008, following the collapse of internal demand. The entire market froze, as residential sales transactions in Athens dropped by almost 70% between 2010 and 2014 (Bank of Greece, 2019b).

Financialisation

In Athens the residential real estate market is different from other capital cities in Europe, since large institutional investors play a marginal role, unlike in the commercial market (hotels, large retail, logistics and offices) where they are much more active. Notwithstanding the purchases by specialist foreign funds of portfolios of non-performing bank loans, which often have dwellings as collateral, financialisation of housing largely takes the form of small to medium-scale and mostly non-corporate investors' activity. Although auctions of said collateral are picking up pace, their impact on the housing market still remains to be seen. In principle, dwelling auctions should increase supply in

the residential market. Furthermore, auctions of primary residences, if the occur in large numbers, should increase demand for rental housing because owners whose residences are auctioned off will need to look for a place to stay. However, the net effect of both trends should become clearer in years to come.

Small and medium investor activity combines with, and is fuelled by, the demand for short-term rentals for tourists, and residence permits that can be obtained through investing in real estate via the Golden Visa programme[5]. Up to 2019, approximately 58% of the Golden Visa investors were Chinese, 10% Russians, and 9% Turks. Over 62% of those investors (2589 individuals) bought properties in Metropolitan Athens (37% mainly in the city centre plus 25% in the southern coast) whereas an additional 16% (673 individuals) bought properties in Eastern Attica (Enterprise Greece, 2019). Following the recent tourism boom in the city, some specialised agents offer 'investment packages' combining Golden Visas with short-term rental management. In addition, there is a fast-growing industry offering services to landlords who use short-term rental platforms.

The amount invested via the Golden Visa programme from 2013 to 2018 is an approximate 1 billion euro, which corresponds to 41% of the net foreign capital inflow for real estate purchases recorded by the Bank of Greece for that same period (2443 million euro). Most likely, the largest chunk of the remaining net capital inflows in real estate investment in Greece are institutional investments in hospitality, retail, logistics etc. However, gross capital inflows would provide a more

[5] To obtain a residence permit an investor has to invest a minimum of 250,000 euro in real estate. Since April 2019 investors can also obtain a residence permit if they invest 400,000 euro in: companies based in Greece; Real Estate Investment Trusts (REITs) investing in Greece; holding companies and mutual funds investing in Greek companies; Greek government bonds; fixed term savings accounts. The residence permit covers family members and lasts for five years. It is renewable so long as the investment is still implemented or is in operation. There is no minimum stay requirement.

accurate picture on this (see also Laskari, 2018; Rousanoglou 2018).

The amounts shown in figure 2 probably underestimate the total foreign investment in real estate in Greece. There is anecdotal evidence of transactions taking place entirely within foreign banking systems. However, transactions for the Golden Visa programme have to take place within the Greek banking system.

After a period of decline and stagnation that lasted from 2008 to 2016, residential rents started rising from 2016 onwards. In some areas attractive to tourists (close to the centre and/or with good transport links) the increases are spectacular, showing up to 58.5 % growth between 2016 and 2018 (RE/MAX, 2016; 2017; 2018). This provides a strong indication that the demand which drives the rise in rents in Athens is linked to factors like the short-term rentals. The Golden Visa on the other hand, has provided much needed liquidity in what had become a very shallow and depressed market and thus kick-started the normal market function. The rebound in rents and property prices indeed contributed to decreased affordability. However, to begin with, the drop in incomes and the rise in unemployment that resulted from the great financial crisis, strongly affected both renting and buying affordability.

While tourism and the Golden Visa programme have contributed to a revival of the residential property market and a boom in rents, institutional investors are held back by a combination of factors such as macro-economic risk, transaction complexity, and low transparency (Lee, 2019). Although legal fees, transaction

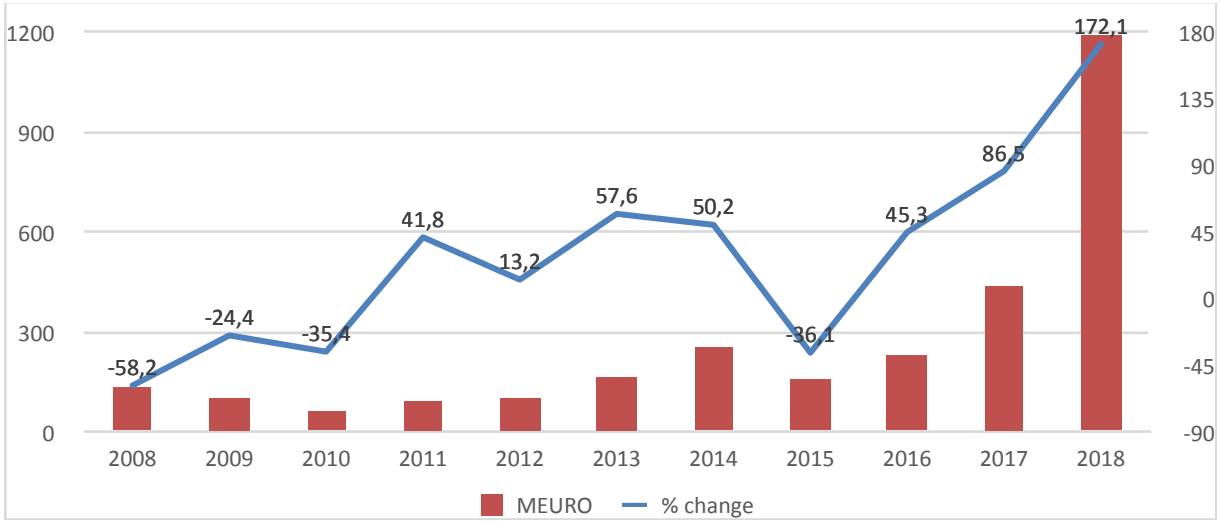


Figure 2. Net foreign capital inflow for real estate purchases in Greece, including hotels, offices, retail (2008-2018)
Source: Bank of Greece, 2019b. Note that MEURO stands for million euro.

taxes (3%) and estate agent fees (2%) are comparatively low in Greece, the overall transaction costs and the uncertainty of property purchases in Greece are relatively high due to a variety of reasons like the amount of paperwork required as well as issues with the ownership titles, documentation and the notary escrow accounts. These matters create uncertainty and prolong the period it takes to complete a transaction. Furthermore, unlike the commercial market (esp. hotels and offices) the fragmented ownership of the dwelling stock makes it unfeasible for institutional investors to create portfolios of suitable size and risk profile.

The vast majority of the dwelling stock comes in the form of flats in apartment blocks. One block of, say, 15 flats may have several owners and more than one owner per flat. A block may of course also have a handful of owners, or even one owner, but this only becomes apparent after a targeted search by a lawyer. At the time of writing, a city centre block of flats of five storeys with ten apartments (around 1200 square meter in total size) in an upmarket area could be bought for 3 to 4 million euro, depending on its condition. For an investment fund to justify its engagement with investments of this type, it would need to acquire several such blocks. This is very difficult to achieve within a reasonable period of time. There is however another business model that appears to be doing very well in Athens: A company called Blueground is leasing renovated apartments from landlords and then assists with designing their interior and introduces them to the executive private rental market (short, medium and long term)[6].

Policy

Policy makers and society have, to a large extent, responded positively to the reversal of the housing market decline. The Golden Visa programme is still a key pillar in the effort to attract foreign investment in the country, actively promoted by government officials in international trade shows across the globe. Governments have reacted to the short-term rental phenomenon in a rather swift but cautious manner, with a view to guaranteeing equal treatment between providers, enforcing tax compliance, and guaranteeing minimum

[6] Blueground is a privately owned startup company, founded in Athens in 2013 by a team of (mostly) Greek entrepreneurs; Blueground Holdings Limited is registered in London, England. It is active in Athens, Istanbul, Dubai and the US (New York, San Francisco, Los Angeles, Boston, Chicago, Washington DC). It has raised over 28 million USD in investment, starting with 7.5 million USD in 2013, raised from angel investors, the National Bank of Greece and various investment firms. In 2017 it raised another 5.8 million USD from VentureFriends, Endeavor Catalyst, Jabbar Internet Group and Kevin Ryan, who also joined its board thereafter. Its target client group is corporate travellers and the bulk of its income comes from deals with corporate clients who use its services to accommodate their globally mobile staff.

quality standards. Significant efforts are made in order to tackle tax evasion and, for example, AirBnB has agreed to pass on to the tax authorities some of the details of listed properties and their owners, in order to facilitate crosschecks for tax purposes. A recent law gives tax authorities the right to force Internet Service Providers to switch off the websites of short-term rental platforms that do not comply with said information provision requirements.

The most significant interest lobbying against the short-term rental sector is the hotel industry. A study commissioned by the Chamber of Hoteliers and conducted by accounting firm Grant-Thornton in 2019, argues that the short-term rental sector (2016-2018) has caused significant tax revenue and job losses. The report claims that for every property entering the sharing economy two properties exit the long-term rental market, and that short term rentals have caused rents to rise by 9.3% from 2016 to 2018 (Grant-Thornton 2019). The subtext is that the hotel industry is more heavily regulated (e.g. employee insurance, health & safety standards etc.) and has a higher cost base as a result, therefore facing unfair competition from short-term rentals. In addition, there is growing concern from civil society about the property price hikes and, mainly, about rent inflation. This is reflected in the media, which report on the difficulty which (often middle-class) tenants face when they try to find apartments in the city centre and thus are forced to move further out.

Finally, property taxes are a deeply politicised issue. The introduction of a significant tax on ownership in 2011, during a time when the residential property market was in a deflationary spiral, caused consternation among those voters whose intergenerational savings strategy has traditionally been to invest in property (i.e. the majority of Greeks and especially the middle class). It would be difficult for a government to put in place regulatory measures (for example a rent freeze) in order to tackle the effects of short-term rentals or the Golden Visa programme on rents and property prices. The focus on tackling tax evasion appears to be the most palatable option. A reflated residential real estate market does not only result in higher tax revenues, but takes some of the pressure off the property-owning classes and can help the banks clear their balance sheets more quickly and with fewer losses.

The private rental tenants and in particular younger generations and foreign migrants (who overwhelmingly use the private rental sector to access housing in Athens) probably have most to lose from the boom in rents and prices. It would however be worthwhile to explore further the effects on the city's residential market of the non-performing bank loan portfolio sales, as well as the impact of the 'ESTIA' programme on the market, in the locations where it operated.

2.3 Barcelona

Based on a study by:
Maite Arrondo Segoiva
Independent housing expert

Background

Ownership is the dominant form of housing, although less in the city of Barcelona than the rest of the metropolitan area (resp. 61.3% and 76.8%). The majority of owners do not have a mortgage. Property prices per square meter increased significantly over the past years: 41.7% between 2014 and 2018.

In 2018, the average rental price per month hit a new historical maximum, making it increasingly difficult to rent a house. A household with an income of 2.5 times the interprofessional minimum salary (€2,146 a month net) can only afford rental housing in five of the 36 municipalities in the metropolitan area (spending less than 30% of their income).

Furthermore, there is a very limited available stock for social housing (less than 2%).

Since 2007, change in rental contract has increasingly been the dominant real estate transaction, as opposed to change in ownership. In 2018, a change in rental contract represented 78% of the total of real estate transactions, opposed to 22% sales. The positive effect of the economic recovery has not resulted in an

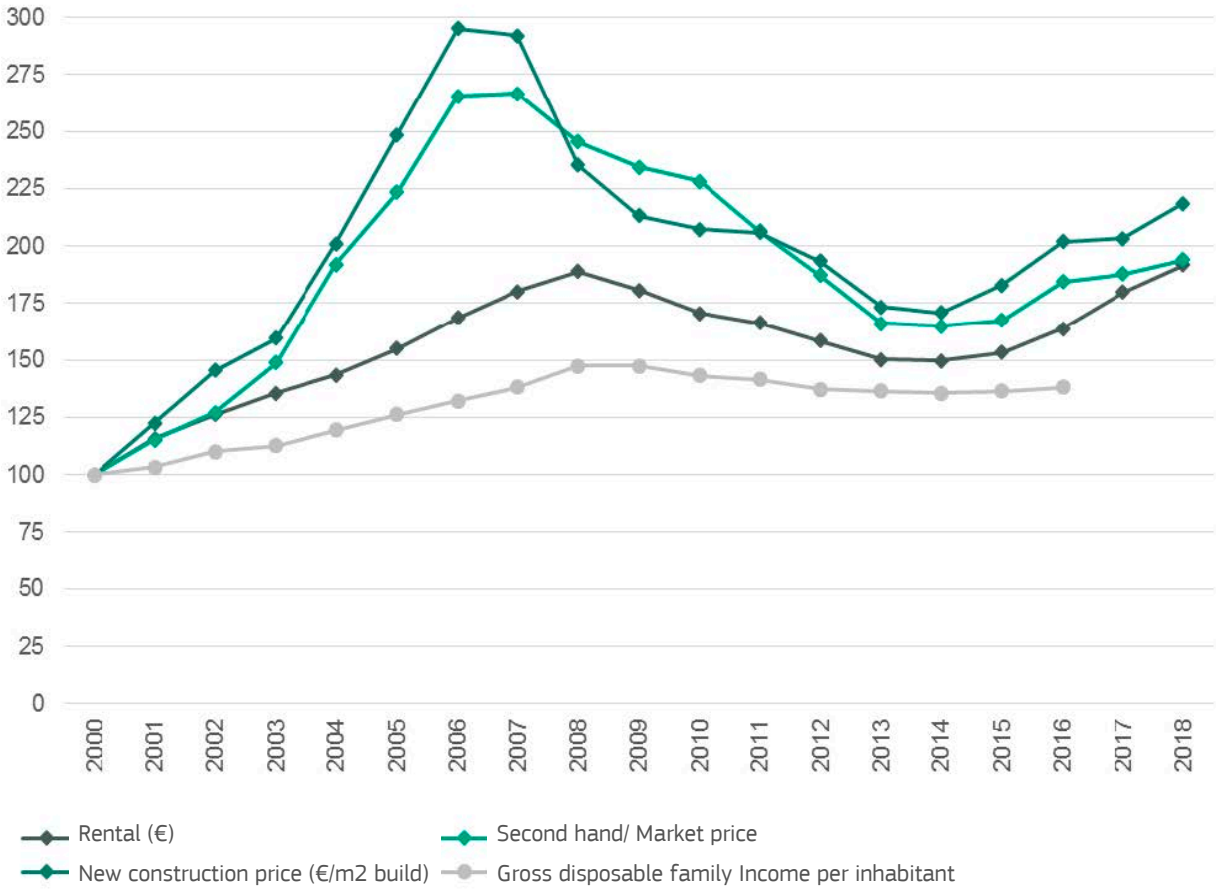


Figure 3. Evolution of the gross family disposable income per inhabitant and of the average prices of housing, 2000-2018, Barcelona (index 100 = year).
Source: Metropolitan Housing Observatory

improvement of access to property - even in a context of historically low interest rates, leaving rent as the only option for more and more households.

After a period where new residential construction has seen historical lows, in recent years there has been a notable recovery in construction activity, although still far from the maximum values of the last real estate boom (1996- 2007).

Figure 3 shows that average house prices increased much faster than income in the years preceding the financial crisis, while income and prices converged again during the crisis. Subsequently, most recent years point to a re-divergence of income and house prices.

Financialisation

Transaction data (2014-2018) show that natural persons with Spanish nationality are the main category of buyers in Barcelona, followed by legal entities, and

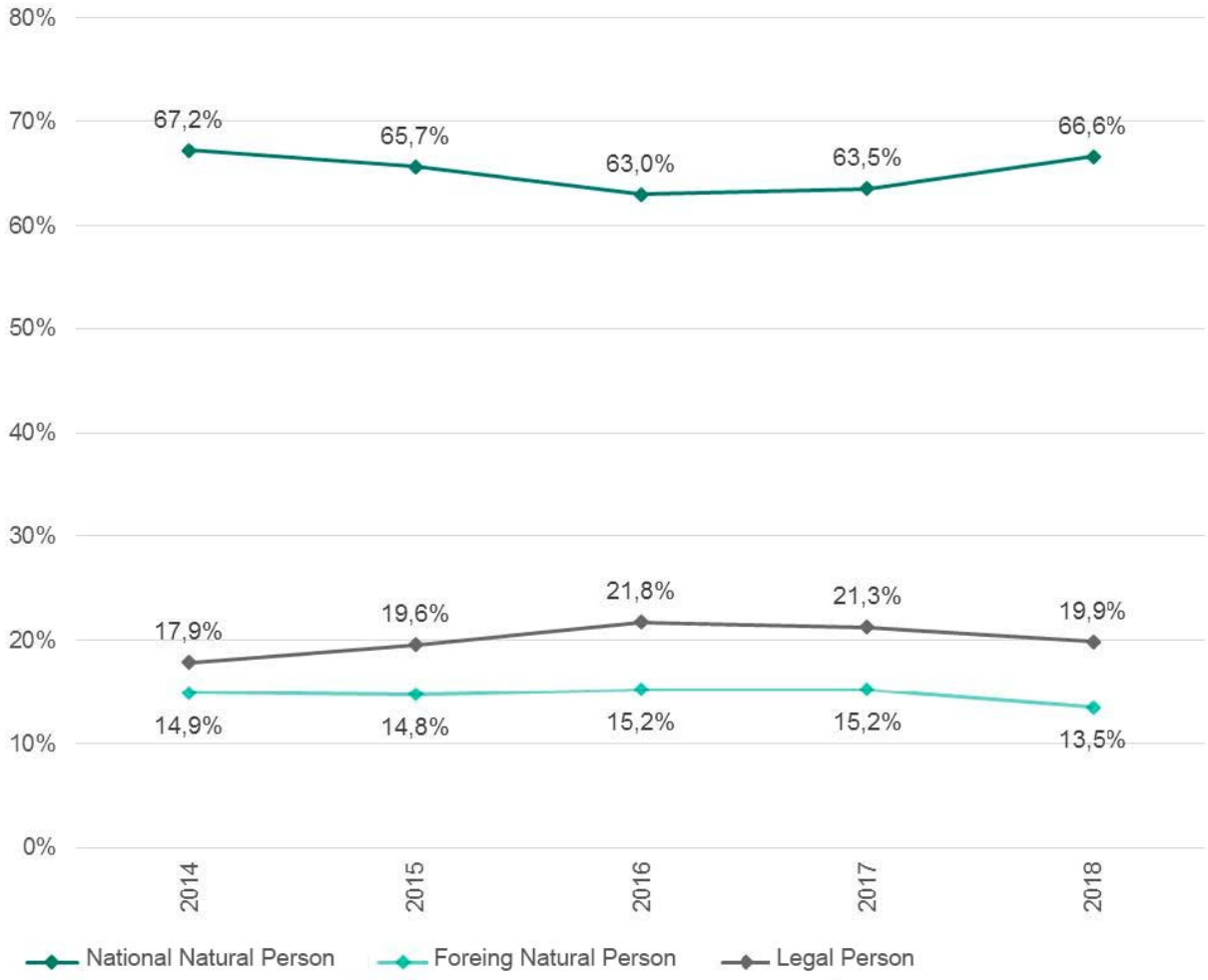


Figure 4. Purchase and sale of homes according to the type of purchaser, Barcelona city, 2014 – 2018.
Source: Urban Habitat Territory Secretariat, Autonomous Community of Catalunya

non-Spanish nationals. In 2014, 67.2% of the purchase and sales transactions involved Spanish nationals, 17.9% concerned legal entities, and 14.9% non-Spanish nationals. See figure 4. In 2016, the share of Spanish nationals decreased to 63%, whereas the share of legal entities rose to 21.8%.

Anonymised data from a database that combines information from the city's cadaster with property tax payments, show that property taxpayers in Barcelona own 1.5 properties on average. The vast majority of owners are natural persons. More specific: 97.1% of the taxpayers are individuals (497,345) that together own 84.6% of the total housing stock (655,300 homes), and 1.3 homes on average. Legal entities represent 2% of the total taxpayers (13,507) and own 10.7% of the homes (82,838), which boils down to 6.1 homes on average per entity. A third group are public entities/administrations, who own 1.6% of the properties (12,018 homes) and 138.1 homes on average. The

rest of the taxpayers (entities without profit-making, religious institutions, communities of goods and owner, etc.), represent a grouped 0.2% of the total, owning 1% of the total housing stock.

- 60% of the owned properties (the first six deciles) belongs to taxpayers who own 1 property
- 10% of the owned properties belong to taxpayers with 2 properties on average
- 10% of the owned properties belongs to taxpayers with 3.5 properties on average
- 10% of the owned properties belongs to taxpayers with 12.5 properties on average
- And 10% of the owned properties belongs to taxpayers with 69.7 properties on average.

Furthermore, from the data it is inferred that:

The last decile (taxpayers with 69.7 properties on average) corresponds to 0.2% of the property tax payers. Disaggregated data show that from these so-called 'large holders' 50.3% are legal entities (average of 74.3 properties), 43.9% private individuals (average of 42.2 properties) and 1% public entities (average 1078.9 properties).

The territorial distribution of properties and taxpayers indicate that legal entities are most active in the central strip of the city, corresponding to the neighborhoods that also experience a high concentration of short-term rental accommodation for tourists. Following that Barcelona has increasingly established itself as major destination for a city break, it is believed that the significant rent increases, have at least partially been driven by the use of housing for tourist accommodation. Since short-term rentals are generally more profitable, prices for long-term rentals go up. In 2018, legal entities owned 24.3% of the total renting stock.

Policy

Barcelona has adopted a right to housing plan (2016-2025) to ensure housing maintains its social function. The plan sets out a strategy to tackle seven major challenges by means of 59 specific initiatives. To regulate tourist activity and the spread of tourist accommodation, the Special Urban Development Plan for Tourist Accommodation (PEUAT) is developed[7]. The PEUAT sets out general conditions to

[7] Also see: https://ajuntament.barcelona.cat/pla-allotjaments-turistics/en/

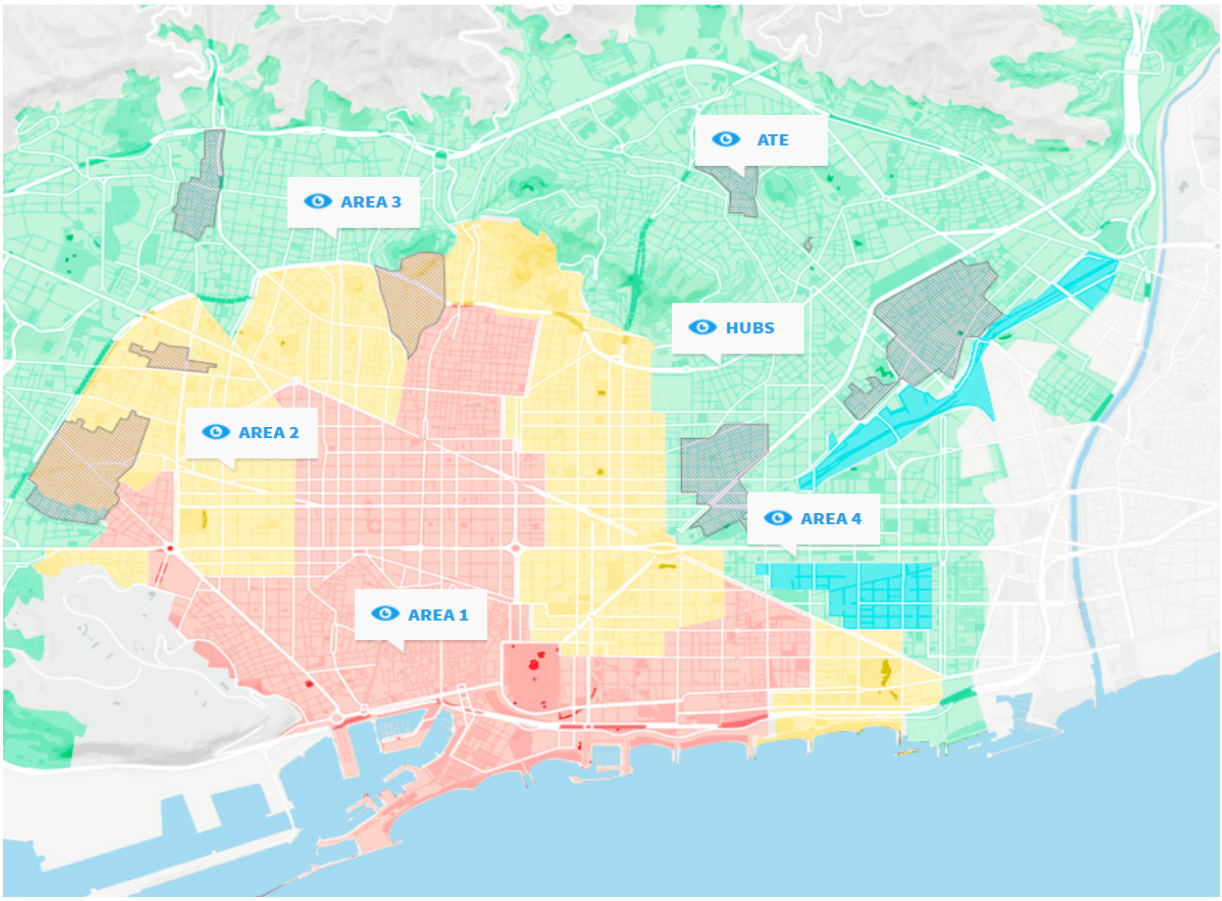


Figure 5. Tourist Accommodation Planning Zones, Barcelona
Source: Department of tourism, Barcelona municipality

regulate tourist accommodation within the context of a sustainable urban model, while guaranteeing fundamental rights and improving the quality of life for city residents. In addition to some general conditions, it defines regulations for specific geographic areas. See figure 5.

AREA 1

Area of negative growth. Over 60% of the total available touristic places are based in this area. A policy of negative growth is pursued. When one establishment ceases its activity, the opening of another one is not allowed. No new housing for tourism may be opened. When an establishment is closed in Area 1, a new establishment may be opened in Area 3, under the conditions determined for that area.

AREA 2

The current number of places and establishments is maintained. Existing establishments cannot expand. When one establishment ceases its activity, another one with the same number of places can open. Criteria of distances and radial density are defined according to the size of the establishments. Accommodation may be regrouped within the same area.

AREA 3

New establishments can open and existing ones may be expanded. Growth will be possible if it does not exceed the maximum density of places, based on the capacity of the area and the current availability of tourist accommodation. Criteria of distances and radial density are defined according to the size of the establishments.

AREA 4

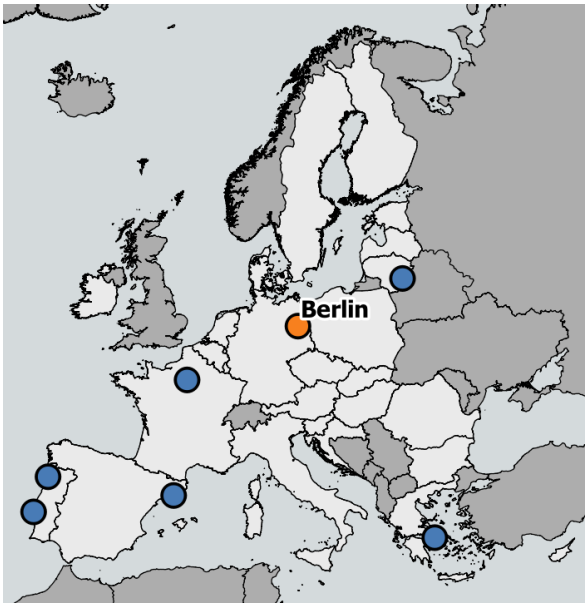
This area type encompasses three big redevelopment zones in the city that have very diverse characteristics and specific regulations.

ATE

Special treatment areas. Due to their specific urban morphology and issues, additional conditions exist in these areas to limit the number of new establishments.

HUBS

Main hubs have specific regulations, within the regulations determined for their areas (2 and 3).



2.3 Berlin

Based on a study by:
André Moschke
Senate Department for Urban Development and Housing, Berlin.

Background

Over the past years Berlin experienced a substantial population growth, corresponding to a stronger demand for housing. Since 2013, Berlin would have needed 20,000 newly constructed flats to match the rising number of households, and although construction has gone up significantly, that number has not been reached to date.

In 2017, around 85% of the total Berlin housing stock is rented, and 15% is owner occupied. Private owners dominate the rental stock (71%), while the rest belongs to municipal housing companies (18%) or cooperatives (11%). Berlin completely owns the municipal housing companies, and they are widely seen as a very important part of the city's housing polices[8]. The main goals for the companies are set in the cooperation agreement 'Affordable rents, new housing and social living room supply'.

More than 40% of the households in Berlin are eligible for living in social housing based on their low incomes.[9] Households that would like to live in a subsidised flat need to have a *Wohnberechtigungsschein* (a proof of entitlement to residence, WBS), which they can apply for at the borough administrations.

Due to the higher demand for flats in Berlin, quoted rents have constantly risen. Between 2011 and 2018 rent prices have

[8] The municipal housing companies are degewo, GESOBAU, Gewobag, HOWOGE, STADT UND LAND and WBM.

[9] The income limits can be determined by each state in Germany: In Berlin the limits are 16,800 euro (single-person household) and 25,200 euro (two-person household) plus 5,740 euro for every additional person belonging to the household and another 700 euro for every child. The mentioned limits are 140% above the federal income limit. They are based on the gross income; employees can be granted a credit of 30% for tax, social security and healthcare payments. There are also WBS income limits of 160% and 180%, depending on the funding model for the funded flats.

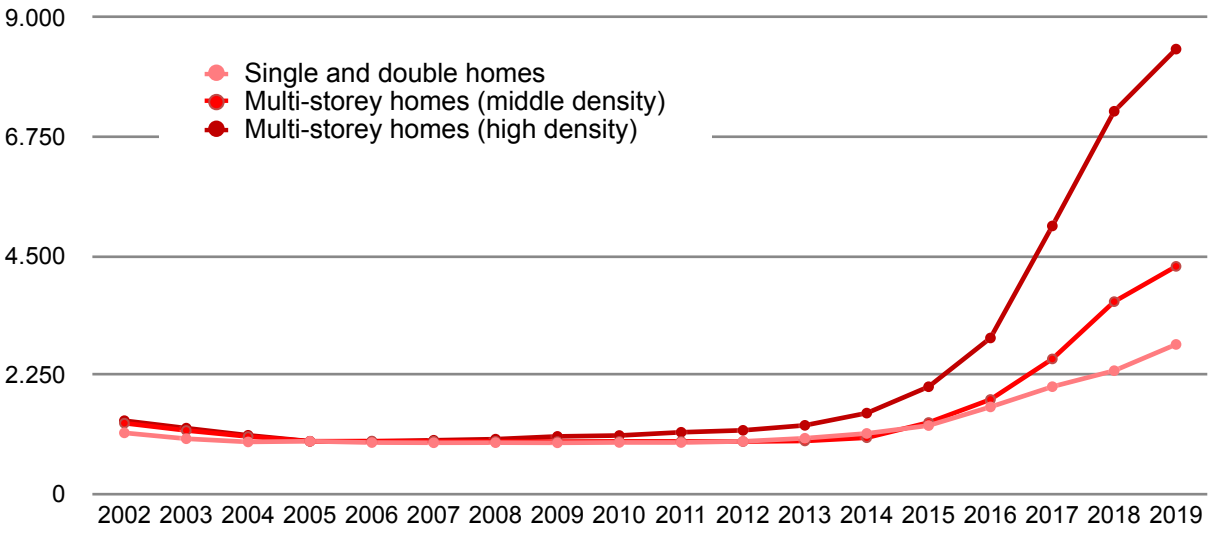


Figure 6. Official Land Valuation (EUR/m²) for undeveloped sites (2005=1,000)

increased by 65%. However, figures for 2018 indicate some kind of stagnation (IBB Housing Market Report 2018: 61). Quoted rents are the highest in Berlin city centre.

Prices for condominiums[10] have also risen significantly. In 2018, prices reached a new peak with €4,368 per square meter (median in the fourth quarter). Compared to the previous year, it increased by 11%. Older apartments are less expensive (€4,098 per square meter) than new dwellings (€5,649 per square meter) (IBB Housing Market Report 2018: 56 ff.).

Especially land value is affected by this development. See figure 6. Recently, land value for undeveloped land for multi-storey buildings saw an increase of more than 50% each year. However, the latest data show a weakening of these massive price dynamics. As price development went along with population development in the past, it will be interesting to see, which effect the estimated smaller growth rates might have on land value in the future (Senate Department for Urban Development and Housing, Real Estate Report 2018/19: 90).

Tenancy law in Germany is federal law and legislation is made or changed by the federal parliament, the German Bundestag. However, as Berlin is one of the 16 German states and also a municipality, its government has a lot more legislative and regulatory power than most other city governments in Germany. It has the competence for additional rent regulation, social housing, and city-wide planning (e.g. Land Utilisation Plan, Housing Development Plan).

[10] A homeowners association usually manages condominiums whereas each unit has a separate owner. This opposed to flats or apartment buildings that typically have one owner, often a corporation. In this case, individual units cannot be bought separately.

Financialisation

Private owners in Berlin are a diverse group with the vast majority of them being private people or shared owner communities. The eleven private owners that each manage a housing stock of at least 3,000 dwellings, have 245,000 apartments in total in Berlin (approximately 15% of the total rental stock). While this share might seem limited, it stands for a change in ownership, and investor presence. Deutsche Wohnen SE (111,500 flats, approximately 7%) and Vonovia SE (42,000 flats, approximately 2.5%) are the two biggest private owners in Berlin, and the two biggest private housing companies in Germany. Both companies are listed on the stock exchange and belong to the 30 biggest and most valuable German companies of the DAX (Deutsche Wohnen replaced Deutsche Lufthansa in June 2020) . Over the years, Deutsche Wohnen and Vonovia managed to build up their housing stock by buying several residential portfolios – which also included apartments formerly owned by municipalities or municipal housing companies.

Berlin also sold a part of its public housing stock. In 2004, due to the financial crisis, the Senate privatised the municipal housing company GSW with its 65,000 flats for 405 million euro to Whitehall Investments Ltd. and subsidiaries of Cerberus Capital Management. The company was later listed on the stock market and in 2013 Deutsche Wohnen bought GWS Immobilien AG, establishing themselves as one of the key players on the local housing market, moving its headquarters from Frankfurt am Main to Berlin in 2017.

Deutsche Wohnen and Vonovia face a rather unfriendly public opinion, which often goes along with criticising a shareholder value mentality, implying that both companies care less about their tenants and the housing stock than about the interests of their shareholders. To secure more affordable living space, Berlin bought back around 6,000 of the earlier privatised flats from a Luxembourg real estate company called Ado properties. This purchase was made at a considerable loss (average price per square meter), compared to the city's selling price in 2004.

The ownership of both companies shows how interesting the German housing market has become for Anglo-Saxon funds or other international financial investors; among the biggest shareholders of Deutsche Wohnen are Massachusetts Financial Services Corporation (MFS) (United States), BlackRock, Inc. (United

States), and Norges Bank (Norway) (Deutsche Wohnen SE, Geschäftsbericht 2018: 8). Blackrock also holds large shares of Vonovia, as does the Government Pension Fund of Norway (Vonovia SE, Geschäftsbericht 2018: 54).

Private money is also invested directly into residential buildings all over the city. One example is the 'Mittenmang' project close to the central station, which is developed by a local company that sold the entire project. While the subsidised part (158 dwellings) went to a municipal housing company, and 344 dwellings are sold to private households, the majority of dwellings are sold to a Swiss family office[11].

However, there is no valid data on how big the influence of the financial market really is. The only information available to the Senate Department for Urban Development and Housing comes from the 2010/11 population census (Amt für Statistik Berlin-Brandenburg) which gives further information about private ownership in Berlin:

Overall	1,868,905
Shared owner communities	381,259
Private people	544,318
Cooperatives	182,744
Municipality or municipal housing companies	198,657
Private housing companies	341,038
Other private companies	128,964
Federal Government	72,529
Non-profit organisations (e.g. churches)	19,396

As mentioned above, private housing companies can be, and in Berlin definitely are, influenced by the global financial market due to their shareholder structure. But the number of 128,964 flats owned by other private companies – which means that these companies are not housing companies – is interesting too. In the census report those companies are referred to as banks, insurances and funds. There will be a new census in 2022[12] further detailing the development of the financialisation of housing.

Policy

The German Bundestag has implemented some additional regulation that individual

[11] Family offices are private centralised wealth management firms that serve ultra-high net worth investors.

[12] The 2010/11 census was the first census after the German reunification.

states can make use of in order to further reduce the increase of rents. For example, the federal tenancy law sets a general limit for the increase of rents, but since May 2013 rents in the city state of Berlin have been further restricted to a maximum increase by 15% within three years.

Besides, in 2015 the Bundestag passed legislation for the so-called "rental brake" (*Mietpreisbremse*) in tense housing markets. Berlin was the first state to make use of this instrument and the rental brake applies to (almost) all rental agreements. Rental contracts that have been signed since June 2015 (rent-controlled flats excluded) now need to observe that the rent must not be higher than 10% above the comparable rent, and that if the previous tenant paid a higher rent, that rent can be agreed on with the new tenant once again[13].

Despite these measures, rents have continued to increase[14], which has led to the idea of freezing rents. With the Rent Freeze Act the Senate plans a five-year-long moratorium of rent prices. The law came into force in the first half of 2020, and contains that around 1.5 million homes in the capital will have their rents frozen for five years and capped at €9.80 per square meter maximum, depending on the age, equipment and locations of the dwellings. From 2022 on rent prices can be increased up to 1.3% each year as compensation for inflation. In case of economic problems due to this regulation, owners can make use of a hardship clause, which will allow them to file an application to increase the rents. Newly constructed flats (since 2014) are excluded from this regulation. The social housing stock with its rent-controlled flats is not affected either.

Moreover, the Federal Building Code gives municipalities the opportunity to define areas of social conservation. The main goal of this instrument is to preserve the composition of the population in neighbourhoods affected by gentrification. In these areas landlords will need extra permissions, if they intend to change the construction or the use of residential buildings. In Berlin, the 12 boroughs can make use of this regulation. It is also the boroughs that have a right of first refusal, if a residential building is sold in these areas. At the moment there are 61 social conservation areas in Berlin with more

[13] Newly constructed flats (since October 2014) that are let for the first time and flats that are let for the first time after modernization are excluded from this regulation.Tenants need to complain about violations against the rental brake regulation in order to be able to ask for the return of over-payed rents (only the amount of money above the allowed rent price).

[14] The Federal Government plans to extend the Rental Brake for another five years. A law has already been launched.

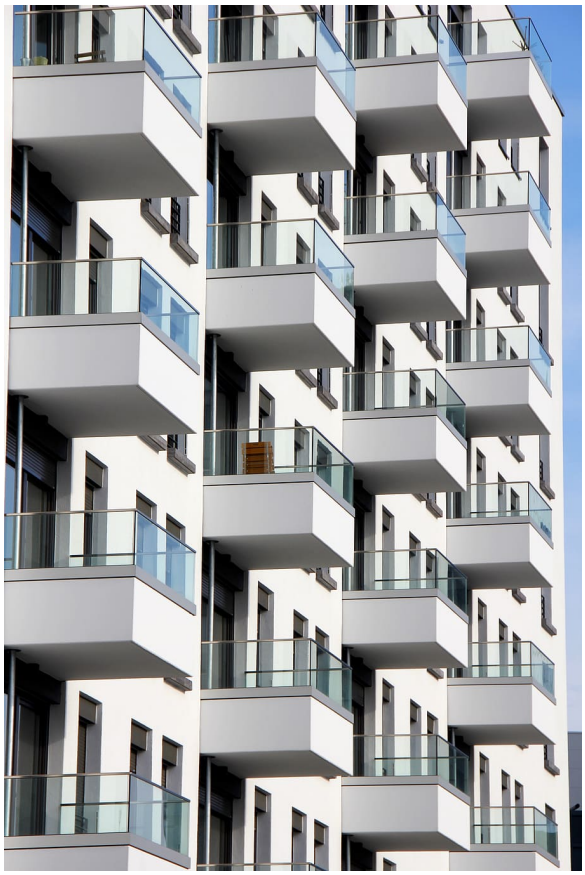
being added almost every month. Moreover, since March 2015 the termination of rental contracts in all social conservation areas needs an extra permission from the borough.

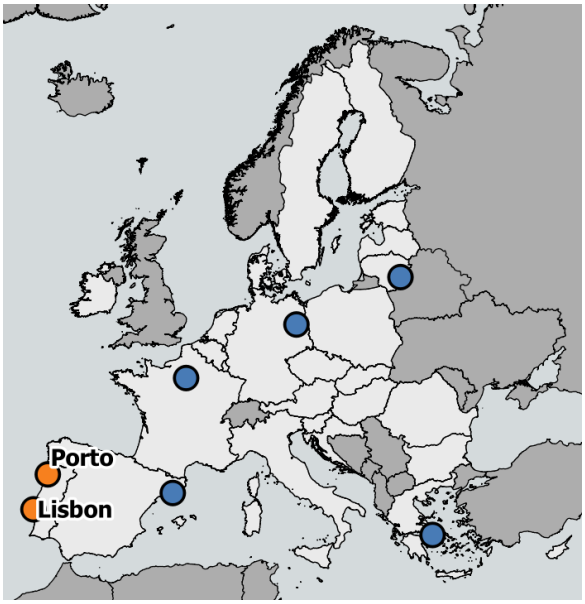
With regards to the increased use of holiday flats in the city, the Senate took action in 2014 with the Misappropriation Act to ensure that the housing stock in Berlin is used for permanent living only. The law was sharpened in 2018. Vacancies (longer than three months), demolition, conversion, and short-term use are prohibited. If any other use than housing is demanded by owners, they can file an application with the responsible borough. The Senate has also launched a website, on which people can report violations against this law.

Finally, after a decade of low permission and completion numbers due to lack of demand, Berlin has seen a remarkable increase in construction activities. However, it seems as if the development of rising building permissions has already come to an end, while the number of completions is still rising steadily. The annual demand of 20,000 new dwellings has not been matched yet though. This is why the Senate takes further actions to stimulate and support the construction of new apartments in Berlin. Two of the most important parts of the plan are the estimation of the future housing demand,

and the localisation of future focal areas for housing. The plan is to develop 16 new housing quarters with an overall potential of 45,000 dwellings in the coming years. One of the most interesting projects will be the conversion of the current Tegel Airport into a mixed-use city quarter. Siemens AG also plans a big investment on the company's own sites in Siemensstadt. There will be further private developments, as Berlin does not own the land of all of the new city quarters. Most construction activities to match the housing demand of almost 200,000 dwellings until 2030, will have to take place on smaller sites though.

For many years municipal land was awarded to the highest bidder and also sold to private investors. With the land value skyrocketing this policy has been regarded as counterproductive for the development of affordable housing on (former) public land. The Senate decided to re-orientate the real estate policies of Berlin based on transparent procedures and focusing more on matters of urban development. Therefore it was necessary to get an overview of the existing municipal land and so every single site shall be clustered systematically by the boroughs and the Senate departments. The cluster process for potential housing sites was supposed to be finished by the end of last year. Land can be given directly to the six municipal housing companies that are completely owned by Berlin. To others, land is no longer being sold. They can participate in concept competitions and apply for a leasehold.





2.4 Lisbon and Porto

Based on a study by:
Teresa Sá Marques
Fátima Loureiro de Matos
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Diogo Ribeiro
Márcio Ferreira
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Faculty of Arts and Humanities of University of Porto

Background

Lisbon and Porto are the centres of the two largest metropolitan areas in Portugal (respectively 2.8 and 1.7 million inhabitants). Together, they account for 52% of the country's GDP. Due to historical, social, economic, and policy reasons, Lisbon's and Porto's housing stock is characterised by high rates of home ownership, a significant number of vacant homes, and a strong role of family in housing provision.

In the two metropolitan areas, respectively 67%, and 68% of the families are homeowners. For the municipality of Lisbon this is 52%, and for the municipality of Porto it is 51%. Housing appreciation improved the financial situation of homeowners, but it brought some potential negative repercussions for tenants.

In 2011, for the two metropolitan areas, around 10% of housing is of seasonal or for secondary use, and 12% vacant. For the Lisbon municipality 10% is seasonal or for secondary use, and 16% vacant. For Porto municipality the values are respectively 9%, and 19%.

In the old centres of Porto and Lisbon, population densities are low and the resident population is largely composed of tenants with below average incomes. However, both cities experienced a revival of their downtown areas since the mid-2000s, strongly stimulated by tourism.

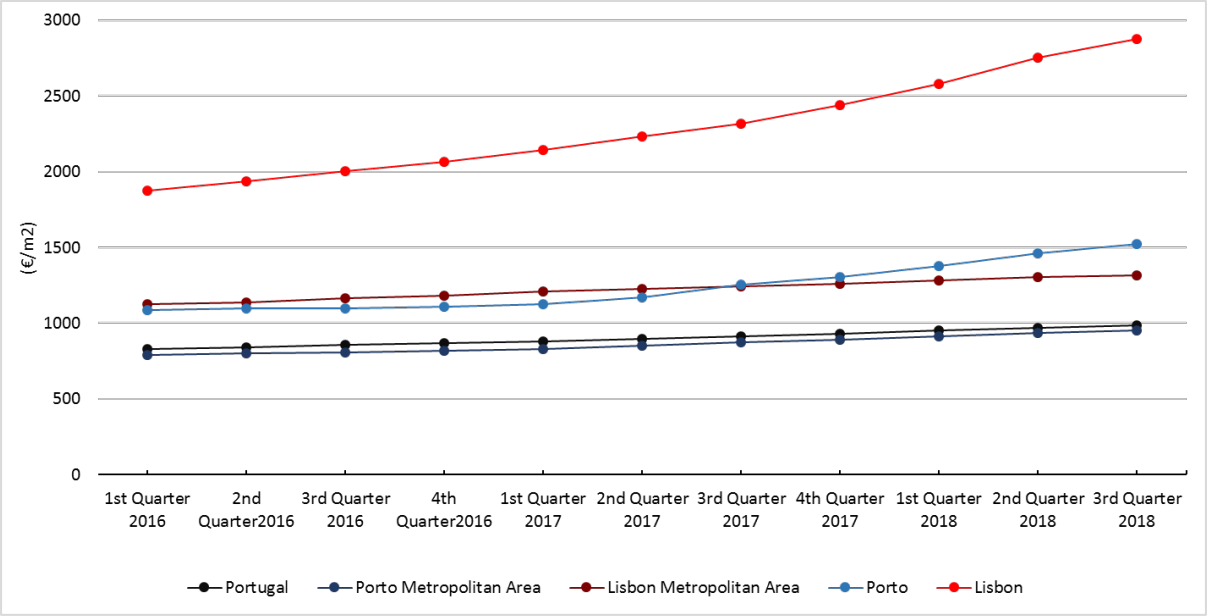


Figure 7. Median selling price per square meter Source: INE, House prices at the local level 2016-2018 (elaborated by authors)

Source: INE, House prices at the local level - 2016-2018 (elaborated by authors)

House prices per square meter steadily increased in Portugal between 2016 and 2018. See figure 7. The metropolitan area of Porto closely follows the national trend, while Lisbon metropolitan also follows the same trend, but consistently with higher values. Especially from mid-2017 onwards, both cities diverge from the national and metropolitan trends, with Lisbon city significantly widening the gap. Early 2016, the median square meter price was around €1,900, and late 2018 it was around €2,900.

In contrast to an increasing volume of purchases and sales, the number of new rental agreements declined between 2013 and 2018. The number of dwellings available for rent has decreased to about half in Lisbon (from around 2,500 in 2013 to a little over 1,000 in 2018), and in Porto it decreased from close to 1,000 in 2013 to a couple of hundred in 2018. The metropolitan areas, particularly Lisbon's, had declines that are more significant. The conversions of apartments to tourist accommodations, as well as the increase in housing purchases are the most probable causes.

From mid-2017 to mid-2018, national average rent values per square meter increased from €4.39 to €4.80. In Porto, rent per square meter increased from €6.77 to €7.85. In Lisbon, it increased from €9.62 to €11.16, twice the national average.

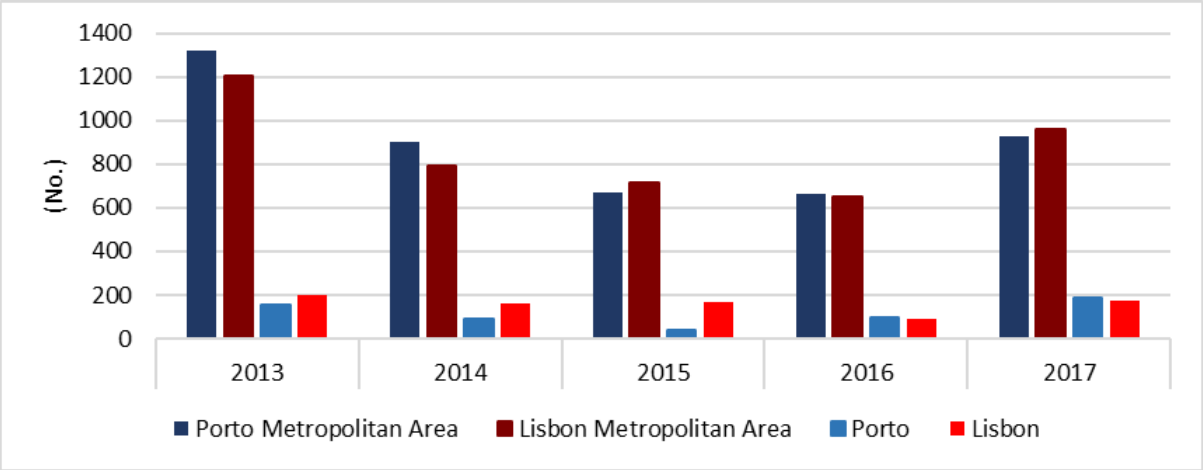


Figure 8. Completed buildings for family residence

Source: INE, Statistics on completed construction works completed, 2013-2017 (elaborated by authors)

Financialisation

The external attractiveness of Portugal changed the residential markets of Lisbon and Porto in significant ways. Real estate property prices increased, capital gains increased, and real estate investment returns have skyrocketed. This led to a socio-spatial segmentation, as prices in the most attractive areas rose to unprecedented levels, particularly in Lisbon. The middle class, receiving salaries consistent with national averages, does not have access to this.

After 2013, in the aftermath of the economic crisis, the real estate sector showed signs of slowing down. As figure 8 demonstrates, from 2013 to 2015/2016, the number of completed family housing decreased, both in the metropolitan areas of Lisbon and Porto, and the cities themselves. However, in 2017 (last available data) the numbers increased. It is noted that overall most buildings are completed in the metropolitan areas, illustrating that in the city municipalities the focus is more on rehabilitation, rather than new construction. Even so, from 2016 to 2017, new construction has almost doubled, from 100 to 200 completed buildings.

Until 2014, new construction slightly favoured studios (no separate bedroom), and one or three bedroom apartments. However, after 2015 there is a clear preference for smaller apartments. In the period 2015-2017, Porto shows a significant increase in the licensing of studio or one bedroom apartments, as well as a sharp increase in two bedroom apartments in 2016. Lisbon shows a significant increase somewhat later in time, with numbers tripling between 2016 and

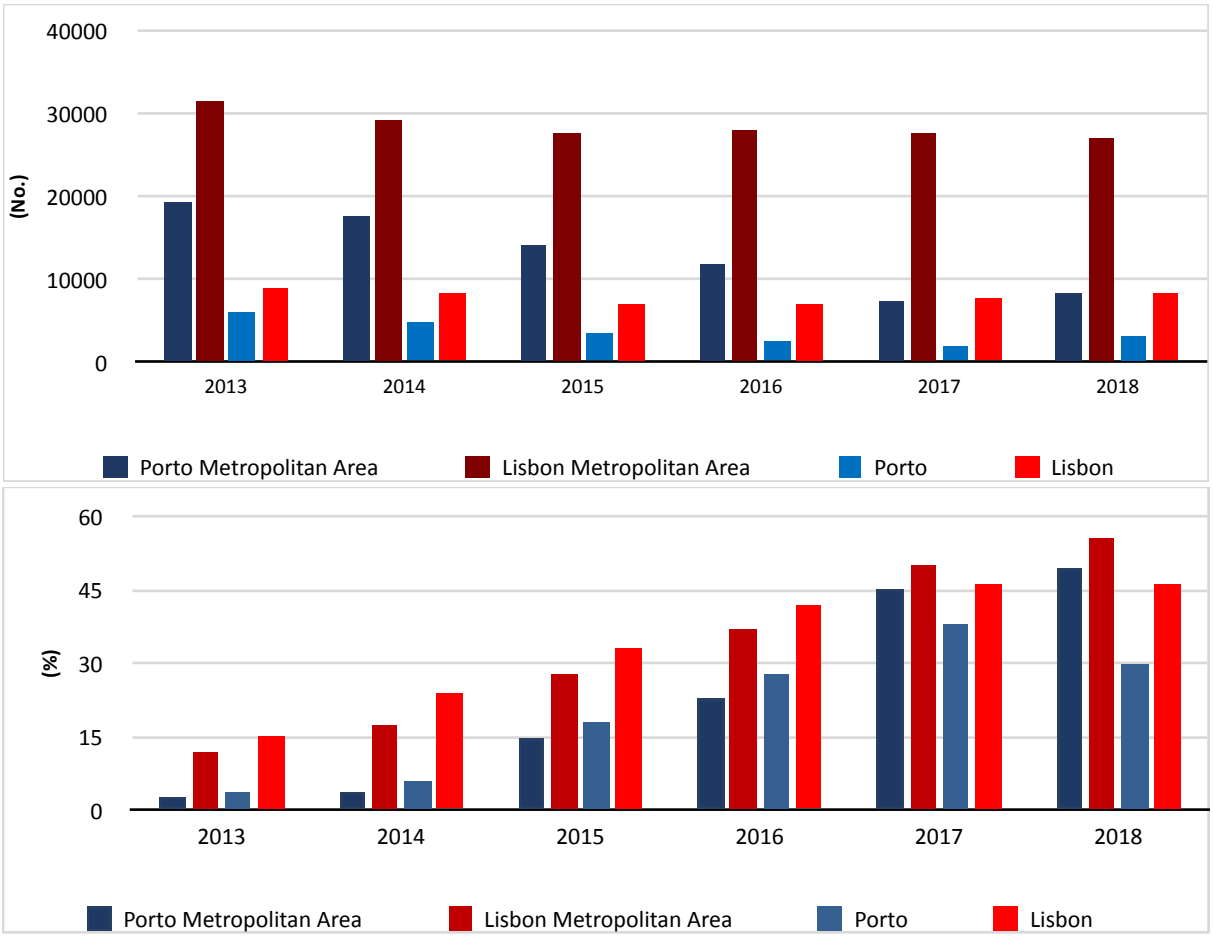


Figure 9. Number of housing for sale (top) and percentage of offered housing sold (bottom)
Source: Confidencial Imobiliário, 2013-2018 (elaborated by authors)

2017 for studio, one and three bedroom apartments.

The number of housing for sale has been more or less steady since 2013, showing slight decreases. See figure 9. However, the number of dwellings that have actually been sold, has substantially increased over time. In 2013, around 15% of the offered dwellings were sold in Lisbon, and around 5% in Porto. Five years later, numbers reached 50% in Lisbon, and 30% in Porto. The market has maintained a steady supply, while demand increased considerably.

Asking prices have also risen considerably, both in Lisbon (since 2013) and Porto (since 2017). In 2013, the average asking price per square meter was around €2,500, while in 2018 it has almost doubled to €4,500. In Porto, the square meter price has increased from around €1,750 in 2013, to close to €3,000 in 2018. The actual transaction price is lower; over €3,000 per square meter in Lisbon and over €1,500 in Porto in 2018. This

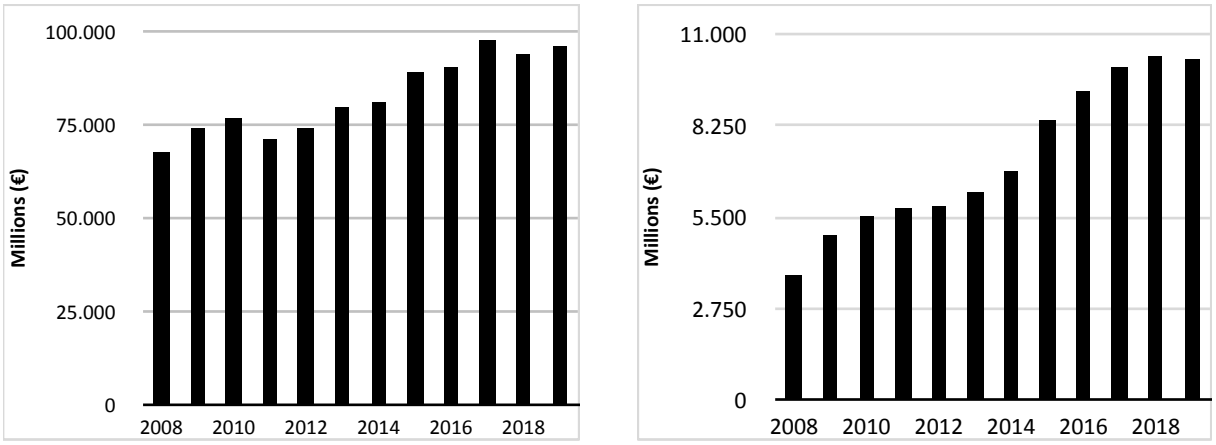


Figure 10. Foreign direct investment (FDI), total (left) and in real estate activities and construction (right) (millions of euros) for Portugal

Source: Banco de Portugal (elaborated by authors)

discrepancy is believed to reflect the Portuguese custom of negotiations between buyers and sellers before actual purchase. However, the divide between asking price and transaction price has increased over the years (it stands at around 22% in Lisbon and 30% in Porto), implying real estate might be overvaluated to capitalise on (foreign) investors with a greater investing capacity.

Figure 10 shows an upward trend for total Foreign Direct Investment (FDI) in Portugal between 2008 and 2019. FDI in real estate activities and construction shows a stronger growth over time: increasing from 3,738 million euro in 2008 to 10,307 million euro in 2018 (for 2019 no complete data).

Some recent studies have shed light on the amount of foreign investment in Porto's residential market. According to a study conducted by two real estate companies, the percentage of foreign investment is 16%, and associated to 247 real estate development projects (amounting to 2,871 apartments) these companies promoted between 2016 and 2019. Close to 85% is invested in the city centre, where sale prices per square meter are 38% above the city's average. According to InvestPorto (a municipal company that aims to attract and support investment in the city) for major real estate projects in Porto, about 55% of the investment is foreign.

Figure 11 shows the number of licensed dwellings in new construction destined for family housing between 2013 and 2017, categorised by type of investor. Private

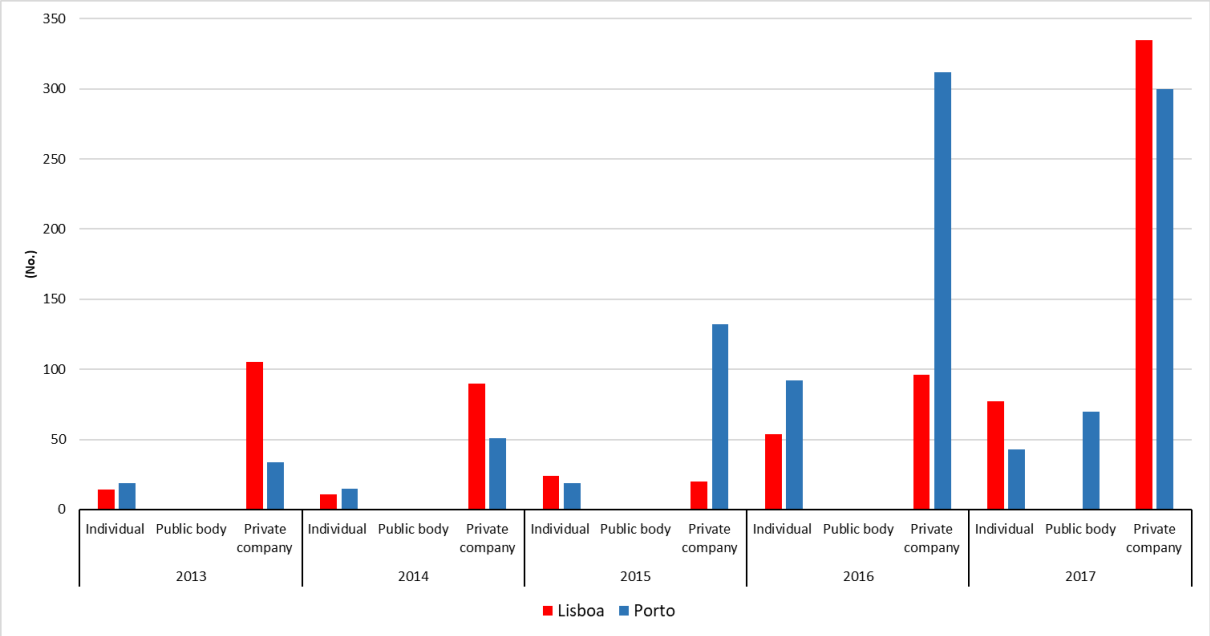


Figure 11. Licensed dwellings in new constructions for family housing, by investing entity

Source: INE, Projects of building constructions and demolitions survey (2013-2017) (elaborated by authors).

companies dominate the family housing construction market, followed by private individuals, and public bodies. In Porto, licensed dwellings by private companies significantly increased from less than 50 in 2013, to over 300, in 2017. The peak year was 2016 for both private companies and private individuals, while investment by public bodies peaks in 2017. In 2017, Lisbon also sees a significant increase in investment from private companies, as well as a continuous rise in investment from private individuals.

Associated, real estate investment funds (which exist since 1985) have shown a significant growth in Portugal. The Portuguese Securities and Exchange Commission (CMVM) authorises and regulates these types of funds, while a more favorable tax regime has instigated their profitability. Mortgage securitisation[15] reached a peak of 65 billion euro in 2011. However, the crisis and regulatory changes caused credit securitisation to plummet (Santos, 2019).

Furthermore, Real Estate Investment Trusts (known in Portugal as SIGI - *Sociedades de Investimento e Gestão Imobiliária*) have emerged in recent years. Like real estate investment funds and mortgage securitisation, SIGI allows transforming a fixed asset into a tradable asset, enabling

[15] Mortgage securitisation concerns the practice of pooling together different mortgages (debt instruments) and selling them as bonds to investors. A bond compiled in this way is referred to as a Mortgage Backed Security (MBS). Holders of MBSs are entitled to receive principal and interest payments. Footnote added by JRC.

any external agent to obtain ownership. While it is still too early to determine how exactly SIGI will affect the housing market, the emergence of companies that specialise in real estate speculation, can be considered part of a continuing process of expanding financial capital in housing (Santos, 2019).

In Portugal, the Golden Visa program exists since 2012. It allows foreign citizens, outside the European Union, to obtain a residence permit, and consequently open access to the Schengen space, in exchange for business or real estate investment in Portugal. Portuguese law states that applicants should stay in the national territory seven consecutive days a year, or 14 non consecutive days. This has made the Portuguese program very attractive, but also a source of debate, as most investors have no desire to live in the country.

The program permits two types of investment. The first is housing acquisition of a value equal to, or higher than €500,000. The second is acquisition of real estate constructed at least 30 years ago or located in areas of urban regeneration, to be rehabilitated for €350,000 or more. The program has enlarged foreign investment in the Portuguese housing market, as well as significantly contributed to the rehabilitation of the housing stock, particularly in Porto and Lisbon. It has also stimulated the housing market, with the consequence that promoters, seizing the opportunity, strongly increased house prices.

The Immigration and Borders Service of Portugal (SEF) states that 5,553 Golden Visas have already been granted; 9% in 2013; 27% in 2014; 14% in 2015; 25% in 2016, and again 25% in 2017. In 2017, total investment in real estate derived from the Golden Visas reached almost 750 million euro. Since 2012, total investment has been 3.5 billion euro (SEF, 2012-2017). According to SEF, investors are mainly from China, Brazil, South Africa, Turkey, and Russia. However, the origin of foreign investment remains varied, with Lisbon welcoming investors from 80 different nationalities.

Tourism

While Lisbon's downtown area was partially run-down at the turn of the millennium, today it is bustling with activity, attracting a large number of tourists. In 2017, according to the Global Destination Cities Index, Lisbon was the second European city, after Bucharest, with the fastest increase in tourism, having a yearly growth rate of

11% since 2009. The International Congress & Convention Association states Lisbon is the sixth most sought-after city worldwide to host major international events.

About 20 years ago, Porto was also a city with numerous challenges, including a growing resident exodus to suburban localities, and a considerable number of derelict and empty buildings, particularly in the downtown area. However, its tourism sector increased significantly over the past decade, changing urban dynamics. In 2017, the city won the European Best Travel destination Award, and from 2005 to 2015, the number of hotel guests per year increased 10.8% on average, reaching 1.5 million in total (with each guest averaging a two-night stay). The number of hotels increased 150% in the same period, and since 2008, almost 3,000 tourist accommodations have been licensed (Marques, 2018).

AirBnB had a relative slow entry in the Portuguese market. In the early 2010s, there were less than 100 annual listings in Lisbon, and less than 50 in Porto. In 2013, Lisbon held 1,000 listings on the platform. For Porto, this happened in 2015. In 2018, Lisbon counted around 17,500 listings, and Porto around 8,000. Furthermore, around 71% of the hosts in Lisbon, and 72% of the hosts in Porto present multiple listings (www.airdna.co), which may point to running a business. Overall, private individuals and companies both promote about half of the total listings in the cities. In the metropolitan areas, private

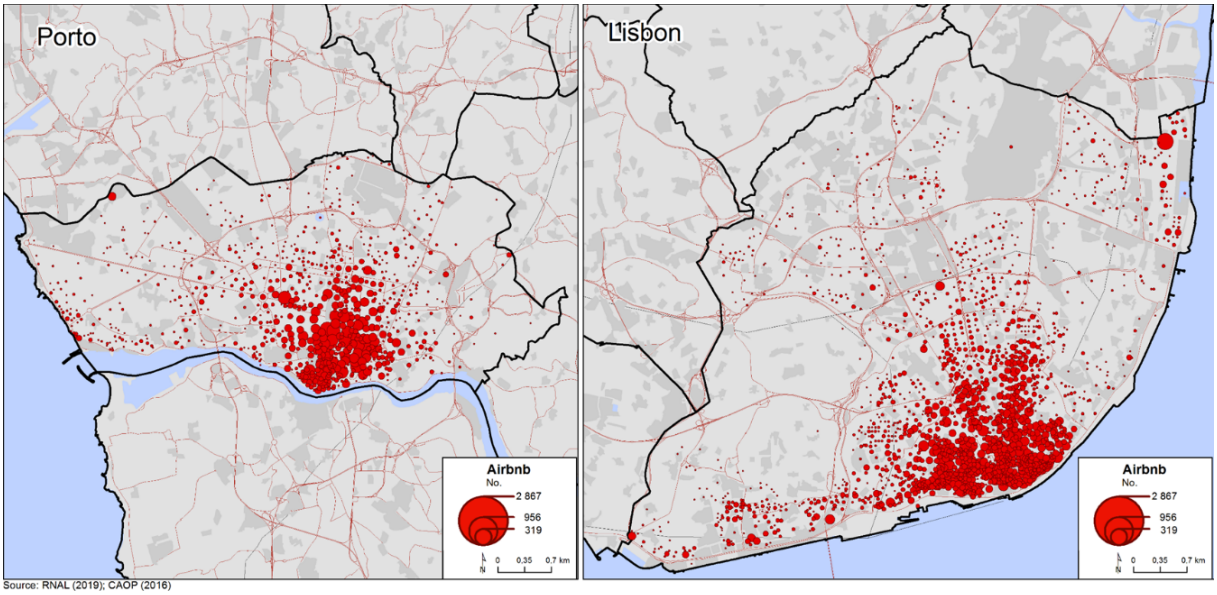


Figure 12. AirBnB location in Porto and Lisbon

Source: Turismo de Portugal – RNAL, February 2019 (elaborated by authors)

individuals host the slight majority of listings (56% in Lisbon, and 53% in Porto). Figure 12 shows the location of AirBnB listings in Lisbon and Porto. In Porto approximately 75% of local accommodations are concentrated in the city's downtown area, in a relatively small radius of 3 kilometers. Another major hub is west of this area, in the Boavista neighborhood. The eastern part of the city does not possess a significant number of accommodations.

Regarding type of accommodation, there is a concentration of entire apartments or single-family dwellings in the historical centre areas of both cities. Rooms (private or shared) are more prominent outside city centres. Besides these being the areas most attractive to tourist, this prevalence is likely to correspond to real estate investment in the rehabilitation and requalification of city centres. According to Inside Airbnb, the rate of occupancy in Porto is around 34.6%, corresponding to 126 nights a year, and in Lisbon this is 32.2%, corresponding to 118 nights per year. Lisbon has kept a steady rise in the number of guests, much due to the international events it hosts. In Porto, where tourist accommodation has been more relevant than in Lisbon for the rehabilitation the city centre, the seasonality is much more felt.

Figure 13 maps the average sales price per square meter in both Porto (left) and Lisbon (right) per district. It shows that the highest average selling prices in Porto are close to €4,000 and located in the downtown area, as well as to the west, by the sea. The northern and eastern areas of

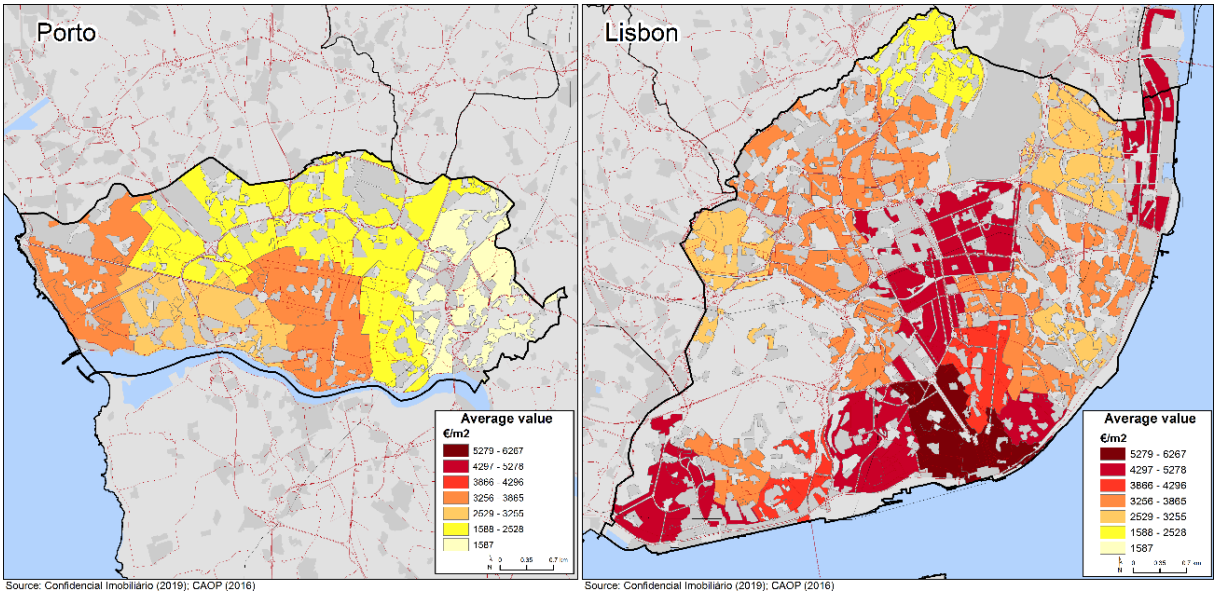


Figure 13 Average value of housing sales in euros, per square meter in Porto (right) and Lisbon (left), by district.
Source: Confidencial Imobiliário. Data for the third quarter of 2018 (elaborated by authors)

the city shows lower averages. In Lisbon, average selling prices are close to €6,000 per square meter in the downtown area, with other areas around the city displaying average values around €4,000 to €5,000. The lowest average selling prices of the city are to the northeast. There is a clearer separation of areas by price in Porto than in Lisbon.

Figure 14 shows the association between the average sales prices per square meter and the presence of Airbnb. A simple correlation between the two variables shows r-square values higher than 0.95 for Lisbon, Porto, and the metropolitan area of Lisbon, and 0.75 for the metropolitan area of Porto, pointing to significant positive correlation. No causal inference can be drawn based on this, but the association raises interesting questions. More sophisticated analyses could explore the relationship further, taking into account other variables over time (e.g. mortgage interest rates, disposable income, housing supply and demand, consumer confidence, Golden Visa program etc.), as well as examining the dynamics and/or direction of the assumed effect(s).

Policy

In 2018, the most recent revision of Portugal's National Programme for Spatial Planning Policies (PNPOT), stressed that insufficient access to (affordable) housing, and housing deficiencies persist. The lack of access to housing is considered one of the 18 major problems in the country. Following, the development of an integrated housing policy is one of the key measures proposed in the PNPOT Plan of Action (Measure D2.2).

A number of instruments have been created to support housing rehabilitation and affordability, addressing housing stock degradation and the lack of housing for rent. Short-term residential housing supply has also been progressively regulated since

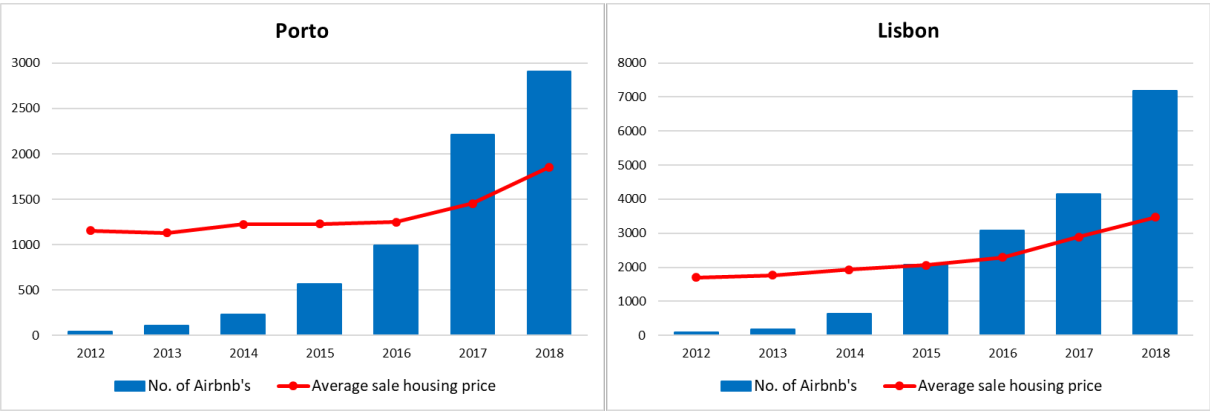


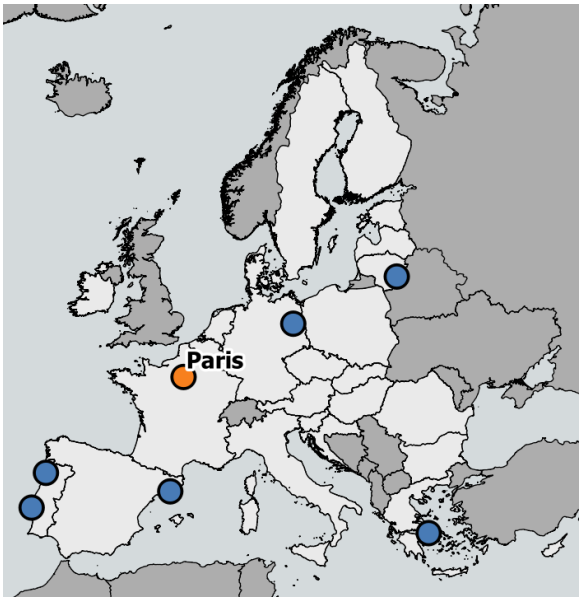
Figure 14. Number of Airbnb's and average sale house prices in Porto and Lisbon

Source: Turismo de Portugal – RNAL; and Confidencial Imobiliário (elaborated by authors)

2014, in response to strong pressures on housing market prices and resident evictions.

Overall, current measures seem particularly unable to provide affordable accommodation for the younger population, as well as for the middle class, whereas housing needs do not match income. The combination of demand and foreign investment has put an external pressure on the housing market, which is related to a hike in sales and lease prices, both in Lisbon and Porto (although it also led to rehabilitation). There is not an adequate and affordable rental market for the local middle class, and both the public rental market and public policies in support of the younger population, and disadvantaged households appear insufficient.

Finally, it has not been possible to determine the full extent of the financialisation of housing, as there is no available information on external investors, due to bank and tax secrecy. Most investments are linked to real estate funds, or operated through national companies, and investments cannot be easily assessed. This information is also not available at municipal level. In recent years, the National Institute of Statistics has been producing new information, but only about house prices.



2.5 Paris

Based on a study by:
Pierre Madec
Xavier Timbeau
Sciences Po, Paris

Background

The city of Paris consists of a relative small territory (105 km², and 81.2 km² without rivers and parks) and is more than ten times smaller than London (1,572 km²). However, Paris plus inner suburbs (735 km²) approximates the size of Berlin (892 km²), and the urban unit of Paris is much larger (2,720 km²)16. See figure 15.

In 2015, 10.6 million people lived in the urban unit of Paris. The 5 million housing stock included 4.5 million principal residences, 175,000 second homes, and 325,000 vacant dwellings. The share of vacant dwellings is highest in Paris city (9.2%), against 5.6% for bordering municipalities, and 4.8% for the rest of the urban unit.

Of the main residences, 2 million are owner occupied, and 2.5 million are rented. More than half of the rentals are in the private sector, and somewhat less than half are social housing. The share of rentals and especially social housing is above national average.

Double residencies[17] are significantly increasing in Paris; more than 415,000 Parisians (19%) share their time between two dwellings compared to 14% of Ile de France residents (INSEE).

For many years, relative proportions between Paris and other parts of France

[16] An urban unit is defined as a municipality or a group of municipalities that includes a continuously built up zone (no cut of more than 200 meters between two buildings) and at least 2,000 inhabitants. The Paris urban unit is spread over eight departments. The concept is different from 'urban area' (area of influence, based on commuting flows) and from other administrative subdivisions: the Ile de France Region is larger, and the Grand Paris is much smaller.

[17] Double residency concerns anyone occupying a second home, even in a temporary way. A student living part time where he/she is studying and part time at its parents' home is the archetype of such double residency. Pensioners who divide time between main residence and second home is another case.

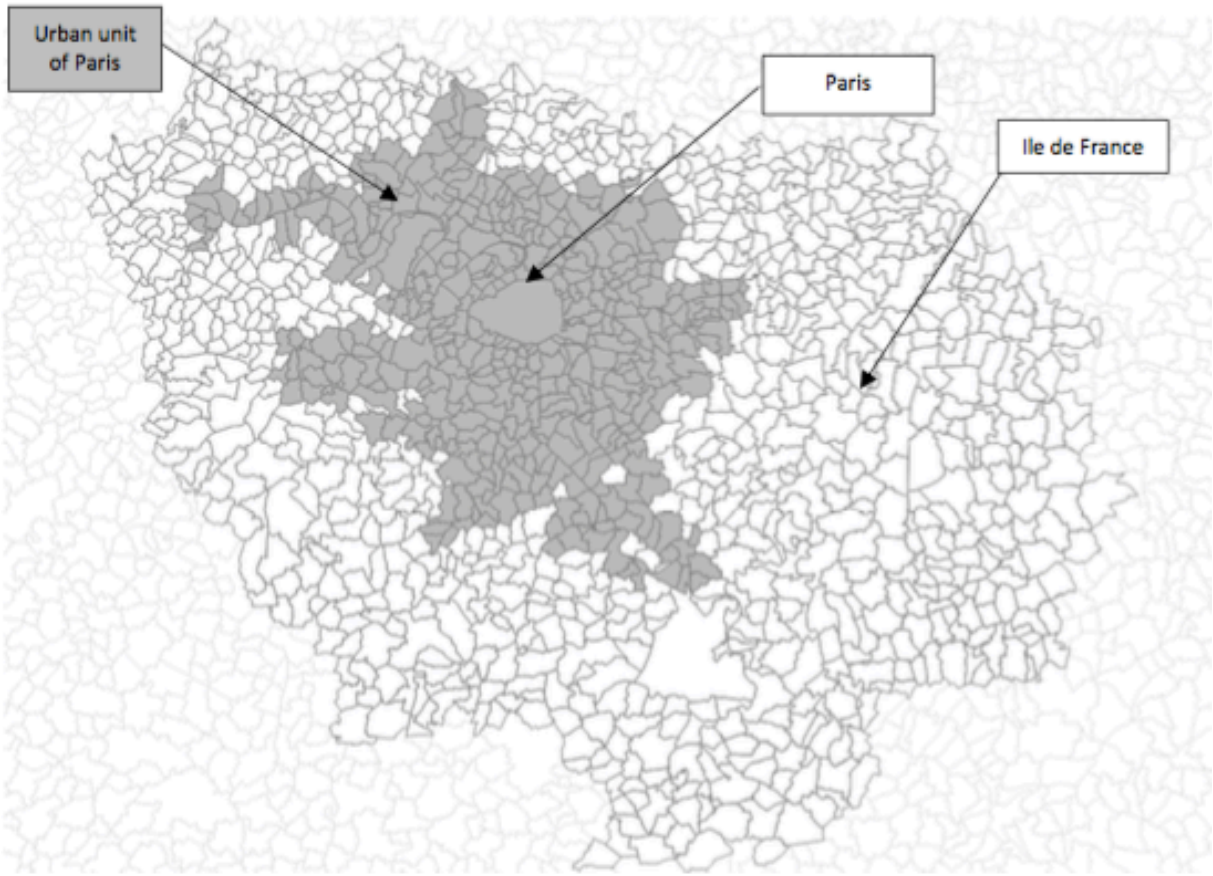


Figure 15. Paris, urban unit of Paris, and Ile de France.
Source: INSEE and IGN

have been stable, whereas house prices were structurally more expensive in Paris (by a factor 2). Only recently, Paris started to diverge much faster. Figure 16 shows a significant divide between central and non-central areas.

As the rent formation regulation implies, rent prices evolve in line with consumer prices. A reference index, based on inflation excluding tobacco and rents, is used for existing lease. For new leases, the owner has more freedom to determine the rent. For example, in inner Paris, the rent for new leases is 35% higher than the average rent for tenants occupying the same place since 10 years or more.

Rent in the urban unit of Paris is €100 per month higher than in other large French cities. The average rent paid by the poorest households is lower than the rents paid by the richest households, but rent per square meter differences show that lower rents are due to smaller surfaces. The poorest 10% of tenants spend 2.9% of their income on housing per square meter in the urban unit of Paris, whereas the richest 10% spend 0.4% per square meter.

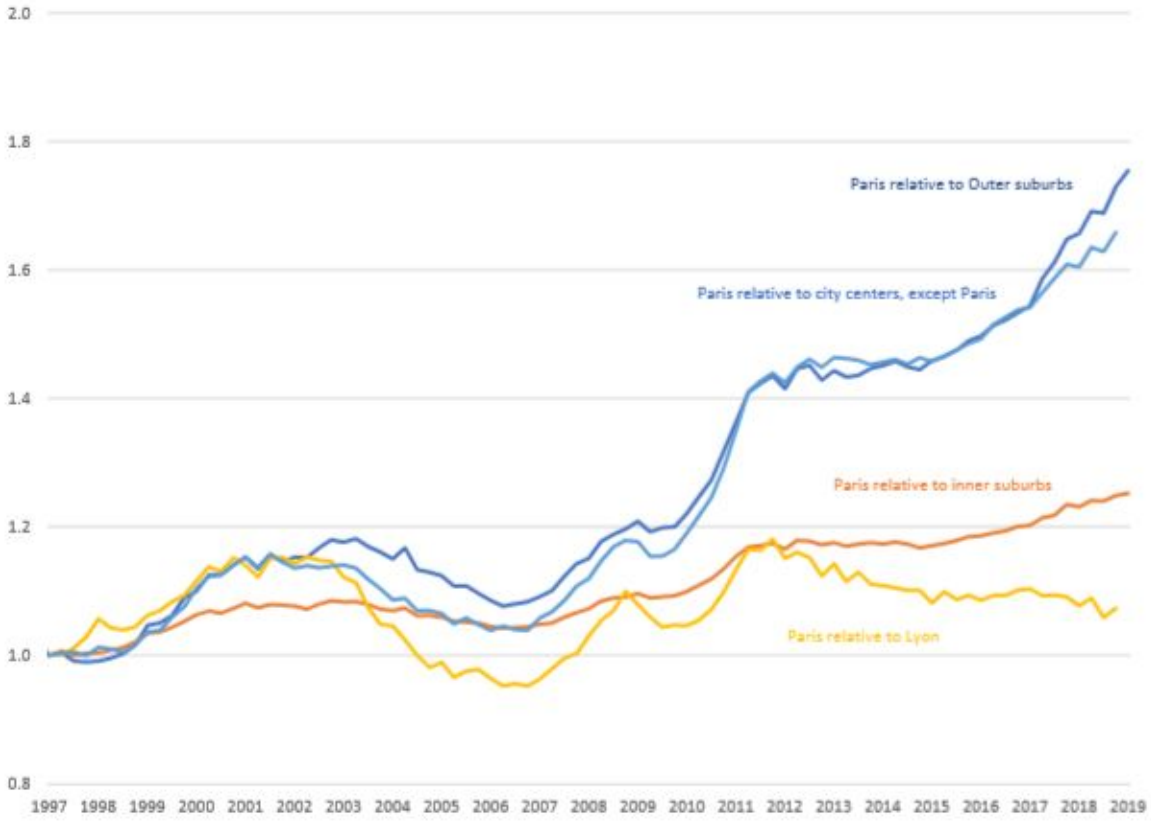


Figure 16: Relative evolution of house prices, Paris, inner, outer, and the rest of France, 1997-2017
Source: INSEE, indices de prix de límmobilier, authors' calculations

The urban unit of Paris displays a significant share of social housing compared to other major French cities (24% against 16.5% for the urban unit of Marseille or 19% for that of Lyon). These dwellings are largely concentrated: In 40% of the neighbourhoods of the urban unit of Paris, the share of social housing is less than 10%. In contrast, in 10% of neighbourhoods this share exceeds 70%.

Average prices in Paris are well over €10,000 per square meter peaking to €14,000 on the left bank of river Seine. That is nearly three times the highest prices in Lyon (per m^2). Prices per square meter display a spatially concentrated pattern, being higher near the centre and lower at the farthest suburbs.

In the urban unit of Paris, property taxes are largely disconnected from income and property prices. For example, property in Paris city centre is on average taxed lower than property in the suburbs. This follows from the fact that tax rates in Paris are among the lowest in France. Furthermore, in the Paris urban unit, the property tax rate varies from 4% to 56%.

The private rental market is largely squeezed between increased self occupied

ownership, and in some places the development of social housing. Because home-ownership is also limited by house prices and bank lending practice, which tends to exclude low- and middle income households, middle income households experience more and more difficulties to access housing in the centre of Paris.

Financialisation

High and dynamic house prices, new possibilities for temporary rental, low interest rates, and lack of high yield assets have assumed to divert huge financial flows on local real estate markets. However, no massive foreign or financial investment is present in the French housing market up to the year 2017. Figure 17 shows that the financial sector owns an approximate 1%. Only recently, the financial and non financial business sectors have slightly increased their share, but at the margin. From an aggregated point of view, the French housing market is characterised by a low share of institutional actors. Households remain the main owner of residential property, with an average share over the period under consideration of more than 82%. The share of the public sector has remained stable around 1.4% of total assets. It is hard to attribute the recent evolution of house prices to non-household actors.

Nonetheless, there are weak signs that point to a renewed interest of professional investors for the real estate market of Paris. Also, it is plausible that rapid shifts in

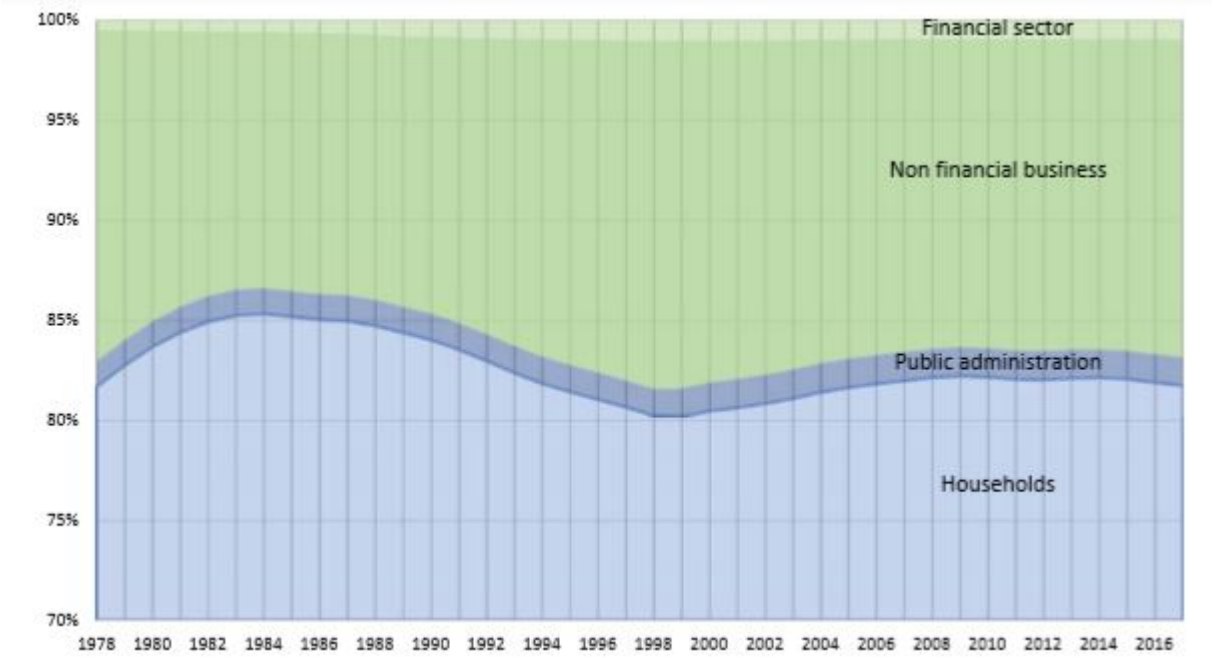


Figure 17. Share of institutional sectors in the French housing market, 1978-2017

Source: French National Accounts, INSEE, author's calculations. Residential construction only.

financial flows are missed by 'traditional' methods of wealth account.

Analysing the share of institutional actors based on land and construction value provides a similar result. However, in this case it is not possible to distinguish between residential and non–residential property, nor to separate categories by location. Arguably, in some specific areas, like the centre of Paris, institutional actors are more and more active, whereas the increase in short term renting may also have changed the rental profitability and pushed investors on that specific sub market.

Finally, at the same time, it is observed that institutional investors have withdrawn from the Parisian private rental market (switching their investment to commercial real estate) while the number of private investors owning entire buildings also decreased. This shrinking of privately owned rented housing supply is not limited to inner Paris. The same phenomenon occurs in some municipalities of the urban unit, especially those where real estate is expensive. Moreover, in a quarter of the municipalities in the urban unit, the private rental housing stock has shrunk. This trend should be investigated further, but the decrease could be due to demographics (multiple dwelling owners die, and their heirs liquidated the property) and to a cashing of capital gains, which have been significant over the previous decades.

Lastly, in theory, cadastral data can be used to detect non-private property, since it registers complete information about the owner, and change in ownership for each dwelling. However, this database is available to local authorities for public purpose, but not for researchers. Still it would be challenging to identify the final owner of each property, due to more complicated financial constructions (multiple owners, funds etc.). Another approach is to use commercial databases to trace back real estate investment in cities and in Paris[18].

Tourism

France is one of the largest market for AirBnB, with Paris being the main city. As of May 2019, there were 60,000 rentals listed for Paris and surrounding municipalities. From these listings, 87% (50,000) concerned entire flats. Given that the private rental market in Paris totals to 400,000 dwellings, the share is significant (more than 10%). In 2018, over 5 million nights were booked through AirBnB. That

[18] Real capital Analytics provides such data, and Ecole Urbaine (Sciences po, Paris) recently started to collaborate with them.

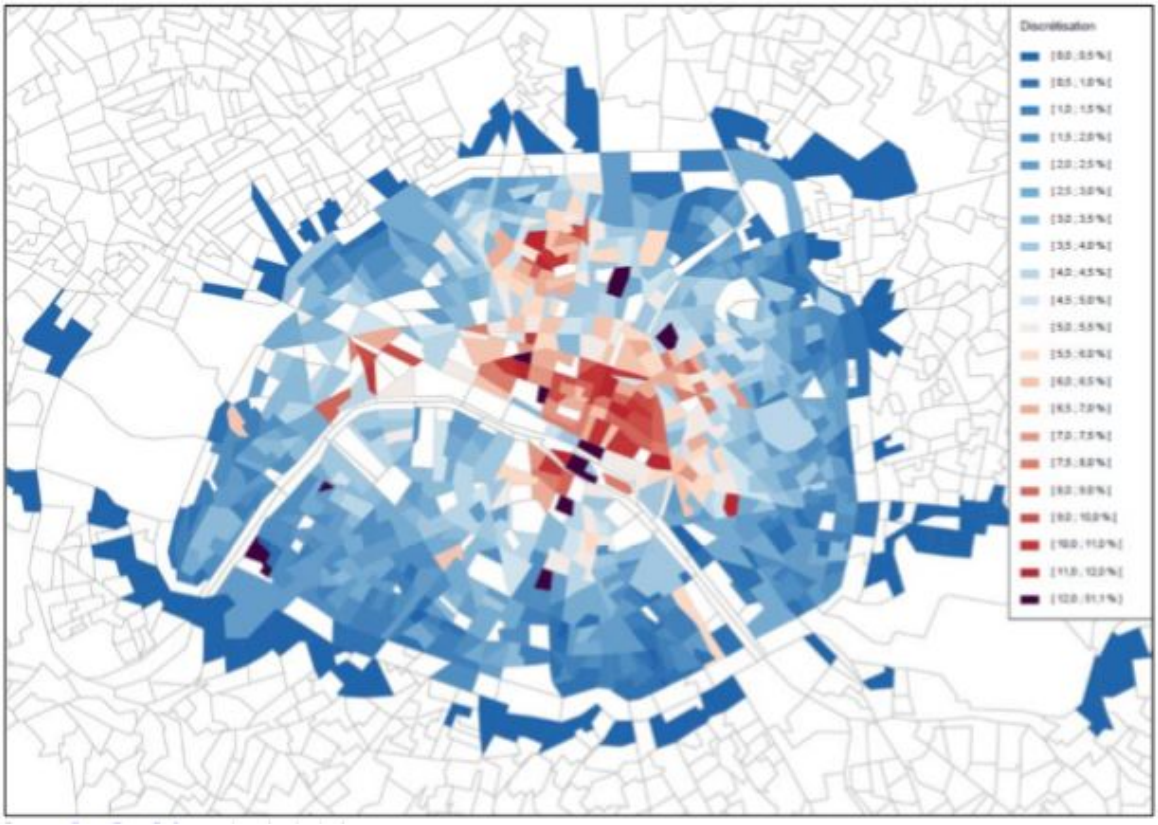


Figure 18. Housing rented on Airbnb, May 2019 (as a share of dwellings)

same year, the number of hotel nights stood at 37.8 million.

Figure 18 shows the ratio of Airbnb units listed to total dwellings. There is a clear concentration of listed units in the most expensive areas of the city. In some neighbourhoods this concentration has reduced the number of residents in a significant way. For example, in the centre of Paris, some schools had to close because the number of students dropped too much. This is also the case for some local shops, not catering to tourists.

Furthermore, the concentration of tourist accommodation in the heart of Paris has consequences for the private rental market, depriving it from 'classic' rental, as well as driving up prices. Logically, the price of AirBnB rentals is highly correlated to real estate prices, whereas the most expensive listings are located in the most expensive neighbourhoods. With an average of 92 nights per year, for the average price of €110, a rented dwelling returns €833 each month, totalling to almost €10,000 per year. Based on this calculation, it is estimated that short-term tourist rental is three times more profitable to owners than standard rental. Moreover, for 'recent and frequently booked' listings the average price per night is €104, with an estimated

215 nights per year, totalling to €1,835 per month, or €22,360 yearly in revenue[19]

Henceforth, offering this type of accommodation can be included in the housing financing plan. With growing costs of acquisition (due to high prices), this additional income may be needed. In fact, in addition to having a significant inflationary effect on the rental market (fewer homes available and therefore higher rents), tourist accomodation can also pull home prices up by bridging solvency for households.

Policy

To curb the negative aspects of the short term rental market, for main residence, temporary renting is now limited to 120 nights a year. Furthermore, registration is mandatory, providing a unique identifier that is transmitted to the rental intermediate (AirBnB or others) in charge of checking the nightly limit. As for any hotel activity, city tax applies. When the accommodation is not an occupied residence (an entire flat for AirBnB), the rent is qualified as income from a 'touristic furnished accommodation'. Such a qualification needs validation from the City council and can be refused. When approved, higher taxes apply. Tourist tax is due as well.

Theoretically, all rentals on AirBnB and similar platforms are regulated as such. However, despite growing concerns from the local authorities, the administrative staff of the Paris City Council have limited capacity to enforce the rules. In 2018, 118 unregistered owners received almost 2 million euro in fines, however most likely the number of non–compliers is higher. Moreover, the 120 nights limit is a difficult target to monitor (e.g. the limit can be by bypassed by direct contact with potential tenants, and/or multiple registrations under different names on multiple platforms).

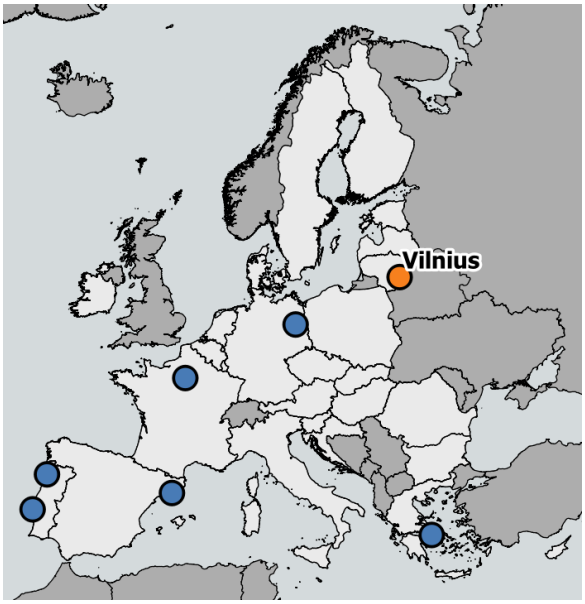
Concerning vacant housing, the public authorities in Paris have developed policy to encourage homeowners to put their property on the rental market, offering financial incentives and judicial assistance, upon the agreement that the owner will rent the property 20% under the median reference rent. This measure, called Multiloc, is one of the many measures implemented in the capital and larger territory to combat vacancy, and they are considered effective.

[19] Joint Research Centre (JRC) calculations based on AirBnB data for Paris in February 2020. This analysis excludes listings without a review for the past 6 months and those that aren't booked at least 120 nights per year.

Since December 2000, the law on Solidarity and Urban Renewal (SRU) aims to address the shortage of social housing and to recreate a social mix in each territory. Article 55 commands municipalities to have a minimum number of social housing units, proportional to the total housing in the area. Municipalities with more than 3,500 inhabitants (1,500 inhabitants in Île–de–France) belonging to agglomerations of more than 50,000 inhabitants, including at least one commune of more than 15,000 inhabitants, must dedicate 25% of the total housing to social housing by 2025.

In 2014, the "ALUR law" strengthened the possibility of cities to regulate rents. In addition to the legal frameworks already in place[20], the law allows municipalities to set, per area, floor and ceiling rents. This framework was tested in Paris from 2015 but for legal reasons could not be continued. However, it should be set up again in Paris in the course of 2019, as well as in Lille.

[20] In 2012, the legislation for rentals changed. In 28 French cities (the one where rents are the most expensive), rents are now regulated when released for new tenants. The instrument is similar as in other cities (e.g. Berlin). Unless well below market price, rents cannot increase more than inflation from one tenant to another one. This might have contributed to a limited the rent inflation in Paris.



2.6 Vilnius

Based on a study by:

Vygintas Jakas

Vilnius city municipality

Background

Vilnius' housing market began to take shape after Lithuania's independence. The Soviet period generally left a housing situation with energy inefficient homes, and unresolved property restitution issues[21].

In 2018, the city has 574,147 inhabitants. A large majority of the households is homeowner, of which around 90% without mortgage (mainly due to property restitution).

The municipal social housing sector accounts for 2.8% of housing stock, and the need for social housing currently covers about 2,300 individuals.

The activity of the Vilnius real estate market shows a general positive trend throughout 2011 to 2018, albeit slowdowns in 2015 and 2017. The number of property transactions increased from 6,597 in 2011 to 11,689 in 2018.

The number of private individuals buying second homes is increasing, and also the demand for luxury housing is growing, showing increased transactions. Compared to the previous year, the average square meter price in Vilnius decreased in 2009, 2010, 2012 and 2013, while between 2014 and 2018 it steadily increased (from from €1,070 per square meter to €1,542.)

Figure 19 presents housing supply and demand dynamics between 2012-2018. The supply curve shows submitted real estate projects and reflect the number of objects placed on the market by the

[21] The process of privatisation of housing began on January 3, 1991. State property was sold for investment vouchers and cash payment. The investment vouchers amount was calculated for each family and given to them for free by the state. Many of the vouchers issued were used for the privatisation of housing. The Law on Privatisation of state-owned and municipal property of 4 July 1995 (revised 1997) announced the second stage in the process, which still continues. In this second stage, state-owned and municipal property is sold only for cash at a market price, determined by property valuation by the State Land and Cadastre Register. (Kursis, 2000; The Law of Land of Republic of Lithuania, 1994).

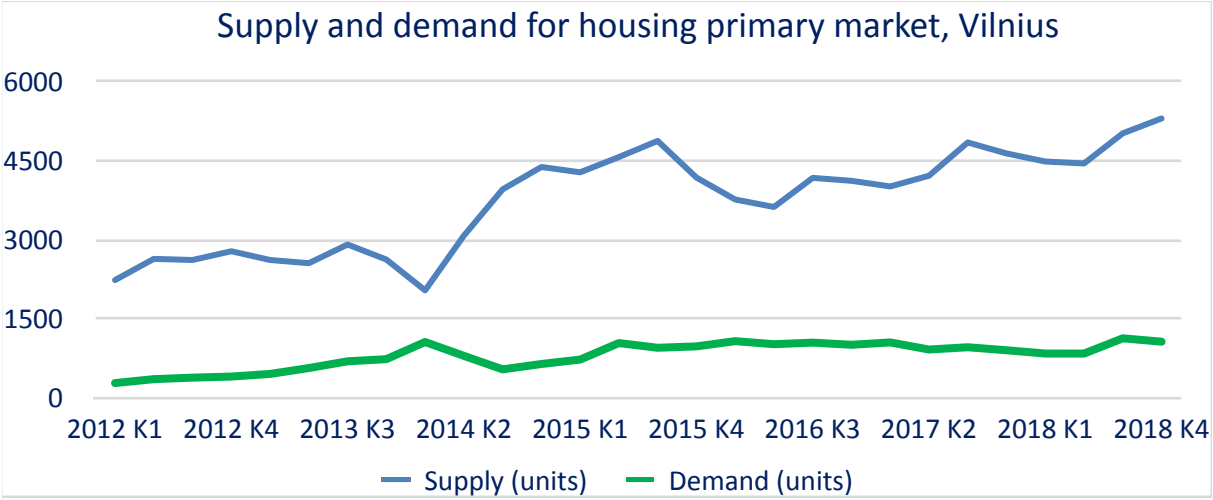


Figure 19. Dynamics of supply and demand in Vilnius city during 2012 – 2018

Source: State enterprise Centre of Registers of Lithuania

property developer[22]. The demand curve reflects real estate transactions (by notaries), including transactions on the secondary market[23].

Demand and supply are closest in early 2014, while early 2015 it has grown much more apart, keeping a relative stable 'gap' in the following years.

Traditionally, Lithuanians consider renting a temporary solution for young people, expats, and tourists. However, in recent years, it is observed that every third buyer of new apartments, purchase them for rent purposes. Between 2011 and 2018, rental prices increased in all districts and housing categories. Rents in the centre are around €9/10 per square meter per month, while in the suburbs the average price is closer to €7/8 per month.

In 2018, the housing affordability index increased by 7 points to a record high of 136.9. The housing affordability index is 100 when households use 30% of their net wages for mortgage costs. The higher score, the greater affordability[24].

Vilnius city covers an area of 40,045 ha, and the Real Estate Register has registered approximately 68% of the land. In 2019, of the registered land, 38% was private land,

[22] By law, after completion of the construction procedures, the building and its property rights must be registered in the Real Estate Register (State enterprise The Centre of Registers) within 3 months from the date of receipt of the deed of completion of construction.

[23] The Centre of Registers collects and processes data about all real estate transactions.

[24] The housing affordability index is calculated based on a family income equal to 1.5 of average net wages with an average-sized apartment of 55 square meters.

approximately 6% belongs to legal persons, 55% was state-owned land, and Vilnius city municipality owns around 1%.

Financialisation

Changing expectations and financial opportunities, which have arisen with the restoration of Lithuania's independence, have led to a demand for (quality) housing. Not only the housing market itself started to grow, but also related domains: real estate developers, investors, and real estate agencies. Furthermore, the real estate sector has developed very efficiently and very quickly - on average about 8% per year when the economy grew 3%.

Local investors play an important role in the housing market. The two biggest developers, Hanner and Realco, are domestic companies. In 2018, the ten largest real estate investors (developers) represented about 54% of the city's housing market construction. About 80 other real estate investors occupy the rest of the housing market.

In recent years, the construction sector has also been stimulated by foreign investment funds from the Nordic and Baltic countries. Among the most active players from Scandinavia are Lords LB, and Northern Horizon Capital. General Foreign Direct Investment in Vilnius increased from 6.2 billion euro to 10.5 billion euro during the period 2010-2017.

Over the past decade, several banks left Lithuania (e.g. Barclays in 2018). A few banks remained and these traditional

banks only lend to the most experienced companies, so other companies have to look for alternative sources. However, the possibilities are limited. Experienced market players, such as Blackstone, do not operate in Lithuania, and also pension funds are slow to finance real estate development, although investors show there is demand for such products. While credit unions are increasingly active in the market, they are no serious alternatives to banks (yet).

Recently, especially compared to other Lithuanian cities, Vilnius has experienced a substantial growth in the sales of prestigious housing. Between 2016 and 2019, the share of prestigious apartment sales in the primary market increased to 10-15%, representing about 30% of the primary market supply in 2019. Overall, the number of transactions and the price per square meter show trends similar to the general housing market. During 2011-2012 the number of transactions in prestigious housing increased, while the price per square meter dropped, just as in other segments. In 2013, the number of transactions decreased, while other segments show growth. Meanwhile, the price per square meter rose along with other segments of real estate. Later in time, the average price increased quite significantly, indicating that the type of demand is changing, and the market is becoming more and more favourable for private houses, buildings of prestigious class, and more spacious apartments. Typical buyers of Vilnius prestigious class homes are successful entrepreneurs, top managers, and foreigners. For the majority of transactions, 40-50% of the total sum is a loan.

Tourism

Several online platforms offer short-term rental accommodation in Vilnius. With the increase in rental investment, the number of listings also increased and the market has become very competitive. Between early 2016 and early 2019, the number of active rentals on AirBnB almost doubled from 1,275 to 2,485 units. Listings are geographically expanding, now also including most of the resort towns in Lithuania, and offering housing in rural areas.

One bedroom apartments account for more than half of all listings in Vilnius. Early 2019, the average nightly price is €47 and the overall occupancy rate is around 59%. The monthly revenue currently equals €678. April 2019, 3,182 short-term rental accommodations were booked, of which 89% were international guests, and 11%

domestic. Demand is expected to keep increasing since more and more tourists come to Vilnius.

The average number of nights properties are available,' suggests numerous listings represent full-time investment properties: Between May 2018 and May 2019, 22% of the properties was between 300 and 365 days available, 17% between 210 and 270 days, 24 % between 120 and 180 days, and 37% between 30 and 90 days.

Policy

The Law of the Republic of Lithuania on assistance to acquire or rent a house establishes principles of support for the acquisition or rental of housing for individuals and families. For example, those who are entitled to state support for the purchase, construction or reconstruction of a dwelling may receive a housing loan partially compensated by the state.

In 2017, the highest number of individuals and families wishing to rent municipal social housing has been recorded in Vilnius (15.2%), Kaunas (10.5%) and Klaipėda (5.2%) municipalities. No state budget funds were allocated for the development of municipal social housing stock in 2016–2017. There is currently no specific regulation to curb the rental of short-term tourist accommodation.

3. City Lab: Amsterdam house price dynamics

Based on analyses by:
Ricardo Barranco
Chris Jacobs-Crisioni

3.1. Amsterdam housing market

Between 2015 and 2018, average asking prices for Amsterdam housing increased significantly from €3,500 per square meter to €5,500. In parallel, there has been a decrease in social rentals and a growth in both the owner-occupied and private rental market.

Furthermore, residential property investment in Amsterdam increased by a factor of three between 2014 and 2017. Particularly, ownership by large professional investors (those who own more than 250 dwellings; e.g. institutional investors, private equity, pension funds, family offices) has increased between 2016 and 2018, largely corresponding to the construction of new building stock. Also private investors (those who own less than 50 dwelling) have increasingly bought Amsterdam property. In 2017, on average 1 out of every 9 dwellings was sold to a private investor, while in some neighbourhoods this was 1 out of 5.

It is assumed that private investors particularly crowd out first time buyers, which drives demand for rental housing. In turn, private rental prices have increased substantially, becoming almost exclusively accessible for higher to middle income groups. Around 80% of the private rental market houses singles without children. In 2015 and 2016, relatively many studios were added to the stock. Moreover, it is estimated that almost 4,000 dwellings are rented for more than 30 days per year on short-term rental platforms, such as AirBnB[25].

3.2 City lab

JRC established a City lab with the City of Amsterdam, and in specific with the City strategy team, to gain insight into the spatial housing dynamics of Amsterdam's housing market, as well as to uncover the driving factors that have caused Amsterdam real estate to become rapidly unaffordable to all but the wealthiest. The working relationship between JRC and the City of Amsterdam mainly consisted of an exchange of data, knowledge and skills. Moreover, B3 staff from the JRC LUISA

[25] Source: City strategy team Amsterdam

team visited Amsterdam in summer 2019 to run analyses with city data at its department of Research, Information and Statistics (OIS).

A number of data sources were used for the analyses. Property transactions were explored using 2015 transaction data on 10,958 houses located within the municipality. This data was explored in conjunction with income data from the national statistics office (CBS) and several thematic data layers that are created in the context of the JRC's LUISA territorial modelling platform[26]. As the objective of the study is to understand to what extent different factors impact house prices, price per square meter is the dependent variable.

3.3 Results

Figure 20a gives an overview of Amsterdam's housing costs spatial distribution. It is noticed how price/m^2 is considerably higher in the InnerRing area, defined by the A10 motorway and the north waterfront. Figure 20b represents the construction year with older houses mainly located with the inner ring area. The similarity between both spatial patterns is an indication of how location and construction year are correlated with price per square meter.

Based on the available information about buyers and sellers, customer segmentation was applied to the dataset, aggregating groups of individuals that are similar in specific ways. Buyers have been

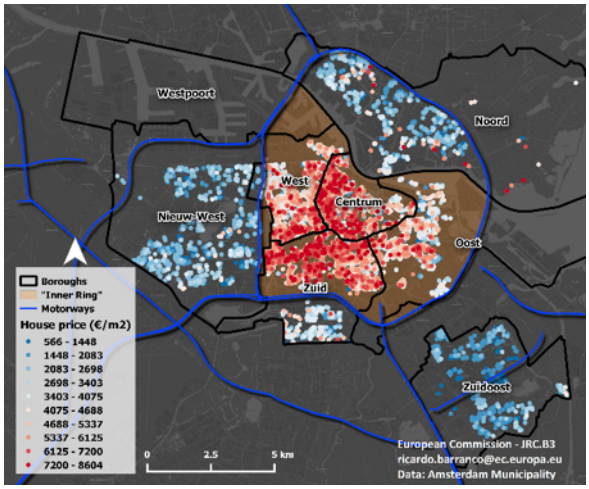


Figure 20a. Amsterdam's house prices spatial distribution for 2015.

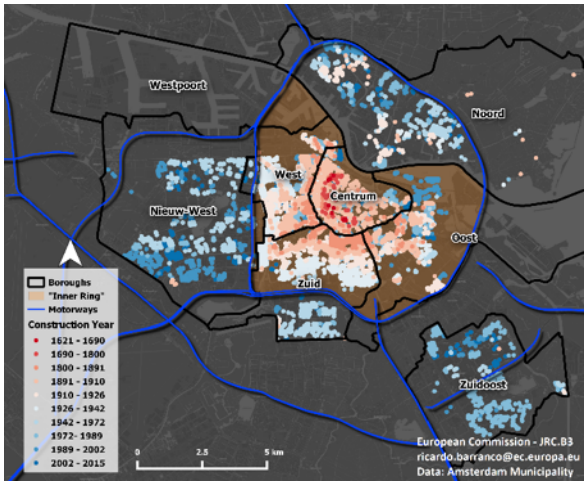


Figure 20b. Amsterdam's housing construction year spatial distribution.

[26] The LUISA Territorial Modelling Platform is primarily used for the ex-ante evaluation of EC policies that have a direct or indirect territorial impact. This platform requires a substantial amount of fine resolution input data, which are constantly being gathered, harmonised and refined by the LUISA team.

categorised in four clusters. Cluster 1 and 2 include natural persons, residing in Amsterdam (n=8471). Cluster 3 represents natural persons, not residing in Amsterdam, and owning a medium-sized portfolio of between 10 and 25 parcels (n=2241). Cluster 4 is composed by companies, not registered in Amsterdam (n=246)[27].

Market activity is analysed in a spatial way by examining which properties (privately owned by natural persons or regular companies) underwent at least one ownership change between 2007 and 2017. Clusters of high and low ownership changes were mapped[28], showing that houses in the west and south boroughs located within the city inner ring (delineated by the A10 motorway) are associated with recent ownership changes hotspots (red points)[29]. See figure 21.

Implementing hedonic pricing theory, a machine learning regression model[30] has

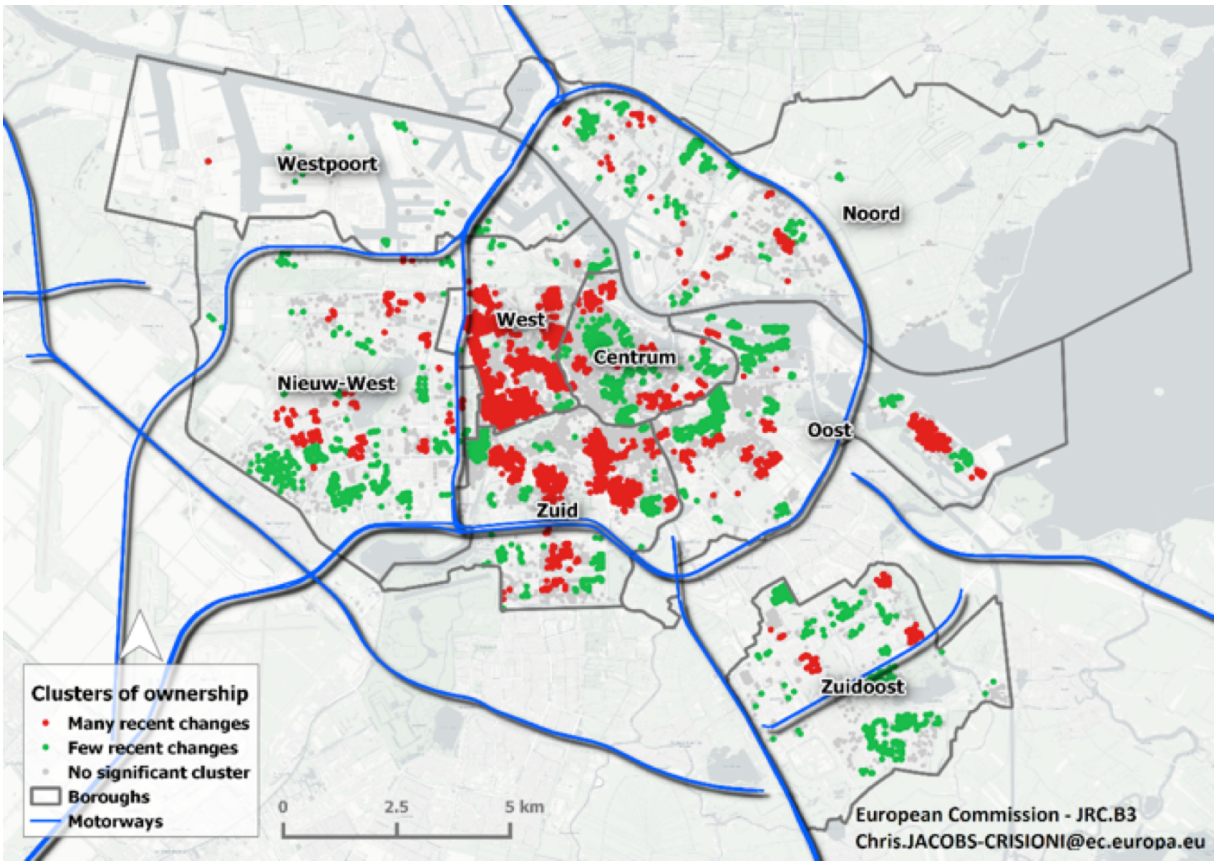


Figure 21. Clusters of ownership change in privately owned houses: 2007-2017

[27] As with other cities, often there is missing information concerning buyers/sellers.

[28] This was realised by applying Getis ORD G* with a 250 meter Euclidean inverse distance

[29] It cannot be ruled out that frequency is affected by ownership change(s) related to the development and transaction of newly constructed property.

[30] XGBoost is an ensemble method that combines the predictions of several non-linear decision tree estimators. Recently it has been dominating applied machine learning and competitions for structured or tabular data. In this exercise, the final trained model accuracy metrics are the following: R2 = 0.56, Mean Absolute Error: €744€/m2.

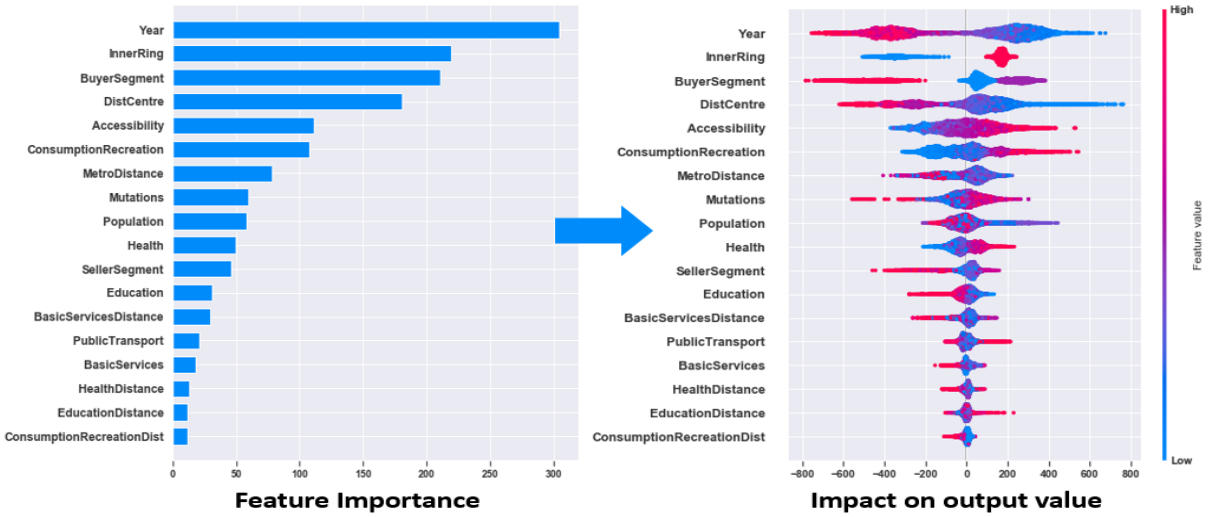


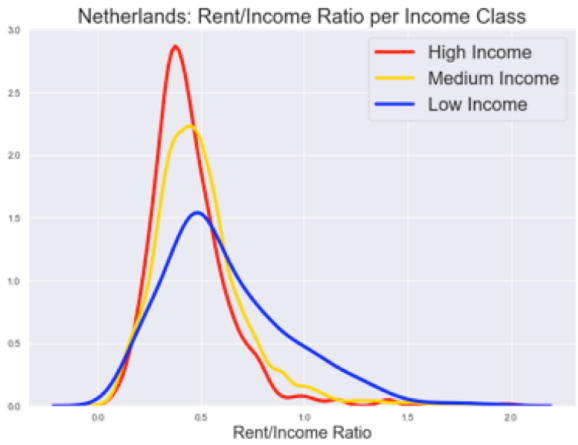
Figure 22a and 22b. Features importance and magnitude distribution for all the input features

been fitted to explain how a set of 31 variables determine variation in house prices (for a main classification of the variables see figure 22a). This type of advanced analysis enables insights in the main determinants (figure 22a and 22b) and possible interactions that influence house prices.

The results yield that construction year is the main feature used by the model to determine prices. Older houses (see 'Year' blue dots in figure 22b) have a positive impact on the outputs, while newer houses ('Year' red dots in figure 22b) drive prices down. The market has a preference for older pre-1940 real estate. Given that the desired old houses are predominantly in the most central and touristic parts of the city, this probably reflects locational and aesthetic preferences, rather than a preference for age of a building per se.

Next to the construction year of a property, its location plays an important role, being reflected by the inner ring (InnerRing) and distance to to Centre (DistCentre) variables. Closer distances to the city centre (blue dots) drive the predicted prices up, while farther distances (red dots) drive prices down.

Lastly, according to the results of the model fitting exercise, buyer segment is the third most important variable. Buying residents pay a higher price per square meter, while private owners and companies pay less. This could be related with private owners and companies looking for office space or buy-to-rent opportunities. The price difference between buying residents and private owners/companies is bigger within the ring, making the potential profits



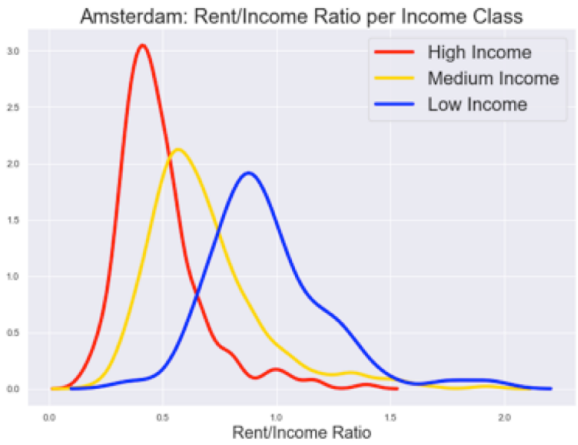


Figure 23a and 23b. Housing rents to income class ratios in Netherlands and Amsterdam

for private owners and companies greater in that area.

Furthermore, an assessment of the ratio between long-term rent prices and income related to postal code is made. Information on 5,974 rental houses were collected from a local platform that advertises private rental properties (pararius.com), often owned by private individuals. These data are combined with postal code income data coming from the national statistics offices (CBS).

Compared to the national figure, Amsterdam has a wider gap between income classes (figure 23a versus figure 23b). While it is expected that high incomes can afford rents and low incomes are supported by social housing and regulatory mechanisms, medium incomes are overburdened by rental costs, with rents representing on median 63% of their income. Although, actual rents paid might vary a bit from the rent advertised, this is not expected to deviate strongly, and it would be unlikely to affect the structural patterns observed between income groups , and national/city levels.

3.4 Discussion

According to this modelling exercise, Amsterdam house prices are mainly driven by location, aesthetics, and buyer type. It is important to note that a substantial amount of houses in Amsterdam inner ring (often older houses) have freehold land. Anecdotal evidence from real estate agencies suggests that these kind of houses are more attractive to buyers (and thus more expensive) than leasehold ground houses with fees that are often bought off for a longer period. Unfortunately this study does not have access to this information. Ideally in future analysis this variable should be included. Furthermore, households with middle

incomes that depend on the private rental market, are likely to spend a relatively big share of their incomes on long-term rents.

The JRC City lab studied Amsterdam housing costs by applying a wide range of analytical techniques: spatial distributions, correlation analysis, segmentation, hotspot/ cold spot detection and machine learning regression modelling. By combining different data sources, this type of advanced analysis provides valuable insights in the main determinants and possible interactions influencing house prices. The graphical outputs make it interpretable to non-experts, aiding decision makers on their policy and communication to the general public. Depending on data availability, the methodological workflow presented in this document can be adapted and replicable to other European cities, enabling comparison and additional case studies.

4. Institutional investment

Figure 24 shows the share of institutional investors in respect to overall investment volumes in multifamily property investments for the following cities: Amsterdam (NL), Barcelona (ES), Berlin (DE), Madrid (ES), and Stockholm greater area (SE). Institutional investment refers to real estate investments by companies listed to national stock markets.

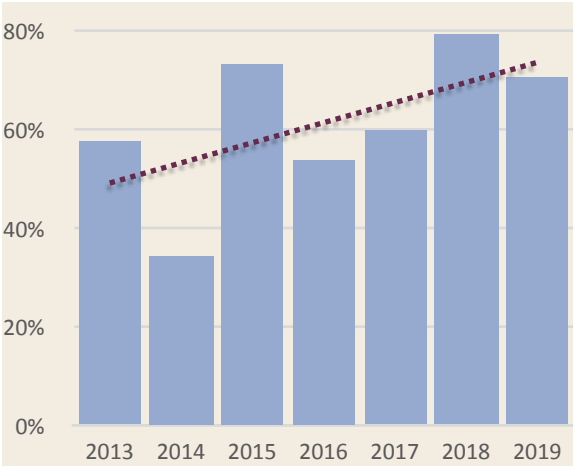


Figure 24. Share of institutional investors in multifamily property investment volumes, Amsterdam, Barcelona, Berlin, Madrid, and Stockholm greater area.
Source: Savills 2020

Multifamily property is a classification of housing where multiple separate residential units are situated in a single complex. The majority of investment volumes concern large complexes, although also some smaller ones (e.g. 10/20 units). Investors mainly buy multifamily property to rent on the private market.

The data show a positive trend in share of institutional multifamily property investment volumes between 2013 and 2019, with peaks in 2015 (73%) and 2018 (79%). In 2014 the lowest share in institutional investment volume is observed (35%). Between 2013 and 2019, on average 61% of all multifamily property investment originated from institutional investors, 10% from private investors, another 10% housing corporations, 8% from public investors, and 11% from other origin.

It must be noted that some cities have a larger stock of multifamily properties than others, creating a kind of natural ceiling to the share of institutional investors on the housing market. It is estimated that in Amsterdam, Berlin, and Stockholm the large majority of the residential stock concern multifamily properties, whereas this is approximately 25% in Spanish cities[31]. However, these numbers should be interpreted with caution, since stock itself cannot be readily translated to stock for sale (e.g. several Dutch housing cooperation's own significant multi-family stock, but restrictions apply to selling).

[31] Estimation from Savills

4.1 Amsterdam

In Amsterdam, after some years of decline, the share of institutional investment increased significantly between 2016 (29%) and 2019 (67%). See figure 25.

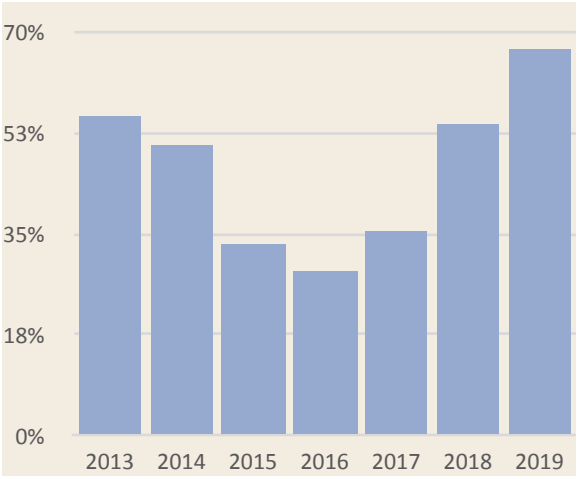


Figure 25. Share of institutional investors in multifamily property investment volumes, Amsterdam
Source: Savills 2020

Breaking the total multifamily property investment volume down into different categories, it shows that absolute investment volume is highest in 2016 (approximately 1.4 billion euro), while the share of institutional investors is relative low that year. Absolute and relative high volumes for institutional investment are shown in 2018, and even more in 2019. Between 2016 and 2019, the share of private investors, decreases significantly, from 44% to 11%. See figure 26.

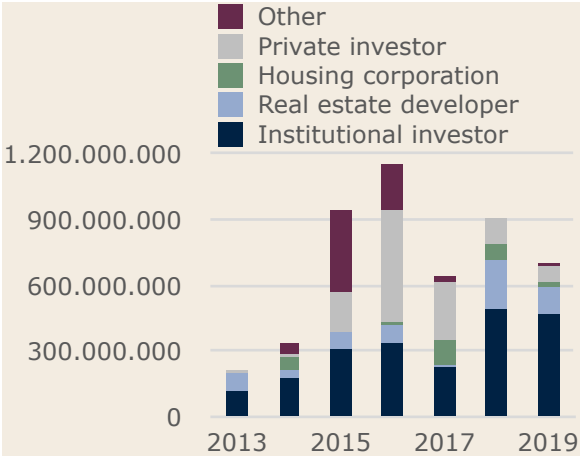


Figure 26. Share of multifamily property investment volumes per investor type, Amsterdam
Source: Savills 2020

In 2016 almost half of the investments in Amsterdam multifamily property comes from foreign capital. This share is much lower in 2015, and not observed in 2013-2014. After 2016, the share of foreign investment decreases, although it remains considerable (35% in 2017, 27% in 2018, and 32% in 2019). Countries that account for most of the foreign investments are Germany, United Kingdom, United States, Canada, Belgium, Singapore, and Sweden (in order of volume).

4.2 Barcelona

In Barcelona, the share of institutional investors in multifamily property investment volumes varies between 90% in 2017, 98% in 2018, and 74% in 2019. In absolute numbers, investment volumes are significantly highest in 2018, totalling

to around 1.6 billion euro, opposed to 400 million euro in 2019. See figure 27.

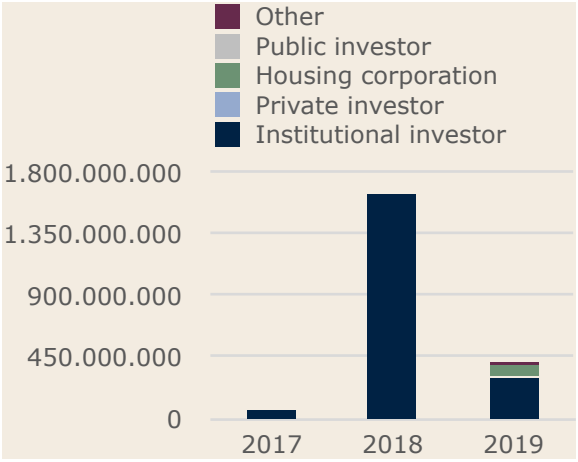


Figure 27. Share of multifamily property investment volumes per investor type, Barcelona

In 2018, around 1.3 billion euro of investment volumes (82%) flowed from foreign capital, almost exclusively from the United States. In 2019, foreign investment totalled to 284 million euro (69%), with most capital coming from the United States (193 million euro), and France (77 million euro). The origin of a remaining 26 million euro is not accounted for. Despite the relative high shares of institutional investors in multifamily property, the overall housing market share is still relatively low, since multifamily properties account only for a small share of the private rental sector.

4.3 Berlin

In Berlin, the share of institutional investor volumes in multifamily property varies between 90% in 2013, and 59% on 2019[32]. See figure 28. For the entire period 2013-2019, a negative trend is observed, with a decline most notable in 2019 after several years of stable investment shares.

Figure 28 and 29 show that relative and absolute shares of institutional investment

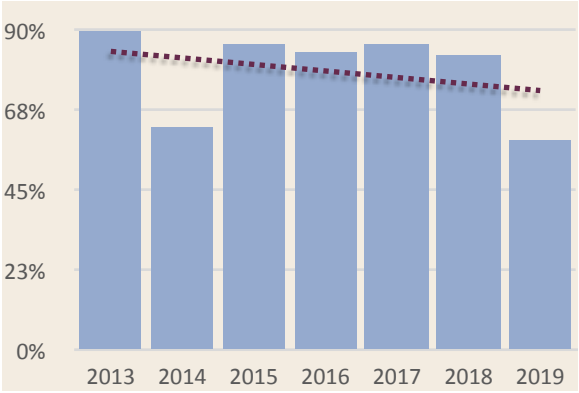


Figure 28. Share of institutional investors in multifamily property investment volumes, Berlin.
Source: Savills 2020

volumes in Berlin are highest in 2013, totalling to around 5.6 billion euros. In all years, institutional investors dominate the multifamily property market, with a second biggest share for public investors (varying between 7% in 2013 and 38% in 2019).

Investments in the Berlin multifamily property market are predominantly domestic for all years under analysis. In

[32] Data on multifamily investment activity in Germany include transactions of at least 50 units.

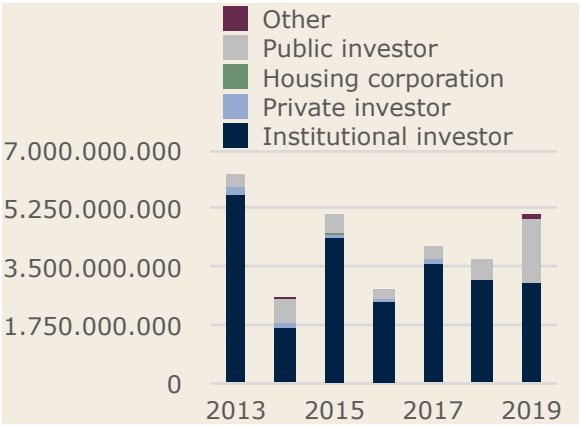


Figure 29. Share of multifamily property investment volumes per investor type, Berlin.
Source: Savills 2020

2019, the share of foreign investment is lowest (4%) in absolute and relative numbers. In 2017 it is highest in absolute and relative numbers, accounting for 35% of investment, equalling around 1.5 billion euros. That year, investment originates from the United Kingdom, France, Switzerland, the United States, Luxembourg, Sweden, Asia/Pacific, Czech Republic. Furthermore, 5% of the foreign investment originates from unidentified European countries including Russia, and 31% is from unknown origin. The biggest annual investment volume per country is from Israel, investing 505 million euro in 2015, accounting for 38% of total foreign investment that year.

4.4 Madrid

Figure 30 shows that, similar to Barcelona, total investment volumes in Madrid are highest in 2018 (nearly 2 billion euro), almost entirely accounted for by institutional investors (98.8%). In 2017 and 2019, a bigger share for housing corporations is observed, accounting for respectively 54%, and 14% of investments. Between 2017-2019, there are no investments from private investors identified. The only investment made by public investors during this period is in 2019, with almost 43 million euro accounting for 3% of total investments that year.

Also similar to Barcelona, the share of foreign capital is highest in 2018, representing around 76% of the investments (approx. 1.5 billion euro) in multifamily properties. Around 88% of the foreign capital investments that year originates from the United States, and 12% from the United Kingdom. In 2019, the

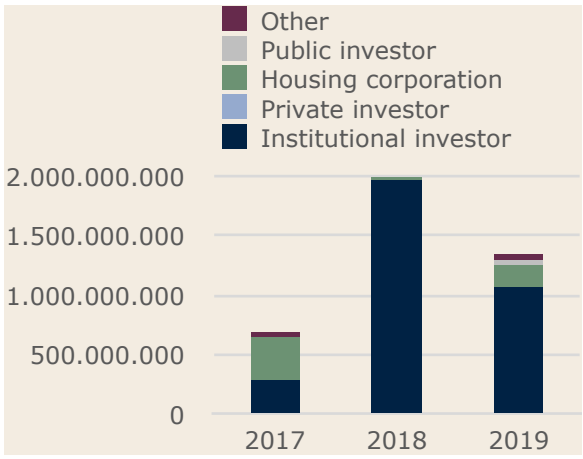


Figure 30. Share of multifamily property investment volumes per investor type, Madrid
Source: Savills 2020

United States (approx. 197 million euro) and United Kingdom (approx. 165 million euro) also account for the majority of foreign investment, however in this year also investments from France (approx. 54 million euro), Sweden (approx. 27 million euro) and Luxembourg (approx.. 11 million euro) are observed. In 2017, the share of domestic capital (65%) is bigger than foreign capital (35%). Foreign investment that year originates from France (170 million euro) and Sweden (24 million euro). The origin of the remaining foreign investment is unaccounted for.

4.5 Stockholm

In the greater area of Stockholm, the share of institutional investment in multifamily property varies between 45% in 2013, to 73% in 2019. In general, a positive trend is observed between 2013 and 2019. See figure 31.

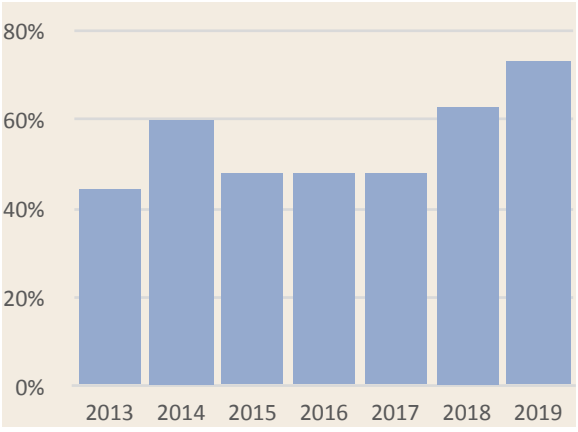


Figure 31. Share of institutional investors in multifamily property investment volumes, Stockholm greater area
Source: Savills 2020

Figure 32 further shows that institutional investment in multifamily property also accounts for the highest absolute share in 2019, totalling to more than 58,232 million Swedish crown (approx. 5.5 billion euro).

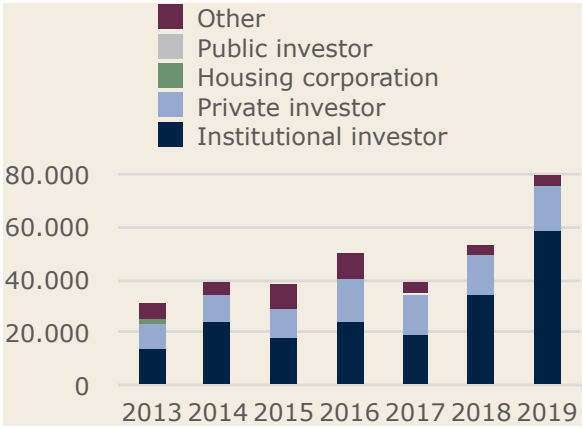


Figure 32. Share of multifamily property investment volumes per investor, Stockholm greater area
Source: Savills 2020
*Note that amounts on the Y-axis refer to million Swedish crowns SEK (1 euro/10.56 SEK)

That year also accounts for the highest absolute investment volume of private investors (17,424 million Swedish crown or approx. 1.65 billion euro), although this sectors' absolute investment values are much more stable over time, with the lowest volume seen in 2013 (9,235 million Swedish crown, or approx. 874 million euros).

The share of foreign investors in the greater Stockholm area increased significantly in 2018, and 2019. See figure 33. In 2019, foreign capital surpassed

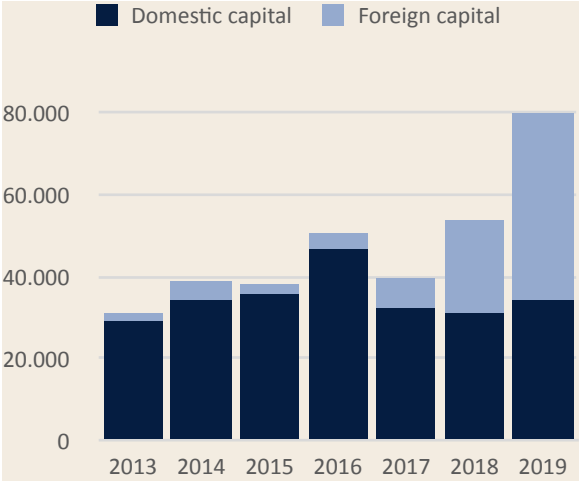


Figure 33. Multifamily property investment, capital origin, Stockholm greater area.
Source: Savills 2020
*Note that amounts on the Y-axis are displayed in million Swedish crowns SEK (1 euro/10.56 SEK)

domestic capital, accounting for 56% of total investments. Of these investments, 81% originated from Germany (linked to Vonovia SE), 13% from Norway, and 6% from the United Kingdom (linked to Aberdeen& Barings). In 2016 and 2017, Norway is the sole source of foreign capital. In 2013 and 2014 capital originates from both Norway and United Kingdom, and in 2015 and 2018, foreign capital flows from both Norway and Germany.

5. Avenues for future research

The main objective of this exploratory research activity is to get a better understanding of housing financialisation across EU cities, as to lay a foundation for future research. In this regard, based on the findings presented above, as well as the contributions from both expert workshops, the following observations are made:

5.1 Data

First, there is a clear need for data. With regards to the EU, there is no cohesive housing data available at sub-national level. If data are available at regional or local level, information is often incomplete and/or scattered between public and/or private institutions. Efforts to share between public institutions are often slow due to bureaucratic processes, while private institutions may not have incentives to share, or sell data. Public institutions, such as city administrations, often rely on data from national or regional cadastres (at least partially). The extent to which information is shared between offices differs and depends on privacy regulations and type of collaboration contracts. In some cases, cadastre data is combined with tax data to obtain a more complete picture. In general, private real estate management and consultancy firms have better data on institutional investments (e.g. Cushman and Wakefield, Knight Frank, Savills).

Anecdotal evidence suggests that transaction data are increasingly comparable between commercial firms, partially because agents and offices make their deals public as a way to display their expertise (and market value). Also commercial initiatives exist to share data among firms, such as the Radius Data Exchange[33]. This is a platform that aims to support commercial property experts in the United Kingdom to deliver better advice to their clients, and ultimately to increase their business activity. It further allows businesses to benchmark themselves against their peers. A long-standing collector and provider of data is CoStar group[34] that also offers marketing and analytical services to commercial real estate firms. CoStar is based in the United States, but has offices worldwide and advertises global data delivery. CoStar includes several online marketplaces for buying and selling commercial real estate,

[33] https://www.egi.co. https://www.egi.co.uk/radiusdx/uk/radiusdx/

[34] https://www.costargroup.com/about-us/company

apartments, businesses, and land, such as LoopNet, Apartements.com, and BizBuySell. Evidently, the services of Radius, CoStar etc. are commercial, selling data and analysis for profit. Often public institutions do not have to means to obtain these data. Another more general complication of transaction data on institutional investment in residential property is that the origin of capital flows are not always easy to track down due to a wide array of financial constructions.

Harmonisation

When data from different sources are used, data harmonisation is required to combine the data in such a way that they fit together. The harmonisation process brings together different file formats, and synchronises naming conventions, classifications, and columns. The final objective is to have a single competitive and comparable data set. However, caution is needed with regards to the compatibility of housing data. For example, the standard unit of analysis for house prices is price per square meter, but square meter calculations differ between public/private institutions, as well as between EU countries. For example, in Barcelona and Lisbon square metre prices often include more surface than in Amsterdam (due to the exclusion of stairwells, thick walls, and surface under sloping walls). Further discrepancies may follow from the inclusion/exclusion of notary fees, community costs, and lease hold land tax. Moreover, it should be noted that some square meter prices reflect the asking price, while other reflect the selling price. Similar

challenges exist with the comparability of rental prices.

5.2 Key Concepts

From the findings it becomes clear that several key concepts require more explicit conceptualisation, such as financialisation, investors, affordability, and the middle class.

Financialisation

In this exploratory study, financialisation is understood in its most basic terms, referring to the process whereby investors use housing as a vehicle for wealth and investment, considering it a commodity rather than a social good. However, housing financialisation can take more specific forms. For example, it can refer to the management of housing through the use of either raised funds (e.g. shares), borrowed funds (e.g. loans), or funds one owns outright. Next to that, housing financialisation can serve personal, corporate, or public objectives (see Aalbers 2016).

Furthermore, financial instruments and products are likely to include a combination of structures (and objectives), such as mortgage-backed securities. In this case, financialisation encompasses the process of transforming spatially fixed property into fictitious capital, whereby housing values depend more on the volatility of financial markets, and less on the intrinsic value of the property and the location. In other words, unwavering financialisation transforms local, non-standardised goods - bounded by local legislation and context - into liquid, globally traded financial assets (Van Loon and Aalbers 2017).

It is this type of financialisation that is associated with 'complex mathematic formula's' taking over parts of the housing market, putting its stability at risk, as illustrated by the role subprime mortgages played in the great financial crisis of 2008. At the same time, a more straightforward type of financialisation is observed, whereby for example smaller investors buy property to rent out to tourists. While both types fall under the broad definition of financialisation used in this study, future analysis will most likely benefit from a more explicit classification.

Investors

Also different types of investors are distinguished. In general, two main categories are observed: private investors, and institutional investors. Private investors refer to individuals, and institutional investors to large organisations such as pension funds, commercial banks, hedge

funds, and insurance funds. Within the context of this study, private investors typically refer to individuals with relatively small property portfolios (e.g. buy to let, tourist accommodation), while institutional investors own relatively large portfolios (e.g. entire blocks, multifamily property, new construction blocks). The Golden Visa program offers a distinct type of investment, whereby housing is primarily a vehicle for obtaining a residence permit. Also family offices and private equity form separate categories, since family offices don't pool money (such as institutional investors), but rather they are private wealth management advisory firms that built around core assets. Private equity raises funds from institutions and wealthy individuals, to invest these funds in buying businesses. Profits are made when these business are sold again. Amongst other, family offices might invest in private equity.

The extent, as well as the consequences, of financialisation are expected to differ based on the kind of financialisation and type of investors that are active on the market. For example, in 2018, institutional investors (e.g. Amvest, Vesteda, Achmea) account for the largest investment volume in Amsterdam, focusing on existing stock (60% of investments) and new

construction (40%). According to the American commercial real estate services and investment firm Coldwell Banker Richard Ellis Group, institutional investors generally invest on the long-term, while private equity firms (e.g. Blackstone, Patrizia, RoundHill, Optimize Capital Partners (OCP), and Greystar) tend to have a shorter investment horizon. Furthermore, private investors, and family offices (e.g. Schopman, Stienstra, Ravam) are most oriented on existing building stock, often buying 'property baskets'.

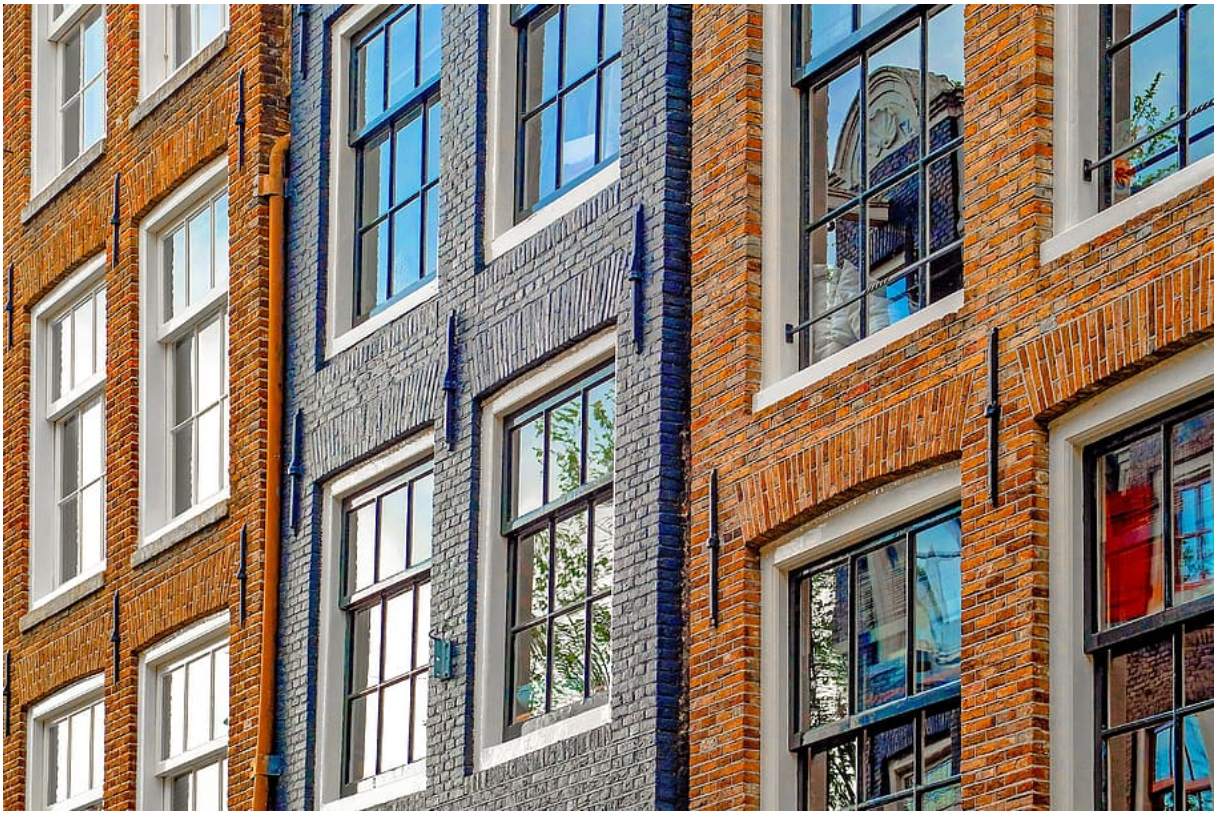
Affordability

A broadly shared assumption is that especially the lower and middle classes experience decreased housing affordability associated to housing financialisaton[35]. A widely accepted measure to analyse housing affordability is to calculate the share of disposable income that is spend on housing. Eurostat calculates the 'housing cost overburden rate' as the percentage of the population living in a household where total housing costs (net of housing allowances) represent more than 40% of the total disposable household income (net of housing allowances). Households that cross this 40% of spending on housing costs are considered 'overburdened' and at risk of poverty.

Despite the generally accepted metric of cost overburden, the measurement's reliability is also questioned. First of all, its uniformity does not take into account the variation of non-housing living expenses among different age groups, and number of household members. Households with young children, chronic health issues, or jobs that require commuting, probably have higher essential non-housing living expense than smaller households without special needs.

Second, essential living expenses are not expected to parallel income, therefore higher income groups can spend a larger share of their income on housing, and still have enough left to pay for further essentials. This is especially relevant when comparing high-cost high-income cities with low-cost low-income cities. An overburden threshold can also distort the situation for the very lowest income groups: if rents are particularly low, even minimal spending on housing might not

[35] The Housing Partnership of the Urban Agenda for the EU places affordable housing in the middle of a housing continuum that runs from emergency shelter to market home ownership. Following the partnership's delineation social housing, affordable rental housing, and affordable home ownership all fall under affordable housing, whereby affordable is defined as housing that receives forms of public support. The rationale is that public support creates below market prices, which makes housing affordable.



leave enough income to cover essential expenses[36].

In addition, many housing affordability calculations depart from costs currently being charged, but it is also important to examine whether households with similar incomes could afford the same property today. This is especially relevant since in many cities under analysis, house prices (rent and buy) have increased at a much faster pace than income. For this reason, affordability is also increasingly expressed as a measurement of potential to own or rent housing; e.g. What salary do you have to earn to buy a 50 m^2 in the city centre? In other words, can health-care workers, schoolteachers, garbage collectors etc., still afford to live in the city they work in?

Another relevant aspect of affordability is household savings. Net households savings are defined by subtracting household consumption expenditure from household disposable income, plus the adjustment for the rate in pension entitlements[37]. Households with relatively low savings are more vulnerable on the housing market,

[36] Moreover, there are many other factors to consider that may have an impact on an ultimately very normative concept, such as the quality of housing, square meter per member of household, amenities, maintenance costs, location, as well as air/noise pollution.

[37] Household savings differ significantly between EU countries, and are considered one of the main domestic sources of funds for financial investment. Countries with relatively low households saving are arguably more dependent on foreign investment, and thus more vulnerable to external shocks. See also https://data.oecd.org/hha/household-savings.htm

while those with relatively high savings have a buffer, as well as more potential to buy, either with regards to first time buyer affordability, or the purchase of second homes (which can then serve as an investment)[38].

Middle class

Almost all city studies (Vilnius excluded) indicate concern over housing affordability for the middle classes. But also the middle class is not a uniformly defined concept. Who belongs, or does not belong to this class, varies between (cultural) contexts, whereas classes can be defined in terms of occupation, income, and/or social status. One way to facilitate a comparison of housing affordability for the middle class between cities is to take a narrow definition based on income. For example, the middle class can be defined as the middle fifth of the national (or city) income ladder, or alternatively the middle three quintiles (see also OECD, 2019).

5.3 Methodology

While some city studies imply that housing financialisation negatively affects housing affordability, a causal relationship has not been demonstrated statistically. There are several assumptions about why and how financialisation drives up prices, dependent on the type of investor and market situation. From the findings in this study, two general observations can be made. First, investors buy property based on future return investment, and determine their price accordingly. Second, the mere fact that investors are increasingly interested in residential real estate increases demand, which drives up prices when supply is not met.

More advanced modelling is needed to thoroughly assess the relationship between housing financialisation and housing affordability. In this respect, longitudinal data is key. The main advantage of data over time is that is allows for a study of dynamics. Repeated measures provide an important understanding of changes and transitions over time, and enable to make strong(er) claims about causality (Hollanders and Vliegenthart 2008). This is especially relevant since the assumed effect of financialisation is not expected to be directly visible (it takes time to buy and sell houses).

Furthermore, the relationship between housing market financialisation and housing affordability is expected to be non-linear, whereby the pattern of correspondence is different at different

[38] See the OECD affordable housing database for elaborate monitoring of housing affordability on national level http://www.oecd.org/social/affordable-housing-database/

levels of the variables. Theoretically, in 'early cycle' markets when demand starts to increase, affordability is expected to have a positive effect on financialisation. However in 'late cycle' markets, when it becomes harder to obtain high returns, investors are expected to gradually deter. At this point, the effect of financialisation on housing affordability is also expected to become weaker.

The observation above also signals that financialisation and affordability are likely to influence each other. That is to say, financialisation might cause a change in affordability, but affordability might also cause a change in financialisation. Following such theoretic assumptions, time series analyses can either assess a one-directional effect, or disentangle the relationships between all indicators in the model, uncovering reverse causality (data availability provided)[39].

Control variables

A robust analysis of the relationship between financialisation and affordability requires an inclusion of relevant control variables. Put differently, what other factors are expected to impact housing affordability? For example, housing affordability is most likely influenced by (national) variation in interests rates, mortgage products, and mortgage tax relief measures. Or, at EU level: To safeguard the value of the euro and to maintain price stability, the European Central Bank (ECB) sets the key rates for

[39] E.g ARIMA modelling and VAR modelling.

the euro area. Recent years, interest rates have been at record lows to stimulate growth and inflation, making it increasingly easy to obtain credit (it is estimated that 35% of the commercial bank loans in the Eurozone are granted for housing purchase). Some argue that house prices have been disproportionally inflated by the (unlimited) expansion of mortgage credit flowing into a finite supply of existing properties (e.g. Ryan Collins 2018).

Moreover, a wide range of (sub-)national policies affect housing affordability. These policies are often influenced by structural factors, such as the type of welfare system. In this respect, some key interventions concern fiscal measures (e.g. subsidies and taxes), direct provision of social housing (e.g. below market price), and regulation of the quality, quantity, and allocation of rental dwellings (see also OECD, 2011).

Again, the factors mentioned above are not only expected to influence housing affordability, but also financialisation, as well as each other. This points to the housing system as a complex myriad of indicators that either directly or indirectly influence and/or reinforce each other. In that sense, it appears more feasible to study aspects of the housing system, instead of the full range of interactions between all relevant actors. In this respect, it is assumed the housing system has economic, political, sociological and geographical drivers and consequences, at different levels of analysis (see Aalbers 2016).

All together, it will be challenging to overcome endogeneity issues, whereby undetected factors influence the relationship between affordability and financialisation.

Research design

The variation in city contexts brings further methodological challenges to examine and

compare housing financialisation or housing affordability across EU cities. In this regard, the development of a composite indicator has been discussed. The advantage of a composite indicator is that it provides a single comparable value for all indicators combined, presenting complex information in an easily understandable way. However, also when data can be combined, it remains an analytical challenge to aggregate social, economic, and institutional metrics in such a way that it can be compared on both spatial and temporal levels. This requires advanced methodological knowledge, especially as the weights of the selected indicators can have a substantial influence on the final value of the indicator (Colantonio & Dixon, 2009)[40].

At the same time, a variety of cases can also help uncover key causal mechanisms. For example, the Most Different System Design departs from the assumption that studying different cases can help to detect the key conditions for housing affordability (or financialisation). More specifically, this set-up would require a selection of cities that have all experienced certain degrees of housing affordability, but their contexts differ significantly (e.g. fiscal policies, tourist flows, institutional investment etc.). Thus, the main question is: what has been sufficiently common among these cities to produce a similar development? In contrast, with a Most Similar System Design, the selected cities are similar in key ways (e.g. welfare system, size, demographics etc.) while there is significant variation in affordability. This set-up should make it easier to detect a key explanatory variable, as many relevant factors are already held constant (see Ancar 2008).

[40] The EC Joint Research Centre's (JRC) Competence Centre on Composite Indicators and Scoreboards has experience in building composite indicators and can be consulted about best methods and approaches.

6. Conclusion

All city studies (Athens, Barcelona, Berlin, Lisbon, Paris, Porto, and Vilnius) point to housing financialisation during the period under analysis, although in different ways, and in different degrees.

A general observation from the city studies is that house prices decreased significantly after the great financial crisis, and that around 2014/2015, markets started to recover again, fuelled by strong demand, and facilitated by low interest rates. At this point in time, most cities had a backlog in construction and a general shortage in supply, indicating that the (rapid) increase in house prices can be largely ascribed to scarcity pricing.

Cities have not only experienced increased demand due to ongoing migration to their territories, but also due to a strong request for tourist accommodation – as particularly shown by the case studies. Mostly small-scale, private investors seem to have responded to this demand. These kind of investments are either domestic or foreign. For example, in places where the Golden Visa program is operative (e.g. Athens, Barcelona, Porto, and Lisbon), the obtainment of a residence permit, has been combined with foreign investments in tourist accommodation, at times offered as a package deal.

The majority of city studies suggest that housing financialisation (in its various forms) has a negative impact on housing affordability, especially for the lower and middle classes. Furthermore, the analysis of Amsterdam 2015 transaction data shows that private individuals (buy to live) systematically pay more per square meter than investors. Given that investors increase demand and houses are not a pure commodity, this has a high social importance. It is believed that most of the professionally bought property returns to the market as tourist rental, luxury rental, small studio housing for singles, and renovated turn-key apartments for sale.

Data on institutional investment (2013-2019) indicate that overall the share of institutional investors in multifamily property investment has increased[41] since 2013 (examining Amsterdam, Barcelona, Berlin, Madrid, and Stockholm). It is assumed this follows from available capital of institutional investors,

[41] The average share of institutional investment between 2013 -2019 is 61.4%. Overall, not only the share, but also absolute investments increased.

and growing interest due to significant compression of gross initial yields in key European residential markets. In other words, the growth and security of the income stream from residential property is perceived stronger.

Data further show, although in varying shares, that institutional investors have been substantially active on foreign markets in the period under analysis. In Amsterdam, Berlin, and Stockholm, investment is predominantly domestic, However, in Barcelona and Madrid, foreign institutional investment on average tops domestic investment (2017 -2019), while foreign investment also tops domestic investment in Stockholm in 2019 (56%).

Moreover, all city cities studies describe a selection of policies (not exhaustive) related to the current housing market situation. In general, these types of regulation are focused on restriction of short-term rental activity, as well as support to housing affordability. Fewer policies seem focused on institutional investment. In this respect, it should be noted that institutional investment might not be unwelcome per se. However, what appears to play a role, is a shortage of data, and thus lack of empirical evidence to act on. Often public authorities do not have sufficient information about transactions, or even lack housing market data in general.

In this respect, several cities seek ways to improve market transparency by means of better and more data collection on

transactions, type of sellers/buyers, and rental prices.

The need for more data is also one of the main observations from the exploratory research activity with regards to future research. To better understand housing financialisation across EU cities, as well as its consequences, more (harmonised) data are needed.

Another observation is that future research requires a thorough consideration of how to define key concepts, such as financialisiation, affordability, and middle class. For example, the city studies point to different forms of financialisation, from buy-to-let by small investors, to institutional investment by means of real estate shares, whereby housing is considered just another asset class (see also Van Loon and Aalbers 2017). Clearly, different forms of financialisation are expected to have different implications.

The majority of city studies confirm the assumption that housing financialisation negatively impacts housing affordability, suggesting a causal relationship. At the same time, the studies make clear that causality is complex, pointing to the housing system as a complex myriad of factors that either directly or indirectly influence and/or reinforce each other.

In this respect, quantitative modelling exercises to gain insight into market dynamics, should probably take into account endogeneity issues, interaction effects, and non-linear relationships. Several techniques can be considered to further disentangle (parts of) such dynamics, however, these techniques all require highly specialised research skills and more data.

Finally, the study makes clear that policy plays an important role in the degree to which housing is, or can be, financialised, while the type of policy development and implementation largely depends on institutional factors. Thus, to understand the financialisation of housing, also the governance of housing should be understood (or the lack of it). The assessment of housing financialisation cannot be restricted to city level only, whereas developments at regional, national, EU, and global level, all have local level impacts.

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