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The Polarization of Real Estate Ownership and Increasing Wealth Inequality in Spain

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Abstract

Recent research has shown that differences in the distribution of real estate wealth across households are the most important explanation for cross-national variation in wealth inequality. We extend this line of research by looking at change over time and quantifying the importance of two opposing trends related to housing for wealth inequality: declining home ownership rates and increases in multiple property ownership. Our analysis is based on data from the Spanish survey Encuesta Financiera de Familias covering the period 2002-2017. We show how real estate ownership is becoming increasingly polarized: both the share of households without any property at all as well as the share of households with multiple properties is increasing. Decomposition models show, first, that inequality between home owners and non-owners is becoming a more important component of wealth inequality between households. Second, whereas real estate that is not used by households as their main residence constituted a relatively small part of wealth inequality in 2002, its absolute contribution had almost doubled by 2017. We conclude that household investments in non-residence real estate are an important channel through which wealth inequality increased over time in Spain.

Wealth inequality is on the rise across the globe (Piketty, 2014; Piketty & Zucman, 2014). Explanations for this increased concentration of wealth have focused on the top of the wealth distribution by studying factors such as returns to investments, CEO pay, offshore wealth and (low) taxation (Saez & Zucman, 2016). However, recent research has noted that differences in the distribution of housing wealth are the most important explanation for cross-national variation in wealth inequality (Kaas et al., 2019; Pfeffer & Waitkus, 2021). In this paper, we aim to extent this body of research by asking whether changes in housing wealth are a channel through which wealth inequality increased over time, a question that has received little attention so far.

There are important reasons to expect housing to have played a role in increasing wealth inequality across high-income countries. On the one hand, increasing housing prices and changes in access to mortgages have made it harder to become a home owner in many countries (Lennartz et al., 2016). On the other hand, increasing housing prices make real estate a lucrative investment, contributing to the so-called financialization of housing (Aalbers, 2016; Byrne, 2020). These developments could have led to a polarization of housing wealth: Both the share of households without any real estate property *and* the share of households with multiple properties might have increased over time (Kadi et al., 2020). However, as noted in previous research (Arundel, 2017; Arundel & Ronald, 2021; Wind et al., 2020), the extent to which these trends contribute to inequality has not been studied so far.

To address this gap empirically, we use data from the Encuesta Financiera de Familias (EFF) from Spain covering the period between 2002 and 2017. There are several features of the Spanish context that make it particularly relevant for the objectives of this study. First of all, home ownership rates are comparatively high but have recently declined (Fuster et al., 2018). Secondly, real estate investments play a particularly important role (Torrado et al., 2020). Thirdly, Spain experienced both a housing boom and bust during this period (Martínez-Toledano, 2020), allowing us to see how wealth inequality develops with major changes in housing prices. Fourthly, even though wealth inequality was relatively low it has increased considerably over time. Finally, Spain has the record of the highest wealth-income ratio recorded so far during the 21st century

(Artola Blanco et al., 2021), making wealth a particularly important economic resource for Spanish households.

Previous research on Spain has primarily focused on the role of non-real estate assets (Martínez-Toledano, 2020). During the housing bust that occurred after the financial crisis of 2008, non-real estate assets took on a larger share of household wealth relative to housing wealth. Because non-real estate assets are primarily held by wealthy households, wealth inequality increased. In this paper, we make an important addition to this argument. Even though the importance of real estate assets changed little overall, this is produced by two counteracting processes: a declining importance of main residences but an increasing importance of multiple property ownership for wealth inequality. Investments in real estate not used as the main residence by households are, among others, an important channel through which wealth inequality increased over time in Spain.

Wealth Inequality on the Rise

To what extent can changes over time in housing wealth explain trends in wealth inequality? Even though inequality in housing is only recently receiving more attention in research on wealth inequality (Kaas et al., 2019; Pfeffer & Waitkus, 2021), other bodies of literature, primarily from housing studies, have depicted several trends suggesting that housing wealth inequality increased across high-income countries. A first trend is the continuous and increasing concentration of population in metropolitan areas which has led to a shortage of housing and housing prices that rise faster than incomes (Fuller et al., 2020). Together with stricter rules to obtain mortgages, this has made it more complicated for especially low-income households to buy a home (Arundel, 2017). Home ownership facilitates wealth accumulation (Kaas et al., 2019; Lersch & Dewilde, 2018) and decreasing home ownership rates would in that case exclude part of the population from an important channel to accumulate wealth.

The extent to which this is the case will depend on who becomes less likely to own a home across time (Dewilde & Flynn, 2021) and the extent to which non-owners can accumulate financial

wealth instead. In several countries with very high ownership rates, like Spain, there is little social housing which makes renting an expensive alternative. Wind and Dewilde (2019) showed how the wealth gap between home owners and renters is particularly great in such contexts. In contexts where access to housing is restricted based on financial criteria, as happened in many countries after the financial crisis (Arundel, 2017), the profile of renters is likely to be socioeconomically disadvantaged. If declining home ownership rates are driven by financial constraints and accompanied by increasing rental prices, the consequence of declining home ownership rates could be the creation of a large marginalized group of renters that is not able to accumulate much financial wealth.

A second trend in real estate markets is the "financialization" of housing: an increasing presence of financial actors in the real estate market, and a focus on real estate as an investment, rather than a way of providing housing to the population (Aalbers, 2016; Byrne, 2020). As observed in the UK, ever more households invest in housing which creates a situation where both the share of households with multiple properties and the share of households without any properties at all increases (Ronald & Kadi, 2018). Multiple properties can be acquired for several purposes (Kadi et al., 2020; Rogers & Koh, 2017) including own use as a second home, investments that are rented out, a safe deposit box to store wealth, or providing housing for other persons (e.g. children). Properties can also be inherited rather than purchased. The purpose and way of acquiring multiple properties are likely to determine the extent to which the accumulation of properties by households contributes to wealth inequality. For instance, investments in housing can be a way of covering gaps in social security and save for retirement or, alternatively, as a way to maximize returns from wealth among the already wealthy (Wind et al., 2020). In the former case such investments are less likely to amplify wealth inequality than in the case where the wealthiest households acquire multiple properties to gain even more wealth. However, as noted by Arundel (2017) the extent to which these trends have contributed to inequality has not been seriously evaluated. In the next section, we discuss the Spanish context within the light of these observations.

Housing and wealth inequality in Spain

Wealth inequality in Spain is relatively low as compared to other countries (Lindner, 2015), but has increased considerably over the last years. Alvaredo and Saez (2009) used tax return data to show that wealth inequality remained relatively stable during the 1980s, dropped during the 1990s and returned to initial levels in the early 2000s. During the 21st century, a clear upward trend has become visible. In 2002, the wealthiest 10% of people owned 42% of all wealth in Spain. By 2014, they owned 53% of all household wealth (Anghel et al., 2018).

Even though this trend predates the financial crisis of 2008, a strong increase was observed after the crisis when real estate prices dropped. Amuedo-Dorantes and Borra (2018) found that wealthy households lost considerably during the crisis, but less so than other households. The more diverse portfolios of wealthy households, which included more non-real estate assets, implied that smaller shares of their wealth were affected by drops in real estate values. In addition, Martínez-Toledano (2020) showed that wealthy households could also more easily convert their real estate investments into other forms of wealth once real estate prices declined.

Hence, previous research has shown that non-real estate assets, in a context of decreasing real estate prices, form a main channel through which wealth inequality increases. However, there are some indications that real estate might have played a role too beyond decreases in prices. Even though previous research on Spain did not find a change in the importance of real estate for wealth inequality overall (Martínez-Toledano, 2020), this role could become visible when we distinguish real estate held in the form of the main residence from other forms of real estate wealth. Some studies showed that, after the crisis, investments in real estate increased among households in Spain (Amuedo-Dorantes & Borra, 2018; Martínez-Toledano, 2020). If these investments are made by households that are already wealthy, multiple property ownership can have been an important channel through which wealth inequality increased over time.

Two previous cross-sectional studies have looked at the relationship between housing and wealth inequality in Spain and found that gross housing wealth suppressed inequality in 2002 (Azpitarte, 2008) and that other real estate contributed to inequality in 2011(Lindner, 2015). It is our aim to provide a comprehensive effort that documents changes over time, rather than a single snapshot of wealth inequality in Spain. In the next section, we discuss some specific trends that occurred in the real estate market in Spain that will allow us to construct hypotheses in that regard.

Housing and Real Estate in Spain

During the second half of the 20th century, housing policies in Spain provided access to homeownership to a broad segment of the population (García Pérez & Janoschka, 2016). By the 1950s, Spain registered very low levels of homeownership: about 20% of the urban dwellings were owner-occupied (Candela, 2017). The various housing plans developed from 1956 onwards by the Francoist regime aimed to convert the working class into homeowners through multiple pathways of public expenditure (Pareja-Eastaway & Sánchez-Martínez, 2012). By 1970, the percentage of urban homeownership reached 70% (Candela, 2017). The presence of a weak welfare state, strong family support, and a powerful real estate sector also contributed to both the predominance of homeownership and the practically absent social rental housing sector in Spain (Pareja-Eastaway & Sánchez-Martínez, 2012).

It is in this context that the golden age of Spanish real estate emerged, which lasted until the financial crisis of 2008 and overlapped with other international expansionary periods, such as those in Ireland or the UK (Romero et al., 2012). The so-called Spanish real estate bubble unleashed a period of extraordinary housing production, widespread access to property ownership, sustained by the expansion of mortgage credit and household over-indebtedness, and an unprecedented rise in prices (Rodríguez & López, 2011). The period saw a great ease in obtaining low-interest mortgage loans, additionally encouraged by tax deductions. New regulations were introduced in the mortgage market in Spain in 1981, which opened to private

banking. In addition, joining the European Union (formalized in 1986) resulted in greater credit facilities, and a decline in mortgage interest rates that accelerated from the second half of the 1990s onwards (Arruñada & Casas-Arce, 2018). According to data from the Spanish Ministry of Development, the appraised value of one square meter of private housing increased threefold between 1995 and 2008.[1] Although access to homeownership during this expansive period only registered minor disparities among different age groups and socioeconomic levels (López-Gay & Recaño, 2009), there was a significant socioeconomic gap in the characteristics of mortgages, such as its length or the economic effort required to cover payments.

The expansion of home ownership rates came to an end with the financial crisis. Housing prices dropped by more than 30% between 2008 and 2014 and many households ended up having mortgages higher than the value of their property (Fuster et al., 2019). Evictions rose due to non-payment in the worst-off groups (Méndez & Plaza, 2016) which brought Spain to achieve the highest housing repossession rate in Europe (Janoschka, 2015). Growing unemployment, credit restrictions and the tightening in the conditions of access to mortgage loans hindered the purchase of homes for significant parts of the population (Leal & Martínez del Olmo, 2017). These new features led to a further complication of access to housing for vulnerable populations when prices started rising again after 2015 (Módenes, 2019).

Overall, these developments suggest that housing wealth decreased among households with fewer economic resources after the financial crisis, and did not recover in the years after that despite the recovery of the economy and the housing market. In addition, rising housing costs also led to an increasing financial burden on renters' income, which compromises the possibilities to accumulate financial wealth among non-owners. For instance, in the region of Catalonia, the percentage of income renters spend on housing raised from 28% in 2015 to 37% in 2020 (Consell de Treball Econòmic i Social de Catalunya [CTESC], 2021) This leads us to the first hypothesis of our study: declines in home ownership rates limited the possibilities to accumulate wealth among the economically vulnerable and are therefore related to increases in wealth inequality.

In contrast to declining home ownership rates, the possibilities to invest in real estate seem to have increased for wealthy households during this recent expansion period (Alexandri & Janoschka, 2018). The financialization of real estate has been particularly visible in Spain due to a substantial inflow of international capital, often from private equity firms, hedge funds and real estate investment trusts (Vives-Miró, 2018). Additionally, tourism and the growth of tourist apartments has also become a new means to facilitate the intensification of the commodification and financialization of housing in Spain (Gutiérrez & Domènech, 2020). These trends are likely to have made multiple property ownership an attractive way of accumulating more wealth among the already wealthy. However, the ownership of a second home is widespread across social strata in Spain (Módenes & López-Colás, 2007) and inheriting property is common even among working-class families (Costa-Font, Gil, & Mascarilla, 2010). The extent to which the rise of multiple property owners is related to increases in wealth inequality will therefore depend on the nature of the increase in multiple property ownership and how the profile of these owners changed across time in Spain, an issue that has to our knowledge not been researched before in the Spanish context. Our second hypothesis is that multiple property ownership was of relatively little importance for wealth inequality in the past given the historically widespread ownership of second homes, but that increases over time in multiple property acquisition as an investment have made them an important component of wealth inequality in Spain.

Data and Method

We use data from the Encuesta Financiera de Familias (EFF) collected every three years by the Bank of Spain. Data cover the period 2002-2017 with a representative set of around 6,000 households interviewed in each wave. Strengths of the data include detailed information on assets and debts, as well as an oversampling of the richest households, an important feature for studies on wealth inequality. Even though the very top wealth holdings might still not be captured in surveys (Piketty & Saez 2014), estimates of wealth inequality and the development of its

components appear similar to estimates derived from income and wealth tax data (Martínez-Toledano, 2020). Response rates to the survey ranged from 47% in 2005 to 61% in 2008 (see Barceló et al, 2020 for more information). For our key variables, item non-response generally ranged from below 1% for questions about the ownership of real estate properties to around 10% - 17% for the exact values of these properties with a maximum of 22% missing information on the value of third properties in 2017. To deal with missing information, we use five imputations facilitated by the data provider which allows us to include all households in each wave, resulting in sample sizes of 5,143; 5,962; 6,197; 6,106; 6,120; 6,413 households for the years 2002, 2005, 2008, 2011, 2014 and 2017, respectively (representing 14,112; 16,054; 15,850; 15,852; 15,536; and 16,335 individuals). Sampling weights are used in all analysis and, in addition, results are weighted by the number of household members.

Measures

The main measure of interest in our paper is household net worth. Net worth is calculated as the total value of all assets minus debts. Assets include the main residence, other real estate, businesses, valuables, money in checking accounts, saving accounts, shares, bonds, stocks, investment funds, private pension schemes, life insurance, and money owed to the household. Debts include mortgages as well as other loans and debt. Wealth and its components are reported on by respondents. As there is no agreement on how to adjust for household size (Killewald et al., 2017) we produced two sets of analysis (results are very similar): one using total net worth, reported in the main text, and one using an equivalence scale (dividing net worth by the square root of the number of household members) reported in Online Appendix A. All amounts are adjusted to 2017 prices.[2]

Besides household net worth, other main variables used in the analysis are the amount of real estate properties owned. These real estate properties include housing, but also, for instance, land, offices and garages that are not part of the residence. For part of our analysis, a household's real estate wealth is divided into the net value of the main residence, the net value of the most valuable

other real estate property (labelled second properties), [3] the next most valuable real estate property (third properties), and all other real estate properties (fourth and more properties). All other household wealth is put together into one component called non-real estate assets and debts.

Figure 1 displays descriptive statistics of how average total household net worth and its main components developed over time. Total household wealth increased drastically before 2008, after which household wealth declined again. These trends correspond with the housing boom of the 2000s and the housing bust after the financial crisis of 2008. Trends are primarily driven by wealth held in the form of main residences, whereas the total value of wealth held in the form of other real estate and non-real estate assets increased steadily across the observation period. See Online Appendix B for a more detailed breakdown of wealth components.

Figure 1. Average household wealth across survey years broken down by its components

***Figure 1 here

Source: Authors' calculations based on Encuesta Financiera de Familias (Banco de España). Weighted by household size and sample weights, averaged over five imputations.

Decomposition Methods

Our analysis relies on two main decomposition methods. The first method decomposes inequality into differences between and within groups of households defined by the number of properties they own. This allows us to test whether the divide between owners and non-owners has become a more important part of wealth inequality over time. The second method decomposes inequality into contributions of each asset group (i.e. main residence, other real estate, and non-real estate wealth). By separating the influence of wealth held in the form of main residences from other real estate wealth, this allows us to test more directly our hypothesis that multiple property ownership is a channel through which wealth inequality increased over time.

For the first set of decomposition models we follow Kaas and colleagues' (2016) Gini-decomposition approach used in their analysis of cross-national differences in wealth inequality. We decompose the Gini-coefficient G of inequality in wealth w into between- and within-group components:

$$G_w = G_B + \sum_{h=1}^{H} p_h a_h G_h + R \qquad \qquad 1)$$

Where G_B indicates between-group inequality, calculated as the Gini-coefficient of average wealth across groups h (e.g. home-owners and non-owners). Increases in between-group inequality would indicate that changes in home ownership rates and the wealth gap between owners and non-owners can explain (part) of increasing wealth inequality. $\sum_{h=1}^{H} p_h a_h G_h$ indicates within-group inequality, where p_h is the population share of group h, a_h the share of wealth held by group h, and G_h is the Gini-coefficient of wealth inequality within group h. R is a residual that arises from overlap of the wealth distributions between groups. We run robustness checks using the decomposition of the Theil-index, which does not produce a residual term but does not allow for negative values or zeroes. [4]

Second, we decompose wealth inequality into parts attributable to each component of household wealth based on the source decomposition method of Lerman and Yitzhaki (1985). [5] This method decomposes the Gini-coefficient G as follows:

$$G(w) = \sum_{k=1}^{K} s_k g_k r_k \qquad \qquad 2)$$

Where k indicates the components of household wealth w. The overall contribution of each component to wealth inequality is based on three numbers of interest. s_k indicates the share of component k in overall household wealth in the sample. g_k is the gini-coefficient of component k and indicates how unequally distributed component k is across households. Finally, r_k is based on the extent to which households' wealth held in the form of component k is related to the overall wealth distribution:

$$r_k = \frac{cov(w_k, F(w))}{cov(w_k, F(w_k))} \qquad \qquad 3)$$

Where $F(w)$ indicates the cumulative distribution of wealth. In other words, r_k indicates to what extent this wealth component is primarily held by the wealthy or by the less wealthy.

The quantities s_k, g_k, and r_k will give insight into why a certain component contributes to wealth inequality. That a given component contributes to wealth inequality does not necessarily imply that declines in the importance of that wealth component would reduce wealth inequality. For instance, because housing is such a major component of household wealth it is likely to be an important contributor to wealth inequality (driven by the component s_k indicating the share of total wealth held in the form of housing). However, if housing wealth declines, this could give more weight to other, less equal, forms of wealth. To understand the extent to which a hypothetical variation in the amount of wealth held in the form of a given component would affect wealth inequality, we calculate the local elasticity of the wealth distribution in relation to component k:

$$\varepsilon_k^* = \frac{s_k g_k r_k}{G(w)} - s_k \qquad \qquad 4)$$

In robustness checks, we follow earlier research (Lindner, 2015) by rerunning the source decomposition analysis for gross wealth only (i.e. value of assets without considering debts; See Online Appendix D).

Results

We start the analysis by examining changes in real estate ownership in Figure 2. The share of households with at least one property increased until 2011, but declined thereafter from 87% to 82% in 2017. At the same time, the number of households with more than one property increased steadily over time. Whereas 29% of households owned two or more properties in 2002, this had increased to 42% by 2017. To an important extent, this is driven by an increase in households with four or more properties (which increased from 5% to 11%).

Figure 2. Number of properties held by Spanish households

***Figure 2 here

Source: Authors' calculations based on Encuesta Financiera de Familias (Banco de España). Weighted by household size and sample weights, averaged over five imputations.

Table 1 describes the sociodemographic characteristics of households according to year and the number of properties owned. As compared to households with one property, those without properties have less education and income, but no major differences are observed in terms of social background. Households without properties have much less wealth than households who own one property, even when just looking at financial wealth. Differences in overall wealth between owners and non-owners did decline somewhat between 2002 and 2017. However, non-owners were slightly more likely to have low income in 2017 than in 2002.

***Table 1 here

Once looking at households that own three properties or more, we see that they are more likely to have a member above age 65, a higher educated member, and high income. Over 40% of households come from the top quintile of the income distribution. There are some differences in terms of parental social class as compared to households with one property, but these differences are relatively small. Across time, the income advantage of households with three or more properties slightly declined, but the educational profile of multiple property owners became more advantaged. The wealth advantage of multiple property owners over the other groups grew, despite the increase in the size of the group of multiple property owners (Figure 2).

Table 1 also shows the use households give to their properties and how they were acquired. Households have become more likely to receive rent over at least one property, especially those who own three or more properties. Additional analysis showed that the percentage of households that has a property over which they receive rent increased from 4% to 11% between 2002 and 2017 (See Online Online Appendix E). There has also been a pronounced increase in the share of

households paying back a mortgage and the share of households who inherited at least one of their properties. But, this latter increase in inherited property is only observed among households with three or more properties. In 2017, two-thirds of this group had an inherited property. This result suggests that inheritances are an important factor allowing households to accumulate properties and its importance appears to have increased over time.

Between and within-group inequality

Table 2 shows the extent to which differences between owners and non-owners have become a more important component of wealth inequality over time. The first panel considers differences between main residence owners and non-owners, whereas the second panel distinguishes by the total number of properties owned.[6] The last column of both panels indicates how the Gini-coefficient developed across this period and confirms considerable increases in wealth inequality, particularly after the financial crisis.

The column "Between-groups" indicates the absolute part of each year's Gini coefficient that is attributable to average differences in wealth between the groups considered. Almost half of the overall increase in wealth inequality is produced by increasing inequality between home owners and non-owners. Between-group inequality increased from 0.14 to 0.19 points, or from 25% in 2002 to 28% of overall inequality in 2017. The rest of increases in inequality are produced by inequality among home owners. This could indicate that housing values developed unequally among owners, however, inequality among owners seems primarily driven by the number of properties owned. Between-group inequality can account for 83% of the overall increase in wealth inequality between households when groups are defined based on the number of real estate properties they own.[7]

***Table 2 here

Increasing between-group inequality can be produced by changes in how many households fall into each group (Figure 2) and by changes in the average wealth of these groups (Online Appendix F). Differences in average wealth between groups increased considerably before the crisis and compressed again thereafter (although to a smaller extent). In contrast, increases in the number of non-home owners and households owning multiple properties took place most clearly after the crisis. The increases in between-group inequality before the crisis could therefore be primarily attributed to increasing group differences in terms of average wealth (i.e. home owners and multi-property owners becoming wealthier). In contrast, changes in the number of households without property (and with many properties) form the main explanation for the big post-crisis surge in between-group inequality.

In short, household's wealth is increasingly determined by the amount of properties they own. These results provide support for our hypotheses that decreases in home ownership rates and increases in multiple property ownership can explain part of increasing wealth inequality over time.

Decomposition of wealth inequality by components

Figure 3 decomposes wealth inequality by households' wealth components and allows us to better disentangle the influence of decreases in home ownership rates from the influence of increases in multiple property ownership. The bars of Figure 3 are broken down according to how important different components are for levels of wealth inequality in the different years considered. Once considering the contribution of all different real estate wealth components together, their contribution to inequality changed little over time. From that perspective, we also find that non-real estate assets are clearly the most important channel through which wealth inequality increased over time, in line with previous research (Martínez-Toledano, 2020). However, once breaking down real estate into categories, a second main channel through which wealth inequality increased over time becomes visible. In 2002, main residences were the most important component of

wealth inequality, but their importance decreased over time. The importance of other real estate increased considerably over time and, by 2017, was as important for wealth inequality as wealth held in the form of main residences. Especially the contribution of fourth and higher properties increased over time.

Figure 3. Source decomposition of inequality by its components

***Figure 3 here

Source: Authors' calculations based on Encuesta Financiera de Familias (Banco de España). Weighted by household size and sample weights. Results are an average of the results ran for each of the five imputations. If households do not own their main residence but have other real estate, the first most valuable property is categorized under "second properties", the second under "third properties", etc.

Table 3 gives a more detailed insight into how the contributions of these wealth components changed over time. The table shows the share of each wealth component in total wealth of the sample, how unequally distributed the wealth component is across households, and how values of the wealth component relate to the overall wealth distribution.

***Table 3 here

The relationship of wealth held in the form of main residences to the overall wealth distribution remained equal over time, but its distribution across households became less equal. Despite this less equal distribution across households, the drop in the total value of main residences reduced its contribution to wealth inequality across time.

Hence, the decreasing importance of main residences for wealth inequality is produced by its decreasing share of total household wealth in Spain. This is primarily due to decreasing values of main residences rather than the reduction in home ownership rates: home ownership rates dropped by 4.6% between 2008 and 2017, whereas the average value of main residences dropped with 11.5% across the same period (calculated as average wealth held in the form main residences among those who own their main residence; not shown).

For other real estate, the opposite is observed. Its contribution to inequality increased despite a slightly more equal distribution across households of second, third, and fourth or more properties. The increasing shares of households having multiple properties, and the related increase in the share of total wealth held in this form, have contributed to increases in wealth inequality. Finally, the contribution of non-real estate wealth to inequality is also primarily produced by the larger weight non-real estate wealth has gained in overall household wealth.

These results fit with the story that wealth inequality increased because wealthier households have more non-real estate wealth and that this unequal distribution became more visible as housing prices dropped (Martínez-Toledano, 2020). However, the same story also applies to real estate not used as households' main residence. This is further illustrated by the elasticities of Table 3. In all years, increases in wealth related to the main residence would decrease inequality, whereas increases in the other forms of wealth would amplify inequality. Hence: wealth inequality increased considerably between 2002 and 2017 because the value of main residences decreased considerably and other forms of wealth, non-real assets but also real estate investments, took on a larger share of overall wealth.

Table 4 provides more details on how multiple property ownership contributed to wealth inequality by applying alternative breakdowns. The first breakdown looks at inherited versus bought properties and shows that 0.03 of the total 0.11 points increase between 2002 and 2017 in the Gini can be attributed to inherited properties. In 2002, the elasticity of inherited properties was negative indicating that a general increase in inherited properties would slightly reduce inequality. This is no longer the case in 2017 as its relationship to the overall wealth distribution increased (0.60 to 0.74), indicating that inherited properties are increasingly owned by wealthy households.

***Table 4 here

The second decomposition breaks non-main residence properties into those over which households receive rent and those that do not. These properties are of special concern as they

provide further economic advantage to households through the income they generate (even though we are not able to quantify their effect on wealth accumulation here and leave that issue to future research). The share of wealth that generates rent has doubled from 0.04 to 0.08 of all households' wealth between 2002 and 2017. Despite this increase, its distribution across households has remained extremely unequal (declining from 0.98 to 0.97 only) and strongly related to the overall wealth distribution. In both periods a hypothetical small increase in properties that are rented out would increase wealth inequality (i.e. elasticities have remained equally positive). In short, despite taking on a larger share of household wealth, wealth held in the form of properties that are rented out has not become more equally distributed and has been an important channel through which wealth inequality increased over time.

Discussion

Wealth inequality has increased considerably over time in Spain. Previous research showed that wealth inequality increased during the housing bust because wealthier households own larger shares of non-real estate assets (Amuedo-Dorantes & Borra, 2018; Martínez-Toledano, 2020). In this paper, we argue that this argument also applies to real estate not used as a household's residence. While declines in housing prices led to a decreasing importance of main residence in household's wealth portfolios, wealth held in the form of other real estate increased over time due to an increase in households acquiring multiple real estate properties. The housing bust after the financial crisis has been an opportunity for wealthier households to invest in real estate and therewith increase their wealth advantage over other households further. In addition, the proportion of households having multiple properties had been increasing before the crisis already, as did its contribution to wealth inequality. This suggests that long-term processes related to the polarization of real estate ownership, such as the increasing financialization of housing and limited access to home ownership, have been intensified by the financial crisis and form an important channel through which wealth inequality is increasing with time.

These observations are likely to be relevant beyond the Spanish context. Increasingly difficult access to home ownership and increasing investments in real estate have been observed across countries (Aalbers, 2016; Arundel & Hochstenbach, 2019). We found that the share of households having three properties or more doubled between 2002 and 2017. These properties can differ in the extent to which they are acquired for the household's consumption or as a strategy to accumulate more wealth (or both). However, we found that the percentage of households that has a property over which they receive rent increased from 4% to 11% between 2002 and 2017 and that most of the increases in wealth inequality that went through multiple property ownership can be accounted to increases in properties that are rented out. The socioeconomic profile of households that own multiple properties is very advantaged in terms of income and education and this profile has changed little despite the increasing size of the group of households owning multiple properties. Furthermore, the wealth advantage of this group over households with one or no properties has strengthened over time. These observations combined make clear that even though owning multiple properties can be a way to cover gaps in social security (Wind et al., 2020), most multiple property owners in Spain have a very advantaged profile.

The future will tell whether wealth inequality keeps increasing in Spain. In this regard, some expectations can be formulated based on the results of our analysis. As the housing bust increased inequality by reducing the weight of main residences in overall household wealth, the question arises to what extent wealth inequality might decrease again as housing prices recover. There is some reason for pessimism in that regard. Increases in housing prices are unlikely to have an equalizing effect that is similar in magnitude to the increases in inequality observed after the crisis. Fewer households will benefit from increasing housing prices today because less households own their home as compared to the past. This is exemplified by the elasticities reported in Table 3: hypothetical increases in wealth held in the form of main residences would have decreased wealth inequality more in 2002 than in 2017.

Furthermore, increasing housing prices will also benefit households that have invested in real estate during the crisis. Multiple property ownership is very unequally distributed and correlates

highly with overall levels of wealth (See Table 3). Increasing housing prices will therefore benefit wealthy households more than in the past by increasing the value of their real estate investments. Finally, future crises can provide new opportunities for wealthy households to acquire multiple properties at low prices (e.g. if housing prices drop and access to credit is further restricted due to increasing interest rates).

There is another reason to be concerned about wealth inequality in the future. Home ownership is the main route through which most households accumulate wealth, especially at the bottom of the wealth distribution (Kaas et al., 2019). In our analysis, we found that differences between home owners and non-owners are becoming a more important component of wealth inequality. We did find that the average wealth of non-owners increased slightly over time, but this increase was small and not accompanied by a major change in the socioeconomically disadvantaged profile of renters. A major question is to what extent this is due to the Spanish context where little social housing is available, where housing costs are very high for renters, and where home ownership is increasingly dependent on financial constraints (Wind et al., 2020) or whether decreasing home ownership rates have the same consequences for wealth inequality across countries.

One of the main limitations of this article is that we use cross-sectional data. Assets can be sold and transformed into another type of wealth relatively quickly (depending on the asset considered). It is therefore not clear at all whether wealth inequality would be lower in the absence of the option to invest in real estate, as households might have invested their wealth in non-real estate assets instead. However, this paper did show that considering multiple property ownership is important for understanding increasing wealth inequality, and raises questions about the impact certain types of investments have on society. If real estate investments drive up housing prices, complicate the possibilities to become a home owner for other households (Fuller et al., 2020), and contribute to precarious housing situations (Hulse et al. 2019; Byrne, 2020), the question arises to what extent the accumulation of properties by households should be discouraged or not.

In this regard, our findings provide insights for debates about the role of housing as a strategy to guarantee welfare in society. Previous studies have emphasized the limited feasibility of "asset-based" welfare policies (Arundel, 2017; Wind et al., 2020). Our analysis shows how decreases in home ownership rates are related to increases in wealth inequality. This raises concerns about the possible consequences that dismantling policies supporting home ownership can have for wealth inequality. Given that increases in multiple property ownership are an important channel through which wealth inequality increased over time, the question arises whether more attention should go to multiple property ownership (rather than home ownership per se) when looking for options to reduce inequality and gather resources for policies supporting economically vulnerable households (e.g. through taxation). However, future research will have to further understand the dynamic relationship between policies aimed at real estate investments and the position of renters (e.g. the impact on rent prices) as well as other wealth components to evaluate that argument.

Regardless of the underlying processes, home ownership rates are decreasing and the increasing ownership of multiple properties is likely to further complicate access to home ownership and wealth accumulation for economically vulnerable households. This is especially problematic in the Spanish context where the economic well-being of households depends to an important extent on wealth (Artola Blanco et al., 2021; Fuller et al., 2020). High unemployment, low earnings and relatively limited social security also mean that Spanish households have to access their wealth to deal with losses of income relatively often (or rely on cost-reductions related to housing wealth). The wealth distribution in Spain was relatively compressed as compared to other countries (Lindner, 2015) and provided economic resources to many also vulnerable households. The results of this article show that this has rapidly changed and that wealth inequality is unlikely to return to previous levels even if housing prices would recover.

Notes

[1] Appraised value of private housing, Ministerio de Fomento, accessed April 2021:

https://apps.fomento.gob.es/BoletinOnline2/?nivel=2&orden=35000000

[2] Deflators: 0.75(2002); 0.82(2005); 0.91(2008); 0.95(2011); 0.99(2014); 1(2017).

[3] In the wealth component analysis, if the household does not own the main residence, the first other property still falls into the category of "second properties".

[4] See Online Appendix C; In one set of robustness checks we exclude zeroes and negatives, whereas in others we set them at having 1 euro of wealth.

[5] We use the *sgini* package in Stata developed by Van Kerm (2020). We use individual-level data appropriate for calculations of the gini using the covariance (Yao, 1999)

[6] See online Online Appendix F for trends in average wealth for the different groups considered.

[7] Robustness checks using gross wealth (Online Appendix D) show very similar results. Decompositions based on the Theil-index do also find an increasing importance of between-group inequality (Online Appendix C), but in a less pronounced manner.

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