The Effects of Homeownership on Wealth Distribution

Klára ČERMÁKOVÁ
Prague University of Economics and Business, Czech Republic
University of West Bohemia, Plzen, Czech Republic
klara.cermakova@vse.cz

Eduard HROMADA
Czech Technical University in Prague, Czech Republic
eduard.hromada@fsv.cvut.cz

Eduardo Aguiar Henrique FILHO
Prague University of Economics and Business, Czech Republic
eduardo.ahf@gmail.com

Tomáš KRULICKÝ
University of Technology and Economics in České Budějovice, Czech Republic
krulicky@mail.vstecb.cz

Abstract

Within the broader context of new dimensions of poverty such as housing poverty, energy poverty, etc., this article describes dependencies between household income, real estate ownership and socio-economic trends. We argue that income is not the principal determinant for home ownership rate, but rather recent lifestyle changes can better explain the homeownership decreasing trend in developed economies. Job mobility, family formation determinants and demographical trends seem to find well-supported basis in literature and data. Using data for the US states we have proved that the decreasing rate of home ownership may be explained by social aspects of changing lifestyle such as increasing share of population moving from rural areas to cities, age of marriage, divorce rate, career-oriented lifestyle, rather than by the frequently cited price-income ratio. We have also observed a short-term correlation between financing availability and homeownership rate, but we conclude that property prices would adjust to lose monetary policy without any long-term effect on homeownership rate. It results that government or monetary policies aimed to cushion the housing unavailability (recently increasing value of price-income) ratio may distort the housing market. We propose a new insight in the housing availability discussion.

Keywords: Home ownership; residential market; employment; household income;

JEL Classification: E31; R21; R31;

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1. Introduction

The progression of time is also the progression of societal trends; the increase in the Western average income has re-educated people with new habits and preferences of consumption and social interaction. It would not be different in terms of housing. The once zeitgeist of the "American Dream", spread throughout the New World, of finding a stable job, getting married and buying a house has become a fiction for most of the cosmopolitan

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inhabitants of the West. The peculiarity of this "lifestyle" is that homeownership is a function of the household income, the challenge is not if a person should buy a house or not, but which house his/her income can afford. Contemporarily, socio-economic trends have interfered with this relation, such as the changes in family formation (proportion and age of the population getting married), migration and immigration to large and mid-sized metropolitan areas and the conversion of the economic activity of many cities into more modern sources of income. These factors have changed the habits of house purchasing and income is not the most important determinant of home ownership.

Fulfilling the "American Dream" is getting cracked, especially for the young generation of adults arranging their first home. Due to the COVID-19 pandemic and the loose monetary policy of central banks, much financial capital was diverted to the residential market, causing a significant increase in the price level, influencing the availability of owner-occupied housing. Experts expect mortgage rates and down payment requirements to grow in the years to follow forcing young generation to revise its approach to own housing. An increase in the age at which young people will take out their first mortgage as well as increasing the share of rental housing can be expected. People taking out their first mortgage over the age of 40 or abandoning the idea of own housing as target will not be an exception. Stanimir (2020) points out that the young generation participation in the labour market differs substantially from the traditional employment and reflects changes in this generation's lifestyle as confirmed by Cermakova *et al.* (2019). Gill (2020) points out that Millenians often lack money management skills which could help them to manage buying own housing.

We can expect a change in the lifestyle of the young generation, which will settle down later, the housing issue will be addressed at an older age, and the establishment of families will also be postponed to a later age. Family background will play a crucial role for one's property acquisition decision making. Young people with wealthy parents will have a significant competitive advantage over less fortunate peers. This advantage will decisively affect their entire productive and personal live. A large part of the young generation will thus have to come to terms with the variant of rental housing or commuting.

Trends prevailing in the real estate market seem not to differ across countries. Would less family oriented and more career-oriented/mobility-seeking individuals be the reason on decreased homeownership in the developed economies? What is the role of state and central bank in increasing home ownership, if any? Our motivation is understanding the ongoing changes in reasons for homeownership as our data show that the intuitive relationship higher income – higher rate of homeownership does not hold. We will be seeking for factors influencing homeownership rate, which, obviously, must be away from income in many regions, and aim to formulate suggestions for policy responses to current challenges in the housing market.

2. Literature Review

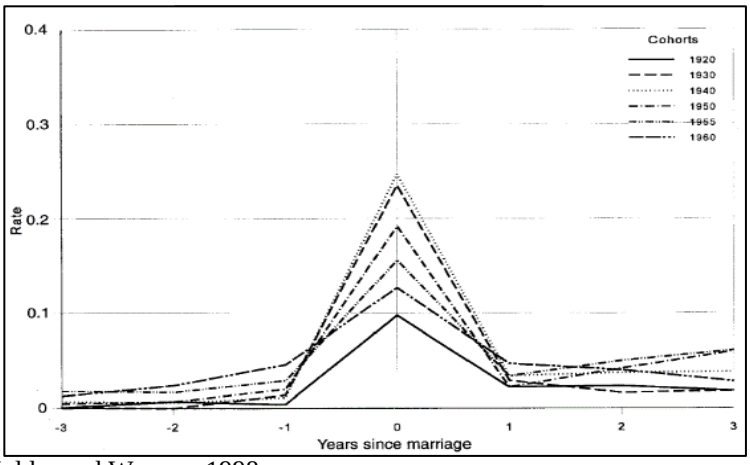
Housing affordability including energy and water sustainability and socio-economic, health and environmental consequences has recently been focused by vast areas of research (Luczak *et al.*, 2021, Kopp *et al.*, 2021, Cermakova *et al.*, 2022 or Bednar *et al.*, 2022).

The following review is focused on selected scopes of the academic production on the topic. An investigation on the profile of homeowners and their reasons to purchase (or not) houses will be explored and, later, addressed in practical exercises.

Owning a house has an impact that surpasses the individual gains and pours into society. According to Rohe *et al.* (2002) owning a house can alter the "opportunity structure" of that area due to: 1) It can increase the time of permanence of individuals and families in the neighbourhood, enhancing the local community network. The permanence time is confirmed by Anily *et al.* (1999), that owners stay in their houses for almost 13 years and renters stay for approximately 2.5.; 2) It may lead to higher engagement in political matters and voluntary work within the area. It is believed that the social gains of neighbourhood interaction are directly linked to job finding, arising from opportunities identified within those social interactions. However, the specialized literature suggests that the permanence in the house is rather related to a weak mobility than to the desire to stay in the property (Lukavec *et al.* 2017). Certain groups may be especially susceptible to segregation within poor quality areas: black households, households lead by women, elderly homeowners and low-income or jobless households (South and Deane, 1993 and Burkhauser *et al.*, 1995; Kaderabkova *et al.* 2019). It is possible to observe that, at the same time, homeownership presents social externality to owners, and it might cause an entrapment to certain social strata.

An important linkage between family formation or intention to form a family and homeownership resides in the idea that owned houses are more suited to families than rented ones; due to location, layout and size (Mulder and Wagner, 1998) and risk to be forced to move as changing home is more painful for families with children. Owned houses are usually larger and located in safe and child-friendly areas of the city. The advantages are substantial for families or prospective families than for individuals or couples that do not plan to constitute a family with children. Additionally, owning a house comes with non-financial and financial costs. Financial costs are straightforwardly related to mortgage and risk-incurring operations to purchase the asset. The non-financial cost is related to the loss of mobility if the owners intend to leave as a considerable amount of time would be spent in finding a new house and selling the current one (Helderman *et al.*, 2004). The traditional perspective of residential mobility is that the decision to move to a new residence can be understood as a function of the resident's discontentment with the current property (Brown and Moore, 1970). However, newer contributions presented that the causes for moving do not always relate to discontentment. A more complete structure on residential mobility can be attributed to the "life course approach", in which life is made of many aspects (education, residence, employment, household) and each aspect is related to a career. Socially people's careers interact, and, in the household dimension, careers of the resident members are interconnected (Willekens, 1999). Important events in life such as childbirth and marriage are intrinsically relevant to the reorganization of people's lives and their housing choices and, when facing these events, individuals might desire to find a bigger house or to move to a better neighbourhood. It is relevant to observe that these events are not randomly happening but is part of a strong relationship between the event and the person's stage in life (significant indicators of stage are age and household composition). Below, Mulder and Wager (1998) present the age and rate of transition into owned houses for West Germany between 1920 and 1960 (***Figure 1***).

Figure 1. Rates of transition into homeownership around marriage, West Germany (1920 – 1960)



Source: Mulder and Wagner, 1998

It is possible to see that there is no clear trend in the rate of newly wed couples (0 years of marriage) purchasing houses: in 1920 almost 10% of newly wed couples had their own house, in 1940 it was 24%, in 1950 it was 19% and in 1960 was around 13%. As per capita income has grown in west and, later on, in unified Germany, it would be logically correct to derive the assumption that purchasing a house has a strong sociological factor (forming a legal union with another individual, in this case) and is not a simplistic consequence of income change; otherwise, the relation higher income equals to higher homeownership for newly-weds would not be questionable.

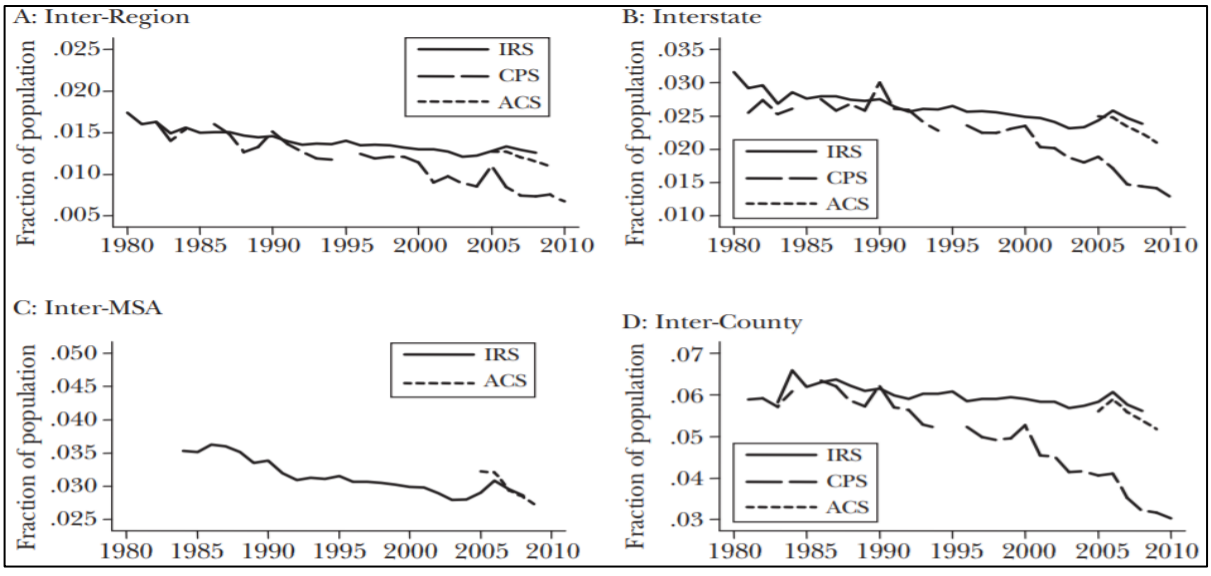
Geoffrey Carliner (1974) conducted a nation-wide investigation on the United States to find the main causes of homeownership. He intended to expand the studies conducted for few American cities to the whole country, and his research showed that the causes for homeownership for those cities would be correctly derived to the country: Marital status, family size and age are highly correlated with ownership rate. In order to characterize the typical profile that owns a house, it is relevant to understand in which location this person can be found. (Location is relevant due to sociological reasons leading to interpersonal relations (marriage and family bonds) and professional choices (comparative advantages of different regions and its career opportunities). Mulder and Wagner (1998) present ownership rates according to location and finds that home ownership rate decreases with density of urbanisation. While in rural areas it is found that more than 70% of households own their homes, this rate is around 60% in larger metropolitan areas and 40% in the New York metropolitan area. Households in rural areas tend to move less often as they are tied to the locality (Uvarova, 2020) and participate in local family businesses (Avdullahi, 2020). Hromada *et al.* (2021) in their article deal with factors (number of advertisements of new apartments per 1000 inhabitants, share of persons in foreclosure, etc.) that affect the return on investment in the real estate market. For their study and calculation, they used data from individual districts of the Czech Republic and data from the EVAL software developed by one of the authors of the article.

It becomes clear that homeownership rate in inversely related to urbanization: the more urbanized and cosmopolitanized is the area, the less ownership rate will be found. This finding is also presented by Mulder and Wagner (1998), they state that *"the likelihood of becoming a homeowner is smaller with higher degrees of urbanization"*, in their findings for West-Germany and the Netherlands people in highly urbanized areas have two-thirds less chances of becoming a homeowner when compared to those in non-urbanized

locations. High homeownership rates compared to cities can be easily explained by the fact that rental market is very limited in urban areas (Kaderabkova *et al.* 2020b) and also individuals tied to land are less likely to move (Kaderabkova *et al.* 2020a). So far, married couples of non-urban areas seem to be the highest in homeownership rates. As marital status and family formation are relevant factors of homeownership, it is desirable to analyse the change indicators within this topic (considering only numbers and trends, without any sort of anthropological of behavioural reasoning): according to Bremmer and Kesserlring (2004) the number of divorces per thousand-women aged 15 years old or more escalated from 9.2% in 1960 to 18% in 2001. Same trend for participation of married women in the labor force: almost 33% in 1960 and 61% in 2001; Women's mean real income in 1960 was 9.427 USD (2001=100) and 23.602 USD in 2001. The birth rate for married woman decreased by 50% since 1960: 157 births per 1000 married women in the past, 86.7 births per thousand married women in 2001. There is a clear trend of less children and more career-oriented pattern of marriage (Jasova *et al.* 2019).

Another useful contribution on understanding the reasons for homeownership (counting that there is more to it than simply income) would be the internal migration within a country, which serves as an instrument to mobility. Would be expected that areas with high migration (in-and-out-flows) to require more mobility of its residents, therefore a lower homeownership rate. According to Molloy *et al.* (2011) the migration within the United States is large: yearly 1.5% of the country's population moves between two of the four Census-designed regions (West, Midwest, South and Northeast); around 1.3% of the population moves to another state within the same region; yearly between five and six percent of the population move from one county to another, as stated by the authors: *"This is often a sufficiently distant move to make a meaningful difference in local housing and labor market environments"*. ***Figure 2*** offers the graphic representation of this trend.

Figure 2. Annual internal migration rates (United States, 1980 – 2010)



Source: Molloy *et al.* (2011)

The authors present three main drivers of internal migration: Firstly, the correlation between individuals' characteristics and net benefits of migrating, such as demographic and aging factors. Secondly, migration of particular groups like students seeking higher-level education outside their state or region. Idea also supported by Hoxby (2009), that young individuals are more likely to migrate as the selectivity of colleges increases (and the relevance of a diploma from those institutions also increase in the job market). Beside

studying purpose, a fall in labour demand is also an important contributor to inter-state migration. Thirdly, fundamental economic reasons might influence the net benefits of migrating, this type of migration seems to be pro-cyclical (falls in bad economic times and rises in good ones (Hejdukova *et al.* 2020), as individuals adopt strategies used by other individuals (Cermakova *et al.* 2021). Greenwood *et al.* (1986) support this pro-cyclical behavior stating that: *"the migrant-attractive power of an incremental job behaves in cyclical fashion"*.

It is also important to examine the impact of the COVID-19 pandemic on the real estate market. Authors Marona and Tomal (2020) examined the effects of the COVID-19 pandemic on the working practices of real estate agents and the attitudes of their clients in the city of Kraków. It was found that real estate agents began to use online services and digital technologies to a much greater extent. At the same time, their clients (landlords) transformed their business model so that instead of short-term renting, they began to use their properties for long-term leases. Tenants then began to demand a reduction in rental prices and demands for higher housing standards emerged. Similar trends have been confirmed across different cities as documented by Hromada (2021).

Maalsen *et al.* (2020) also argue that the COVID-19 pandemic has the greatest impact on the private rental housing sector. In particular, there are negative effects on short-term rental of apartments. Nicola *et al.* (2020) describe that the COVID-19 pandemic also had a significant impact on banks' access to housing loans. Banks in the UK, for example, have begun to demand that clients have a higher share of their own housing finance.

Another issue related to the COVID-19 pandemic that could have a negative impact on renting or buying one's own home is the impact of the pandemic on the tertiary sector. According to Horak *et al.* (2021) and Zubikova *et al*. (2022) this sector has been the hardest hit. In most cases, firms in this sector had to lay off their employees, close down their operations, etc. Thus, the article shows that when there were layoffs, people started to be without income and had problems paying rents or could not afford their own housing. The authors used information on companies based in the Czech Republic. Hassan and Lee (2021) deal with a similar topic but in a different country.

A study by Toro, Nocca and Buglione (2021) analyses trends in the residential market in Italy, especially in the Naples metropolitan area. The COVID-19 pandemic has changed the living and working conditions of the population since the beginning of 2020, affecting all sectors of the economy, including the real estate market. As many people were forced to spend much more time in their homes, including the implementation of work and leisure activities, the company began to place new demands on real estate. There is a growing demand for the use of common areas of buildings, terraces and balconies. There are higher demands on the surroundings of buildings, parks and natural lighting in buildings. A similar topic is addressed by Vochozka *et al.* (2017).

A study by Anenberg and Ringo (2021) examines the development of the US housing market during the COVID-19 pandemic. The authors found that the supply of residential real estate for sale is decreasing and at the same time real estate prices are rising. On the demand side, the pandemic forced households to spend more time at home, and this could attract new buyers to the housing market. Lower interest rates are also likely to stimulate housing demand. Krulicky *et al.* (2020) have a very similar view on this problem in the USA.

The study by Le Goix *et al.* (2021) examines the impact of the economic crisis on housing affordability in individual European Union countries. The study identified key issues, including in particular social distancing, gentrification and the accumulation of socio-economic inequalities in individual localities. The authors have found it increasingly difficult to gain access to quality and affordable housing in larger European cities and name short term rentals as an important factor of housing unaffordability. The long-term impact of the COVID-19 pandemic on short-term rental trading through online platforms, in particular Airbnb, is addressed in the Dolnicar and Zare (2020) study. The authors predict that the share of homeowners who use this platform for business purposes will decline. This conclusion, however, is questioned by Hromada *et al.* (2021) who find that properties used for short-term rentals have not been transferred to long-term owner housing but remain ready to saturate the demand for short term rentals any time it grows again.

In the sections to follow we will examine the relationship between homeownership rate and selected socioeconomic variables. Housing affordability is often an aim of economic policies. But is there a need for subsidizing homebuyers? If the price income ratio is more favorable, will the rate of homeowners grow? Or, perhaps, the observed decreasing trend in homeownership rate is a natural consequence of changing lifestyle? If so, how may housing government policies be aimed? We will seek for arguments and propose an insight in the proposed areas.

Hromada *et al.* (2016) focused their article on life cycle costing in the implementation and preparation phase of residential projects. Based on the practical experience gained by the authors by testing an innovative method of life cycle assessment of buildings in a specific project, they found that selecting construction materials at low acquisition cost is not the most appropriate choice. Therefore, in this paper, they present a tool that evaluates the sustainability of residential buildings from an economic and life cycle cost perspective. They also expand the knowledge of the public and professionals about the importance of operating costs and investment before construction begins. Rent as an investment asset is discussed in Krulicky *et al.* (2019).

3. Methodology

The data used is solemnly extracted from the Bureau of Economic Analysis, the Federal Reserve Bank of St. Louis and the United States Census Bureau. The data were accessed via the platform Data.census.gov allowing access to access demographic and economic data from US Census Bureau. Datasets range from 1984-2020 and 1993-2020, on yearly basis. The Census Bureau produces economic data across the entire economy on a monthly, quarterly, yearly, and five-year basis. All computations and econometric validations and graphical visualisations were performed by the authors.

This research uses the data for the USA for the reason that USA offers possibility to study states with different ownership rate and income and demographic characteristics, but at the same time states do not differ by historical development or economic policies. Such research is hardly reproducible at national state level or for the European Union for the same reasons. The availability of American data and the continental size of the country made it the only analysed nation as it has been proven that the housing availability trends are similar across developed economies (Le Goix, 2021), and at the same time possible

cultural and historical aspects influencing the rate of homeownership are not present in the US data.

Two correlation tests are performed in our study: for income per capita and homeownership rate of selected U.S states and national "marriage rate" (by ethnicities white and black) (measured by the number of married men divided by total male population equal or above 15 years old in that given year) and national homeownership rate. Thirteen states have been selected following the intention to capture different socio-economics aspects of the United States, therefore, highly and lowly populated, relatively rich and poor, high-urbanized and low-urbanized states were selected. When these states are placed into several demographic lists, various tranches of this list are encompassed by this selection.

4. Results and Discussion

Before discussing factors that may influence the home ownership rate let's examine the relationship between income and home ownership rate. Firstly, a correlation between income per capita and home ownership rates for these thirteen states are summarized in ***Table 1***.

Table 1. Correlation between home ownership and personal income per capita in selected U.S. states (1984 – 2020)

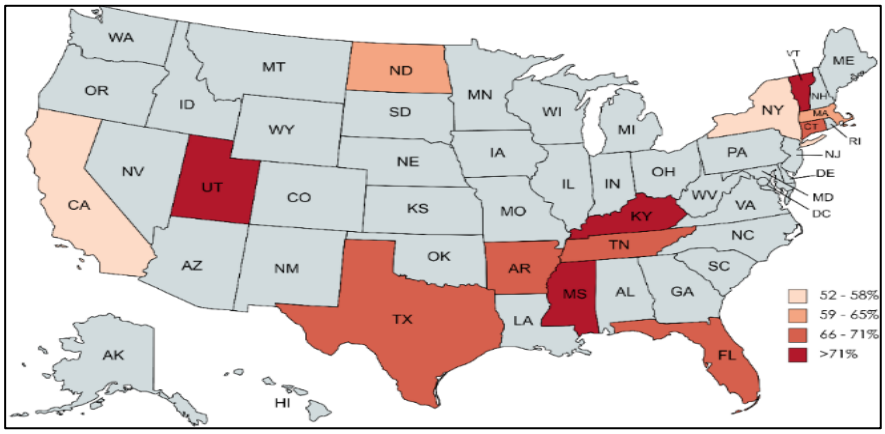
State	Corr.
Arkansas	-0.2098
California	0.1199
Connecticut	0.0430
Florida	0.1742
Kentucky	0.1557
Massachusetts	0.4201
Mississippi	0.3315
New York	0.1716
North Dakota	-0.5296
Tennessee	0.1928
Texas	0.5608
Utah	0.3174
Vermont	0.6385

Data source: Bureau of Ec. Analysis and FED

The graphical representations that follow show that there is not a clear dependence between home ownership rate and income – income is not an important driver of property prices. Below cartograms include selected states only, states in grey were not included in the visualization (e.g., their data is not presented here).

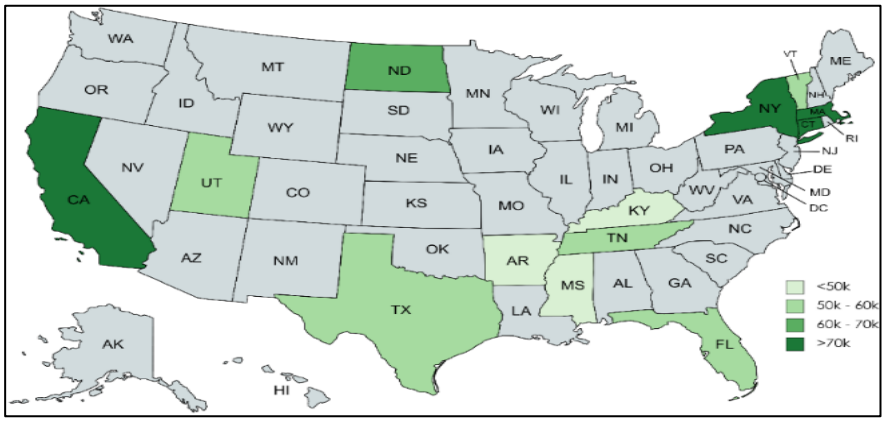
Figure 3 displays homeownership rates for these states in the year 2020, ***Figure 4*** displays personal income per capita for the same year. A graphical demonstration helps to understand the spheres of influence of a determined state into another. ***Figure 5*** is a comprehensive demonstration of crucial indicator home price to income ratio, which extensively serves in understanding the housing markets (and the regional dynamic) of certain areas of the country. It is observable that some regions were more expensive almost 30 years ago than today, and others are more expensive today than in the past.

Figure 3. Homeownership for the year 2020



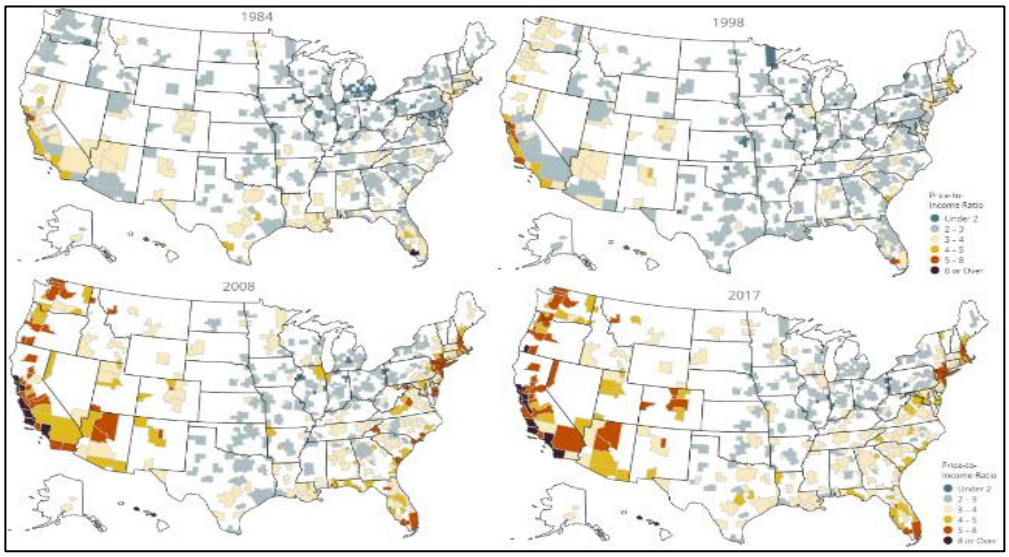
Data source: Bureau of Ec. Analysis and FED

Figure 4. Personal income per capita in 2020



Data source: Bureau of Ec. Analysis and FED

Figure 5. Home price to income ratio (1980-2017), 4 selected periods



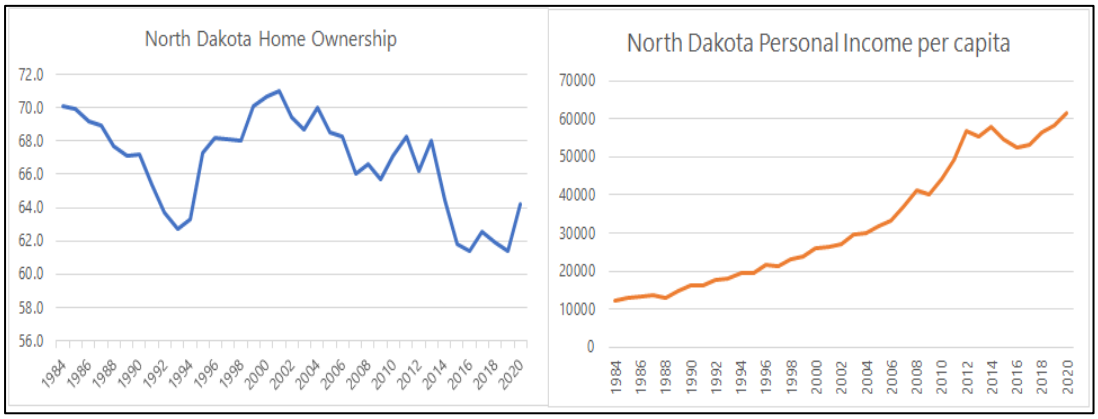
Source: Harvard University (Joint Center for Housing Studies).

California and New York are good examples of high incomes and low home ownership, their correlations are showing that increases in personal income per capita does not correlate to home acquisitions. On the opposite, Mississippi and Kentucky are states with low income per capita but high home ownership; additionally, these two variables do not see to be correlated as well, indicating that the sources of high home ownership must be away from income. Possibly due to a larger unskilled labour force when compared to richer states, and the literature suggests that people with lower labour mobility tend to purchase homes rather than rent. Texas and Florida are particularly interesting examples, they have similar home ownership rates (66.5% and 68.7%, respectively), personal income per capita (55,129 and 55,675 USD, respectively) and very high inflow of unskilled and skilled labour force from other states and abroad; however, only Texas has a higher correlation (0.56) of income and home ownership and Florida is less affordable in metropolitan areas (such as Miami and Lee County areas) than Texas. Utah and Mississippi have very high home ownerships (71.7% and 74.2%, respectively) but Utah has a substantial higher personal income per capita: 52,204 USD against 42,129 USD of its southerner counterpart, complementarily their correlation coefficients were especially similar: 0.3174 and 0.3315, suggesting that income plays a role in home ownerships, but residential position is likely to be better explained by other variables other than income. Kentucky is likely to have a similar situation as Mississippi's. Connecticut seems to be a special case: high personal income, medium-high home ownership and almost zero correlation of income and home ownership. This state has historically held top positions on income and had a lower price to income ratio when compared to near metropolitan areas (like New York City and Boston) which might suggest that most real estate was purchased by previous generations.

Arkansas and North Dakota have particular cases of negative correlation coefficients (0.2098 and -0.5296, respectively) indicating that personal income per capita and home ownership have a negative relation: an increase in one variable is related with a decrease in the other. Specially for North Dakota that showed a higher coefficient than Arkansas. North Dakota is the 48th least populated state in the country, with only six areas having more than five thousand inhabitants per million square miles. At the same time, this state is the 44th in the rank of percentage of elderly citizens in total state population. It is a low-density state with a large young population, which might explain the negative correlation of home purchases and income.

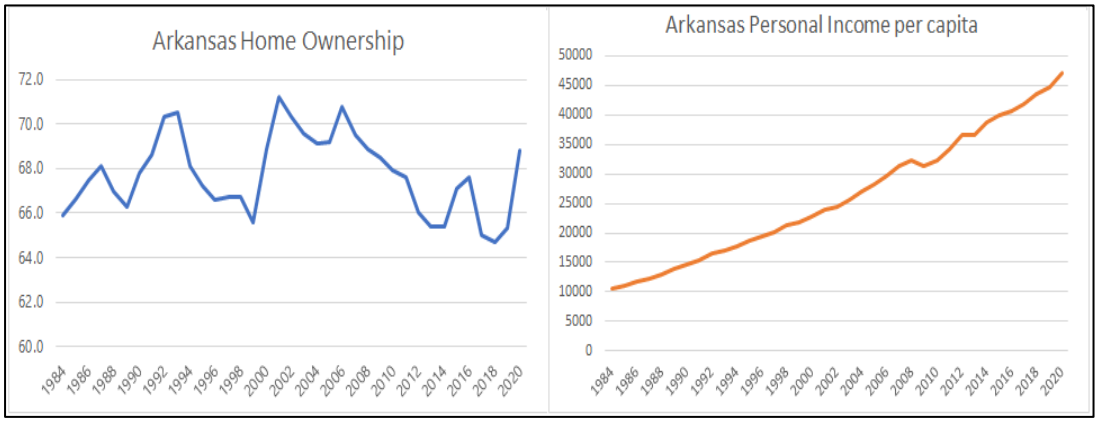
In 2017, the Capital became less affordable and, as the state is not like Texas or Florida that receives many migrants, there is no intensity in real estate development; so young workers could be delaying their house purchase due to the perception that housing became more expensive or due to seeking better opportunities in more dense metropolitan areas. It would be plausible to imagine that workers tend to leave the state when they become more skilled (and have higher income). Lastly, North Dakota is heavily based on agricultural production, which consumes a big part of the state's land, being an obvious reason for housing limitations and the concentration of people in a handful of cities. Arkansas has shown decent ranks of affordability throughout time and its negative correlation might relate to migration of workers to more competitive regions in the neighbouring states. Arkansas has a higher percentage of elderly in their population and their main economic activity is agriculture, which may lead the perception of the labour force into working in metropolitan areas of the state (such as the Pine Bluff metropolitan area) but intending to pursue better opportunities in much larger and dynamic areas in the near-by states like Dallas in Texas and Memphis in Tennessee.

Figure 6. North Dakota's home ownership and personal income per capita



Data source: Bureau of Economic Analysis and FED St. Louis

Figure 7. Arkansas' home ownership and personal income per capita



Data source: Bureau of Economic Analysis and FED St. Louis

Vermont is a state with medium-high personal income per capita, very high home ownership and the highest correlation of 0.6385. This state is the second least populated in the United States and has one of the largest percentages of elderly in their population: almost 20% of the state population is older than 65 years old (as mentioned in Molloy *et al.*, 2011, age is a crucial factor on decreasing mobility within U.S, especially when individuals already have ownership of property). It seems that the historical affordability in of the state guaranteed house purchases in the past (the ones retired today likely purchased houses when working) and the only dense area of the state, Burlington, has become less affordable but the rest of the state seems to be persisted being affordable. The proximity of Burlington to Montreal may play a role in the dynamics of housing and hospitality businesses in the city. Lastly, Massachusetts, seems to be a straightforward case of increase in personal income reflecting in residential purchase. This state has a small area but large population, allied to a very dynamic economy and an extensive number of selective educational institutions. It has similar conditions to New York city, but the Boston area is more affordable. The possible reasoning is that labour mobility (a reason why people would not purchase but rent) does not play a crucial role in this state; skilled labour force does not seek to leave Massachusetts (like in Arkansas or North Dakota) but to stay in it. Highly capable Americans and foreigners move to Massachusetts to study at prestigious universities and do not need to leave the state in order to maximize gains by decreasing housing costs (what would happen to graduate students in Los Angeles or New York city) and by avoiding higher income tax, as Massachusetts has lower personal income tax rates than New York and California.

Additionally, a second correlation test is performed in order to check for marital status and homeownership, now at a national level (***Table 2***).

Table 2. Marital status and homeownership

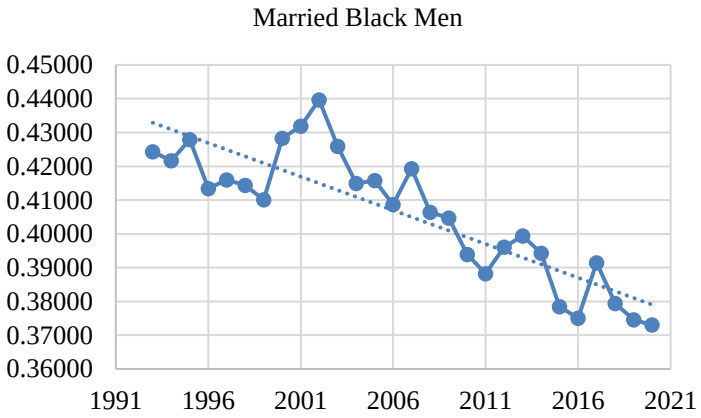
Marital status	Correlation coefficient
Married men	0.263548
Married black men	0.4797428
Married white men	0.203034
Married women	0.260655
Married black women	0.2580731
Married white women	0.2493259

Data source: United States Census Bureau

The correlation between marital status and owning a home is not zero, but in most cases does not present a strong correlation. The exception is left to married black men, which more than half of this subgroup has never married (for white males this rate is around 1/3 of their group). An analysis on why black men is not marrying is a discussion beside the point of this paper, however, would be desirable to hypothesize the reasons for such correlation.

As presented in the literature review, black households are among the main groups of strict residential immobility, especially in neighbourhoods of poor quality (South and Deane, 1993 and Burkhauser *et al*., 1995). A possible conclusion is that black males marry less but are more willing to reside in their own property, likely in a low-income and low-mobility neighbourhood. An obvious derivation from this point is that, according to demographics of the United States, black men have less years of education than white males, which leads to less skilled labour (a proxy for labour mobility, e.g., this subgroup does not take "mobility" as an important factor in the same manner that other subgroups might consider). Below is a graphic representation of the rate of marriage for black men in the United States.

Figure 8. Rate of married black men in the United States (1993 – 2020)



Data source: United States Census Bureau (2021)

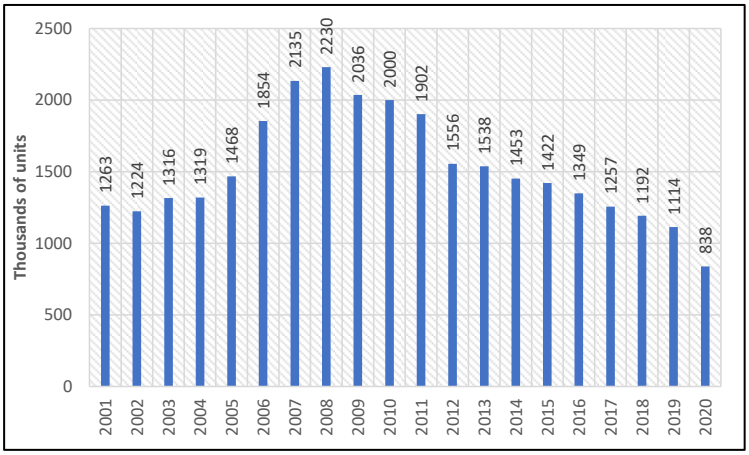
This graph clearly shows a trend, however, what is peculiar is that since 2016 national homeownership rate for the United States is in a clear rise and the proportion of married black men continues to fall. Certainly, there is a sociological factor to acquiring a home by single and unmarried people since the beginning of the millennium that was not present in the acquisitions done by previous generations, also the change in size of residencies, shared-spaces, office-apartment integrated complexes, the house-capsule concept

developed in Asia and many other modern trends have drastically influenced the perception of people on house acquisition and it should be investigated by future housing studies.

The following Figures 9-12 show the relationship between property vacancies, property prices (vacancies and prices on property market) and the reflection on the rental market. The figures bring evidence about the correlation between vacancies and prices, about the transmission from property market to property rental market (with decreasing home ownership rate there might be a decrease in rental vacancies – thus rents - as people move from own home to rented property, and, last but not least, with the easing of the central bank's monetary policy, there are greater real estate market fluctuations compared to the long-term equilibrium.

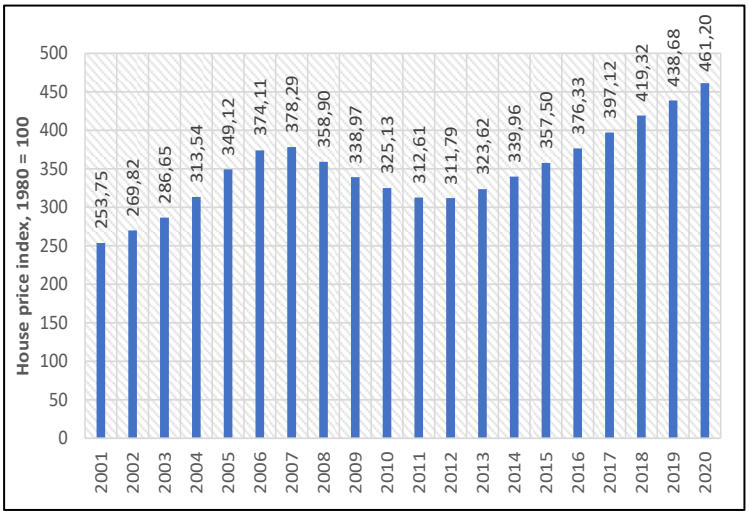
Figure 9 and ***Figure 10*** show the relationship between the number of vacant housing units intended for sale and the price level over time. It turns out that as the size of the offer decreases, the price increases. There is a strong correlation.

Figure 9. Vacant housing units for sale in the United States (2001 – 2020)



Data source: United States Census Bureau (2021)

Figure 10. House price index for the United States, Index 1980: Q1=100 (2001 – 2020)



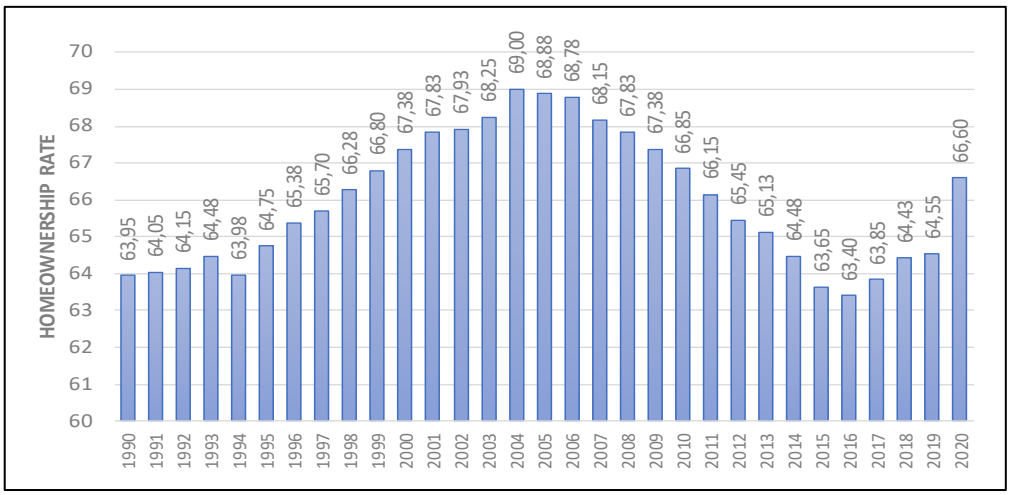
Data source: United States Census Bureau (2021)

The relationship between the rate of home ownership and the vacancy rate of rents was monitored. The homeownership rate in the United States was highest in 2004 during a period of economic prosperity. Between 2007 and 2009, there was a recession that decimated the real estate market and manifested itself, among other things, in a reduction

in the rate of home ownership (see ***Figure 11***). In connection with the central bank's policy in 2020 and 2021, the rate of home ownership is rising again.

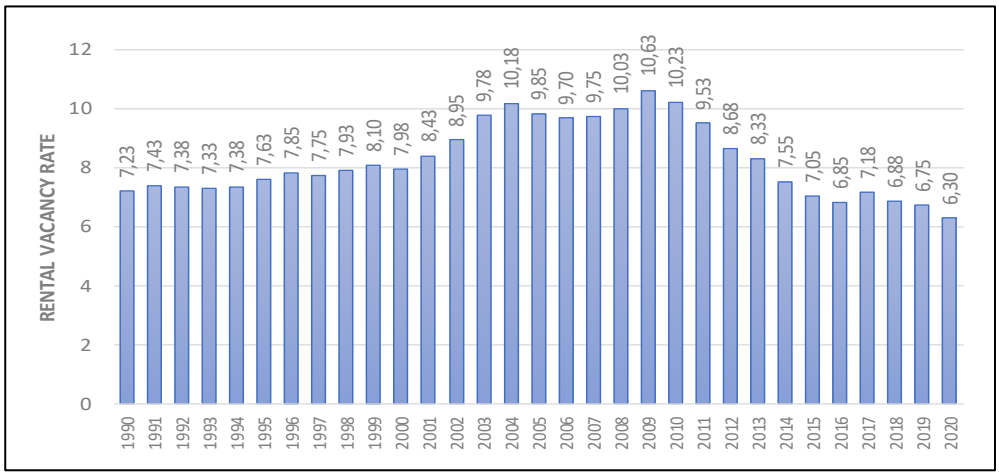
The vacancy rate then follows a steady decline since the recession in 2009 (see ***Figure 12***). Many people are relocating to the rental sector and housing conditions are deteriorating. Interestingly, after the onset of the COVID-19 pandemic, this declining trend does not change. The reason can be found in the poor financial affordability of owner-occupied housing and households' fears of future economic development.

Figure 11. Homeownership rate in the United States (1990 – 2020)



Data source: United States Census Bureau (2021)

Figure 12. Rental vacancy rate in the United States (1990 – 2020)

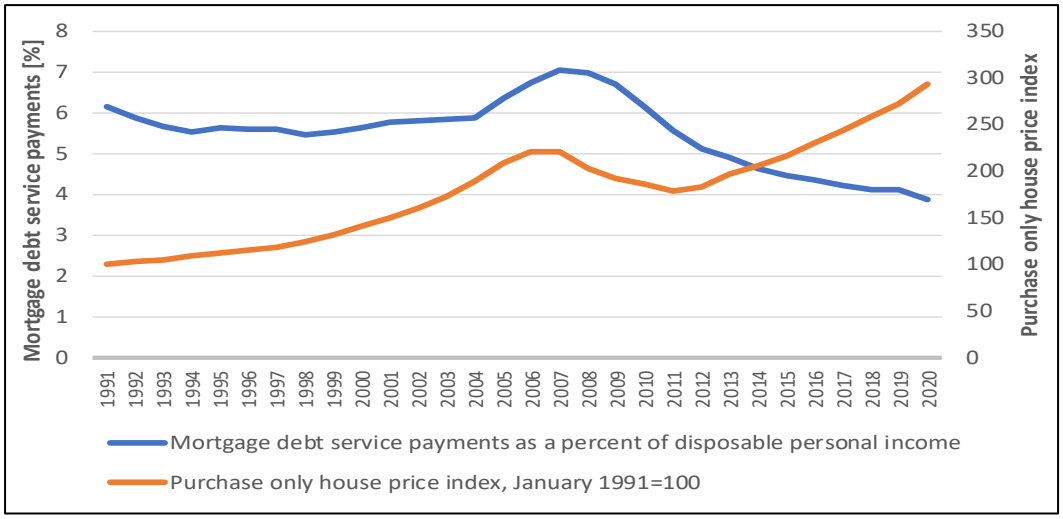


Data source: United States Census Bureau (2021)

Due to the decline in interest rates on mortgage loans, there is also a decline between 2008 and 2020 in ratio of total required household debt payments to total disposable income (see ***Figure 13***). This trend indicates an improvement in the affordability of owner-occupied housing; however, this improvement is not evenly distributed throughout society. Low-income and medium-sized households often do not have the opportunity to acquire owner-occupied housing due to a significant increase in the price level of real estate. In direct relation to the decline of the ratio of total required household debt payments to total disposable income follows the rise in property prices since 2011. There is an observable correlation between monetary release and house price index. House price is influenced by monetary policy in the same direction as other investments (Cermakova, 2021; Kliber,

2021) as property attracts investments in times of high uncertainty at stock markets (Altinbas, 2020) or attract long term investments for diversification purposes (Andelinović, 2020) and prudence (Perić, 2020). Loose monetary policy would, therefore, support new buyers, but would contribute to home price inflation decreasing housing affordability. Should a countervailing monetary restriction be applied, rising mortgage costs may default mortgages and decrease home ownership. Monetary policy is, in this regard, a questionable tool for solving housing affordability problem (Cecrdlova, 2020) and causing an institutional shock to the economy (Ouechtati, 2021).

Figure 13. Mortgage debt service payments as a percent of disposable personal income and purchase only house price index for the United States (1991 – 2020)



Data source: United States Census Bureau (2021)

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5. Conclusion

Aiming at understanding the overall decreasing trend in the homeownership rate we believe that it can be mostly explained by ongoing changes in lifestyle rather than purely with the price-income ratio. We have showed that some other factors such as migration and urbanization, age and marital status, family, skills or current vacancies may better explain changes in homeownership rate. Governments often engage in improving housing affordability by subsidizing selectively at the demand side. We all want to live in a place where housing is affordable, but not necessarily own housing. Renting home may soon be understood as a good solution of housing needs. Once this happens, governments will not need to spend funds on housing policies and boosting housing demand further and having an unintended lock-in effect.

The society should focus on increasing the affordability of both rental and owner-occupied housing in the regional centers of individual states, due to growing urbanization trends, rising real estate prices, speculative purchases and other factors. We believe that achieving a reduction in the growth of the price level of real estate and thus increase the affordability of housing is possible only by increasing new construction. The government may rather therefore reduce regulatory measures related to new construction and support it as much as possible, for example by reducing the tax burden in the case of residential housing. The state strategy of supporting the supply of rental housing may be a very efficient policy. Increasing the share of rental housing may contribute to increasing the mobility of the population with positive effects on the labour market and the economy performance.

In order to respond to the changing needs of the population in accordance with the demographic development of society, changes in the labour market and the volume of new construction in individual regions, the government support should focus mainly on the supply side of the property market (construction companies, developers, municipalities implementing new construction, individual investors, real estate funds), especially on the expansion of the construction of rental housing. At the same time, it is appropriate to support existing disused buildings and brownfields. We believe that focusing the government´s policy on creating a stable and predictable environment in the area of permitting of new construction and enabling the availability of housing close to job opportunities.

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