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Affordability of Housing in Ohio: 1984-2016

**INTRODUCTION**

Owning a home is historically viewed as one of the aspects of living the “American dream” and is an aspiration most people work towards for a long time This purchase is usually the largest and most extensive purchase individuals and families make throughout their lifetime. This paper attempts to analyze the historical trends of the affordability of purchasing a home. Specifically, the focus will be on homes in Ohio from 1984-2016 and will ask the question: Is purchasing a home still an affordable option for households in Ohio? This is an important question for households to consider, many want to go through this process, but may end up purchasing a home and stretching their budget more than is feasible. It is also difficult since this decision is made at the household level, and certain households may independently decide that extending their budget for the costs of the house is worth it. I will take macro trends and extrapolate them to the household to discuss affordability and its effect on the household.

Over the examined period we see stagnant wages and rising home values. Given the increase in housing prices and the stagnation of wages, one of the assumptions made that allows people to purchase more expensive homes is that most households are taking on more debt to purchase a home to fulfill their version of the American dream. Is the dream affordable? Affordability will be discussed in terms of the total costs attributed to buying a home on a thirty-year mortgage, while monthly affordability will be defined for families paying more than 30 percent of their monthly budget towards housing costs. The families above this 30 percent threshold are considered to be in a situation of “housing-cost burdened”. This follows a report as done by Schwartz and Wilson in their analysis of home affordability in 2006. To analyze the historical trends in housing values we will look at median family incomes and the value of home at purchase in Ohio from 1984-2016. This has additional policy merit in Ohio as roughly two-thirds of school funding comes from property taxes, which is an additional cost a homeowner will pay in the state, although I will not focus on that it is something to consider for future cost analysis. Using information from the St. Louis FRED database we will analyze the historical trends of housing prices in Ohio by measure of the Housing Price Index (HPI), and adjusted median income in Ohio. In addition, I will use interest rate data from Fannie Mae to gauge the interest associated with the purchase of a home. This will allow a comparative analysis to look at hypothetical monthly and total costs of housing in 1984 and in 2016.

Analyzing the issues and changes in housing affordability will require a historical analysis in three areas. The first is housing expenditure, the percent of the budget that households are allocating towards housing. Secondly will be wages that that households are taking home to purchase a house. Finally, the ‘financialization’ of the house will be considered. This is where most of the analysis centers around, and includes the change in price and interest rates specifically, while discussing what may be the underlying trend in those changes. The financialization of the house is one of the main driving forces of the housing market, almost by definition, and is most of the focus of this analysis. However, the focus of this aspect will be on interest rates and interest rates effect on the monthly and total costs of the home.

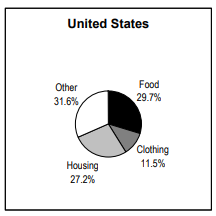
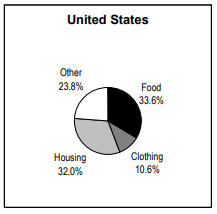
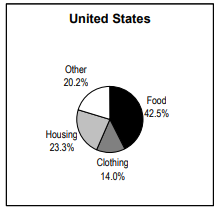
**LITERATURE REVIEW & ANALYSIS**

Studies regarding the affordability of housing have usually focused on the monthly expense of the home. Using the monthly expense, and in turn comparing that to the income of the individual purchasing the home, generating a percent of income going towards housing. In a report published by the US Census Bureau titled “Who Can Afford to Live in a Home?” (Schwartz and Wilson, 2008) they note that the definition of affordability is somewhat ambiguous. This ambiguity makes determining if housing is affordable difficult: what does it mean and to whom? Given the period of their analysis on housing, the data and interpretation of what was happening in the housing market may have been biased. This was the height of the housing bubble that would come to fruition with the housing market crash that was in the midst of bursting. The report notes that homeownership rates had been decreasing (probably due to the fact that it was retreating from relative historical highs), households were more likely to no longer be able to afford their homes (probably due to the rapid increase in value leading up to this period), and that 46 percent of renters nationwide were paying more than 30 percent of their income towards housing costs. This note on renters demonstrates how important a healthy housing market is to the average household, and how it extends into the overall economy. The analysis needs to focus on total costs as well and discuss why these changes are occurring.

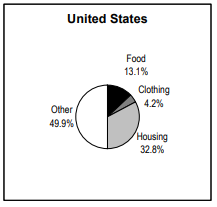
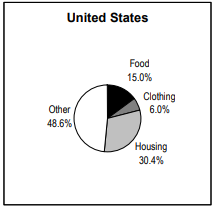
The historical analysis traces the evolution of the 30 percent standard, which is an important analysis to consider an idea of affordability. Considering that the analysis show that almost half of renters at the height of the housing market bubble would have been considered housing-cost burdened, this is especially important. Schwartz and Wilson note that the concept of the affordability began to be recognized with the United State National Housing Act of 1937, which stated that 20 percent of income towards housing costs was considered affordable. After this initial 20 percent target, it was determined 20 percent was difficult to maintain and it was raised to a 25 percent target with the 1969 Housing and Urban Development Act. It was then again updated in 1981 to 30 percent, which is where it remains today. This development is important to note for both its ambiguity of what it means to own an affordable home, and it is also a demonstration of the historical increase in home prices and the income being designated towards housing costs. Following this study, the idea of the concept of affordability of housing, on a monthly basis, is defined as 30 percent of income. However, this review potentially leads to an additional question: can we continually redefine affordability of housing? Given the trend shown over the last 100 years, why would it not be appropriate to now define “housing burden” as 35 percent of income being dedicated to housing? 40? This analysis will assume the 30 percent being the affordable cutoff, while acknowledging that it is subject to changes in the near future, particularly if these trends hold.

The Bureau of Labor Statistics analyzed the trends in household expenditure from 1901 – 2002. Using data from the BLS in their 2006 report “100 Years of U.S. Consumer Spending” we can see the broad changes in spending across the nation over time.

1901 1934 1950



1984 2002



The BLS data shows the evolution of household expenditures overtime. In 1901 we see that spending on housing costs was 23.3 percent of household spending. In 1934, amidst the Great Depression, we see a rather dramatic rise in such a short time period that brings consumer spending on housing to 32 percent. In 1950, after the end of the depression brings, it falls back down to 27.2 percent, still above the 1901 level. Recently, along with the analysis by the Bureau and in line with the time-period of this analysis, we see that housing costs have increased from 30.4 percent to 32.8 percent. This amounts to roughly an 8 percent increase of housing costs to their total spending. This analysis gives credence to the idea that we see increase housing costs, in line with the change in defining housing burdened over time. However, it also shows that the trend in “other” has dramatically increased. This does not necessarily mean that “other” is disposable, just that the classification system in 1901 followed through to 2002 shows that costs for items not related to food, housing, and clothing expenditures has risen to be almost 50 percent of the household budget. This suggest that household may be able to divert more and more income towards housing, both if they choose to and if they need to. In their conclusion, Schwartz and Wilson note multiple reasons for why and for who are the housing-cost burdened, noting a difference among younger and older household, by variation in state, by number of workers, etc. Considering the very specific aspects of the household, and assuming higher housing costs as an opportunity cost choice, would be an additional point for further analysis.

In a report by the Department of Housing and Urban Development they analyze the trends in housing costs from 1985 – 2005. Their analysis consists of the entire range of potential costs that make up the total costs that are considered in providing shelter. The report notes that housing costs have been increasing more rapidly than the costs of other household items and expenses. When using the data from the Bureau of Labor Statistics Consumer Price Index, they note that the increase in the costs of shelter has increased 104 percent in the period of 1985-2005, whereas the costs of other items in the same period had only increased 74 percent. The report also notes that “In current dollars, monthly housing costs for owners with mortgages increased from $670 in 1985 to $1,521 in 2005, an increase of 127 percent” which would work out to a roughly 2.27 multiple over the period, similar from the HPI discussed later in this analysis. This shows that housing prices have been increasing rather dramatically throughout the period even when adjusted for the time. However, this does not necessarily mean the total costs of the mortgage has increased as dramatically, as we will see later, but that the sticker price of the mortgage and associated monthly costs has increased. The report also does not seem to differentiate between types of mortgages: 15-year, 30-year, fixed or adjustable? The analysis by HUD includes a discussion on utilities, taxes, maintenance, fees and additional costs that are associated with providing shelter. The analysis seems to get a little convoluted and confusing and does not take into consideration total costs. It analyzes the total relative monthly costs, which includes items that will not be correlated with the total costs of mortgages, but it will be a cost that households need to consider when deciding to purchase a home. This may also be a main reason that people will rent instead of purchase a home. In addition to the down payment, the fringe costs associated with owning a home prevents people from buying. The rent to mortgage payment ratio will be relatively the same for most households, however, there may be a slight premium attached to the monthly payment for renting, but unaffordable unexpected costs associated with housing will force people into renting. These analyses do not consider total costs or why the costs are shifting, a necessary component to determine if people are purchasing affordable homes, since it can be a 30-year investment.

We have seen that the trend of housing costs and the percent of the monthly budget going towards housing costs has been rising. What is causing this or allowing this to continue? Wages would be able to explain the rising price of homes, under the assumption higher wages means higher housing prices. However, it would also be able to explain rising expenditure budget if wages are *not* rising, but costs are. Housing is taking a larger slice of the pie, as we saw in the expenditure charts in the United States over the last 100 years. If wages have been increasing we can assume a rising sticker price in the value of the home would make sense. People can afford it. They may also decide to divert more income towards housing as they see it best fit for an investment and future equity, this may explain *why* the expenditure trend is rising. This ties into a second potential aspect of affordability, the financialization of the home. These are two of the main driving points beyond the affordability of housing on households and how it will affect social reproduction for the family. The lack of correlation between wages and price would be due to certain aspects of the financialization of the house, discussed later. The lack of correlation between wages and housing prices in Ohio over the last thirty years is rather staggering. As we saw in the Bureau analysis, housing costs have risen faster than other costs, and are roughly twice the expense in similar dollars. If they had moved in relationship with one another, the only issue with potential affordability problems would have come from the idea that they were never affordable in the first place. If wages had risen alongside the increase in housing prices, the discussion would not be as important. Likewise, if housing prices had been as flat as real wages, the issue would be less severe. However, this has not been the case.

The data for median income in Ohio used in the analysis comes from the St. Louis Fed economic data site. Data for the Housing Price Index also came from the St. Louis Fed FRED (Federal Reserve Economic Data) source.

As we can see from Graph 1 there is seemingly no correlation between the median income of households in Ohio and the price of houses in the last 30 years, similar to the analysis the Bureau undertook. Specifically focusing on the income issue in Ohio shows us that adjusted median income has been essentially stagnant since 1984; the median income was $50,894 in 1984 and $53,985 in 2016. This works out to a roughly .17% rise in wages annually for a household in Ohio across this period. Income should be the main driving factor that allows for households to purchase homes, the higher the income the more expensive home that the family can afford. It should follow that the main driving force in the increase in housing values should also be income. HPI is estimated using recent sale prices of homes and appraisal data. It is worth noting that the value of a house is tied into the relative price of houses sold in the area given similar characteristic. Essentially, the increase in home prices is a self-propelling mechanism. If home prices have been increasing home prices will continually increase. The quicker the transactions take place, the quicker will be the increase in price. Prices could be rising due to the purchase of a home as an investment between higher income families, groups, or investors and then renting the house out monthly on year over year leases, but lack of dramatic declines in ownership rates suggest this is not the case. The economy seems to have created an environment where housing prices can increase, but wages are not increasing. Labor markets and the financialization of the economy would potentially explain this possibility.

The discussion on the changes in the labor market has recently centered around the changes in technological change and the growing movement towards an international labor pool. The changes on the labor market has been a major determinant for the lack of wage growth, particularly in Ohio, over the last thirty years. Rapid technology change has been detrimental to long-term workers in Ohio and even harms those on the cutting-edge of technology in Silicon Valley due to how fast technology is changing (Benner 2004). How can households maintain wages in such a rapidly changing environment? The stagnation of wages is a prevalent topic when discussing the household budget, but specifically when regarding mortgages, it can be an interesting question for how American families are affording houses. One possibility may be that families take out larger mortgages to purchase homes with the *expectation* of higher wages. If mortgages are fixed, rising wages that are increasing with inflation may actual make mortgages and housing purchases affordable as a long-term purchase, assuming housing prices are in fact continuing to rise. Their payment would be fixed, income would be rising, and equity would be growing. This is the ideal situation for the homeowner, and the perfect justification for purchasing a home. However, since 1984, the global landscape of employment has dramatically changed. Companies have been seeking out profits in the form of moving labor to its cheapest location in the world as the global markets become more globalized. Globalization and neoliberal policies have seemingly made it possible to move labor, wages, and capital across the globe at incredible speeds and the process if causing dramatic changes throughout the global economy (Tickell & Peck 2003; Kotz 2010). This change has allowed for companies to engage in ‘labor market arbitrage’ by making this shift to lower killed workers in different nations (Smith 2015). This ability to increase the supply of labor has dampened the prospect for rising wages in America, and specifically states such as Ohio that have seen manufacturing jobs leave to places like China and Mexico that have the desirable cheaper labor forces. The rise of globalization in addition to new technology developments has led to a “transnational household”, in which households are connected across the world due to the ease in which capital, wages, and people can be moved with ease (Ferguson and McNally 2015; Lutz 2011). This shows up in financialization, too. Many of the people buying mortgage backed securities were institutions across the globe. Household mortgages even became transnational.

Data shows that since the recent Great Recession the number of voluntary quits has dropped dramatically, declining from 3 million monthly quits in 2006 to 2 million in 2011. This shows that with “limited outside options for their workers, employers do not have to pay substantial wage increase to keep the workers they need” (Bivens 2014). This expansion of capital into the global markets allows capitalist to continue to expand into new categories of workers as well, which helps distort labor market and labor power. This distortion of power among laborers is divide and conquer strategy that has been employed and felt among workers for decades. There has always been an “us vs them” feeling when it comes to a whole host of things, and who is working what job is no exception. Now with the shifting of jobs to offshore markets, the middle-class has seen its place deteriorate as they have less power and less wages (Fletcher and Gapasin 2003). This labor market process has led to a dramatic rise in household debt to take on these purchases. The former Treasury Secretary and President of the Federal Reserve Bank of New York, Timothy Geithner, had a firsthand account the effects of this had on the economy from the mortgage crisis, and explains the situation as such:

Borrowing frenzies are prerequisites for financial crises, and too many Americans were using credit to finance lifestyles their salaries couldn’t support. From 2001 to 2007, the average mortgage debt per household increased 63 percent, while wages remained flat in real term. The financial system provided this credit with enthusiasm, even to individuals with low or undisclosed incomes, then packaged the loans into securities that were also bought on credit.

(Geithner, 2014)

What does this look like for household budgets and what are the effects on social reproduction issues within the household?

The explosion of debt and globally connected financial markets has caused the convoluted debt mechanisms to be involved in almost every decision people make. This will be defined as ‘financialization’ of markets and includes these aspects, but will focus on the financialization aspect of the housing market here. Financialization could include almost all aspects of the housing market – interest rates, interest deduction on taxes, mortgage products, landlords, CDOs, the idea as the house as investment, etc. Debt as an instrument has taken all manners of different forms and its entrance into the housing market is one of the reasons that the financial sector has accounted for more and more of GDP in the economy (Phillips 2008). However, the focus here will be on interest rates and total costs. One of the ways in which financialization takes form would be the ability to be able to afford a larger house due to lengthier mortgages, in which the monthly payment may be similar but total cost is more. The analysis assumes purchasing a home in 1984 with a 30-year loan and what the total cost of that loan would be. However, one of the aspects of financialization is the fact that most people will refinance their homes as interest rates are lower. Most people will take more than one loan out on their home, and this makes a specific analysis difficult. Would refinancing your house three or five years later make the total cost lower? Higher? Refinancing is buying the house again and puts people into another 30 years of payments. Many people do this to lower the monthly costs associated with a new interest rate. For this to benefit households, the cost of the new 30-year mortgage would have to be cheaper than the old one *minus* the money they had already put into the old one. I would assume that the likelihood that households calculate this cost before refinancing to be close to zero.

Most houses are purchased with a loan, the most common being the thirty-year loan. The loan is a major contributor to the ‘affordability’ of a home at the initial purchase. If affordability were defined as the ability to purchase a home without a loan, purchasing entirely with cash, then almost no one would be able to afford a home. The loan is necessary for households, and with stagnant wages, they are unable to save to pay a larger down payment on the home. If households are indeed paying more for the house as a means to invest, the loan to value of their house is incredibly important, and requires that housing prices continue to go up, almost regardless of the total costs of the home.

The affordability of housing through expenditures focuses on the monthly payment of the loan. This is how families decide affordability when they go to purchase the home, and this potentially gives the option for families to choose being “housing burdened”. They are aware of their income, and become aware of the monthly cost when discussing the mortgage with the bank. Although they may not define themselves as “housing burdened” they are aware that they are devoting more than 30 percent of their income to housing once this process takes hold. One of the interesting aspects of this potential issue is that banks may give mortgages to families even if they cannot afford it. The banks can engage in some variety of predatory lending, and by repackaging the mortgage and selling it off, they are disassociating themselves from risk and putting more on the household and financial institutions who buy the repackaged mortgages. This can have underlying racial tensions as well, since banks will engage in predatory lending and still profit, not being concerned with the investment they are making or how they are making it (Dymski 2008). This has huge issues for households who may be thinking that they must be able to afford the home if the bank is willing to give them the loan. This was one of the main, if not the main, driving force behind the financial collapse. Loans deemed ‘NINJA’ loans were given out: No income, no job or asset loans. In what other situation can someone with these attributes buy a home other than massive financialization? How could it have been deemed affordable by the bank or the household? The house has just become, or mainly became leading up to the crisis, a financial product, driven in major part by this financialization of it.

The initial value and the interest of the loan makes up the total purchase price of the home and the monthly payment. The interest is driven in part by other financial conditions and the credit of the family taking out the loan. However, knowing that interest is a factor in determining the cost of the loan, it should also be a determinant of the value of the home. As we can see from Graph 2 there appears to be a correlation between interest rates and housing prices. As interest rates have continually fallen, prices have risen.

Analyzing the value of the initial purchase and the interest associated with the purchase will allow us to see the costs associated with the mortgage. This will give us a total purchase costs of the home over a thirty-year period, and allow a comparative analysis of home buying being a good decision in 2016 compared to 1984.



The above Table is a theoretical view of affordability of housing. This assumes the same down payment percentage (although recent changes in mortgages allows people to put much less down) and property taxes over the time. What this comparison shows is that the monthly and total costs associated with purchasing a home has, somewhat surprisingly, has the potential to have hardly changed. In a recent report by Trulia, they admit that “believe it or not, homes have become more affordable thanks to low interest rates” which suggest that, at best, they cannot become more affordable from here without a continued decreasing interest rate environment. There may not be a better time to purchase a home according to this. If indeed one of the main driving factors of houses remaining affordable is the interest rate, housing values may have no more room to run. That is, unless incomes begin to increase and allow the average household to purchase more expensive homes. Or, they must continue to expand the amount of money they spend on housing, more than they already have. If the stretched budgets due to increase household expenditures has yet to seriously hit households, then continually stretching it will have detrimental consequences for the household and therefore the whole economy.

These trends and their effects on the household and social reproduction issues can be broadly talked about and defined, but may require case by case analysis for true costs. As mentioned earlier, the opportunity costs that households decide when purchasing a house is going to be a major driving factor of both the price and monthly expenditure that households will consider. However, if this is less of a *choice* and more of a *push* because there are much viable options, it is not an opportunity costs, but a true cost that households experience that involuntarily takes away from other expenditures. These other expenditures such as savings, health care, education, transportation, etc., are going to be less of a focal point for households. They will not be able to devote resources to these sections of their lives, something that otherwise they might desire to do, but cannot due to the costs of housing. Household budgets are going to be stressed, which inherently causes a stress on the internal mechanisms of the households. This is not healthy for the household. Couples already consistently argue about finances, which causes disconnect and issues within the relationship and is one of the leading causes of divorce. They cannot afford certain things that one spouse might think is important, let alone things of necessity such as transportation upkeep and healthy food. They cannot afford to send their kids to better schools or participate in certain extracurricular activities. This is going to widen gaps between these household-burdened families and those households who do not face this inability to devote resources where may be necessary. This has the potential to cause generational effects, as kids whose parents were not able to provide them with opportunities that require additional financial resources may be worse off in school and in finding jobs later in life. Yet, this generally is only discussing mortgage debt. What about the other types of debt that will cause strains on the household? Credit card and student loan debt are also rising. The cyclical issues that will be associated with debt already partially came to fruition with the Great Recession. Families lose their homes and their savings as they attempt to repay debt associated assets. This then leads to the idea that the state would need to step in and pick up some weight to help solve these issues.

The state does attempt to fix some of the issues that relate to housing costs. Given the extension of the mortgage sector and the potential stretch we are seeing in the household, the state may need to do more or figure out the connection between these issues (see Dickinson & Russel 1985). In addition to government assistance for those who are renting, people who purchase a house are able to deduct the interest paid on their mortgage from their income. This has the effect of lowering the potential tax burden of many of these families. However, there is an inherent bias in this program. Many families who are struggling with budgets on a monthly basis are going to be poorer to begin with, meaning they already have less taxable income. After other deductions and credits, the actual effect of this deduction may be more of a benefit to banks and wealthy people than to the average homeowner. Not that it does not benefit them, but it is potentially much less beneficial than to those who already have money. It also does not help people who may housing burdened from rent expense and not their personal mortgage. Households who are renting will pay a similar monthly expense on housing, but do not get this credit, but their landlords may. The households who fall in between qualifying for assistance and being able to purchase a home receive almost no benefit from the state for housing issues. Housing-burdened families will have a host of issues non- housing-burdened families will not have, and the issue with this stems from the fact that families *on average* seem to be housing-burdened.

**CONCLUSION**

In conclusion, housing may still be affordable. We see households contribute more to housing costs today than thirty years ago. Households may not be too stretched yet, despite the dramatic rise in housing prices. Yet, this can be mostly attributed to the decline in interest rates, which has kept monthly and total costs roughly the same for households. For some families, it may be worth it to pay more of their relative income towards housing. We may define being “housing burdened” as more than 30% of their income going towards their house, but they may not feel burdened by it. We can see from the data that housing prices have steadily increased in Ohio over the last thirty years using the HPI data from the St. Louis Fed. We also see that median adjusted income in Ohio has been stagnant in the last thirty years. The changing labor market through both rapid technological change and the rise of the global labor market has been a major cause of this stagnation. In addition to this stagnation of wages, the rising financialization of housing has been an issue. The Great Recession is an obvious example of the realization of this financialization of housing. Yet, its impact on the household is more difficult to extrapolate. It does show that banks are more willing to engage in risky loan processes as a means of profit, and this causes more households to be given mortgages that they are not in a financial position to take on. The Recession showed us how detrimental this financialization of the household can be to the overall economy and the household. Not much has changed in the last ten years, and interest rates are just now beginning to rise. More questions will need to be answered in the following years. What will households do if their budgets continue to stretch to housing? Is it an opportunity cost or are households pushed into paying more for housing? How vulnerable are individual households, and the financial system, to loan-to-value ratios? What kind of generational impact does a cyclical stretched budget do for social reproduction issues? If wages do not rise, and interest rates do, we will potentially see the answers to some of these question in the next few years.

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