

Why are more young adults living with their parents?

A role for housing affordability

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Abstract: As of July 2020, 52 percent of American young adults (under 30 years old) lived with their parents. By July 2021, this share had decreased to 49 percent, still an historic high. The pandemic increase followed a fifty-year secular rise in such living arrangements. This paper reviews factors that help explain these short and long-term shifts through increasing housing costs relative to income and the impact of the COVID-19 pandemic induced recession and earlier economic shocks. The paper contributes to the literature on household formation by showing that the increase in the share of young adults living with their parents over the past several decades is larger in areas with high housing costs relative to income. The results point to a newly important role of housing affordability as a factor in explaining the sustained decrease in household formation experienced in the US including amid the COVID-19 recession.

Keywords: household formation; young adults; housing costs; COVID-19 pandemic; housing demand

I. Introduction

In the early 1900s approximately 40 percent of young adults (18-29 years old) lived with their parents. This rose to almost 50 percent during the Great Depression. In the post WWII economic growth surge, the ratio fell to the low to mid 30 percent levels, reaching 29 percent in 1960. From 2000 to 2010, the share increased to 43 percent, and reached 52 percent in July 2020 at the beginning of the Covid-19 pandemic.¹ The question is, why?

Economic shocks such as the Great Recession and the Covid-19 induced recession play a role in changing young adults living arrangements, but this paper shows that longer term demographic and economic trends, including housing costs are also at work. Whether the rate of young adults living with their parents remains elevated post-Covid may depend on these long run factors as well as the trajectory of recovery and has implications for individual welfare and housing markets.

When baby-boomers entered adulthood, in the 1960s and 1970s, less than a third of them lived with their parents when they were 18-29 years old (Figure 1a). Young adults were moving out of their parents' home, getting married, having their first child, and becoming homeowners earlier and at higher rates than previous generations (Figure 2). Instead of continuing to decline or stabilizing, the share of young adults living with their parents started to increase, slowly from 1960 to 1990, and then rapidly after 2000 (Figure 1b). In the aftermath of the Great Recession, the share of young adults living with their parents increased and now during the COVID-19 pandemic, the share has increased again and reached historical highs (Figure 1c).

[Figure 1 Around Here]

This secular increase in the share of young adults living with their parents over the last 60 years are mirrored in other demographic shifts with delay in the age at first marriage, first child and of first-time homeownership.² From 1960 to 2010, the share of young adults who were married decreased from 56 to 26 percent (Figure 2). Age at first child has also increased substantially over that time.

Homeownership attainments among young adults have also declined. Between 1960 and 2019, the share of independent young adults who owned their home decreased from 33 to 25 percent (IPUMS 2020). When looking at individual homeownership that is by dividing the number of individuals who own or whose spouse own their units divided by all individuals including those living with their parents or in group quarters (Figure 2), the decline is even starker from 22 to 12 percent between 1960 and 2019.³

[Figure 2 Around Here]

The recent Covid associated spike in the share of young adults living with their parents has occurred with Work from Home (WFH) and study from home technologies. The peak in July 2020 marked the first time in the past 120 years that a majority of young adults live with their parents (Figure 1a). Figure 1c, showing monthly measures from the CPS, illustrates how fast these changes took place with the rate

¹ The 1960 and 2010 figures are from the decennial Census. The July 2020 figure is from the Current Population Survey. Data collection efforts were disrupted in the early months of the Covid-19 pandemic, so 2020 figures are subject to caution.

² Appendix Figure 1 shows the changes for 18-24, 25-29 and 30-34, showing the changes in the share of these age groups reaching these milestones. It shows that 30-34 year old experience similar trends to younger adults but most of the household formation takes place among those younger than 30, we therefore focus on that age group.

³ Individual homeownership is not influenced by household formation, which takes into account the fact that if household formation is suppressed homeownership can look higher than it actually is (Yu and Myers 2010; Wachter and Acolin 2021).

of young adults living with their parents growing from 47 percent in February 2020 to 52 percent in July 2020 before decreasing back to 48 percent as of December 2020 and staying around that level as of July 2021 (49 percent). This is 2 percentage points above the December 2019 level, before the start of the pandemic, and similar to levels reached at the peak of the Great Recession.

This paper reviews the driving forces beyond the rise in young adults living at home that have been identified in the literature with a focus on the period since 2000 that has seen a substantial rise in the share of young adults living with their parents. It examines the extent to which the rise is explained by cyclical factors associated with economic recessions as opposed to other shifts over time in market conditions, and specifically, the cost of housing relative to income, as well as underlying demographics of the population. It uses Current Population Survey (CPS) data for the 2000-2021 period and the Blinder-Oaxaca approach to decompose the shift in the share of young adults living at home between changes in individual and local characteristics and shifts in the impact of these characteristics with a particular focus on housing markets and affordability and the impact of the COVID-10 pandemic on living arrangements. It concludes by discussing implications for housing demand.

II. Literature: Changes in Household Formation and Housing Markets

Demographic and economic conditions have been tied to changes in headship rates and housing choices in an extensive literature. The headship rate has been an important metric to capture household formation by age group. It is estimated as the number of individuals in an age group who are householder divided by the population in that age group (excluding those living in group quarters) (Paciorek 2016). A group in which everyone forms a single person household would have a headship rate of 1, a group in which everyone is in a couple a headship of 0.5 and a group where everyone lives with their parents and 1 of their parents is the householder a headship of 0. The headship rate therefore reflects both changes in household structures as well as changes in the age at which individuals form households. In this paper we focus more narrowly on the share of young adults who live with their parents but the drivers are expected to be the same.

There are two main strands of the literature on household formation. The first focuses on how sociodemographic individual and market characteristics affect household formation, focusing on long term associations (Haurin, Hendershott and Kim 1993; Billari and Liefbroer 2007; Yu and Myers 2010). The second strand focuses on the role of temporary dislocation, particularly recessions, in affecting the long-term headship rate (Lee and Painter 2013; Paciorek 2015).

In terms of individual factors, age, permanent and transitory income, educational attainments, employments, household size and number of children, race and ethnicity and immigration status have been shown to be key individual factors that affect household formation and tenure outcomes (Haurin, Hendershott and Kim 1993; Billari and Liefbroer 2007; Yu and Myers 2010; Lee and Painter 2013).

The distribution of age is relatively straightforward to analyze and to predict; in 10 years, people currently in their 20s will be in their 30s (with adjustments needed for emigration and immigration, and deaths). However, how the number of individuals in an age group translates into households and therefore demand for housing units depends on overall economic and social conditions. Household formation and living arrangements are further dependent on factors such as employment status, cost of housing and access to capital for home purchase that can change relatively quickly.

Existing studies establish the role of individual demographic characteristics and transitions such as going to college, entering the labor market, starting to live with a partner, marrying and/or having children in explaining household formation by young adults (Billari and Liefbroer 2007; Lee and Painter 2013). These individual demographic transitions will have changing impact on aggregate household formation depending on the distribution of population by age.

In addition, economic factors such as income, employment status and stability, and parental income and wealth have been shown to be strongly associated with the likelihood of an individual to start an independent household and to be able to maintain that status given their stage in the life cycle (Ermisch and Di Salvo 1997; Lee and Painter 2013; Lennartz et al. 2016; Paciorek 2016).⁴ Employment status has been found to be the most important individual level predictor of household formation (Lee and Painter 2013). Housing market conditions are also found to affect household formation with higher housing prices negatively affecting the rates of forming owner households and higher rents negatively affecting the rates of forming renter households (Haurin et al. 1993; Ermisch and Di Salvo 1997; Ermisch 1999; Lee and Painter 2013).

The second strand of the literature focuses on how the business cycle has been shown to affect household formation in the short run, accelerating or delaying household formation (Lee and Painter 2013; Paciorek 2016). Economic recessions depress household formation and contribute to negative housing demand shocks (Lee and Painter 2013; Bitler and Hoynes 2015; Paciorek 2016; Arundel and Lennartz 2017).

Lee and Painter (2013) find that economic recessions lower the household formation rates of young adults and in turn depress housing demand, particularly for rental housing. The depressed rate of household formation during recessions is shown to create a pent-up demand for multifamily housing at the start of the economic recovery and contribute to an initial decline in homeownership as new households are more likely to be renters (Choi and Painter 2015). Paciorek (2016) finds that both individual level negative shocks on employment and income, and metropolitan level shocks such as unemployment rates appear to negatively affect household formation. The effect of recessions on household formation is found to be larger among African Americans than whites (Lee and Painter 2013).

Paciorek (2016) projected that household formation could increase substantially during the post-Great Recession recovery, including for young households, as labor market conditions improved. Despite one of the longest economic expansions on record taking place between 2009 and 2020 and the lowest level of unemployment for youth on record, the share of young adults living at home remained at the elevated levels reached in the aftermath of the Great Recession, only declining slightly from 49 percent in 2014 to 47 percent in 2019, compared to 40 percent in 2006 (Figure 1c).

The trend, particularly post the GFC, towards a larger share of young adults living with their parents is also found in many high-income economies in Europe and Asia (Forrest and Yip 2012; Lennartz et al. 2015). There are some exceptions (notably Germany) but out of 21 European countries shown on Figure 3, only 4 experienced a decline in the share of young adults living with their parents between 2005 and 2019. Nordic European countries have similar or lower rates of young adults living with their parents than the US, and Norway, Sweden and Iceland experience a rise of 3 percentage points between 2005

⁴ In a review of the literature on the determinants of household formation Billari and Liefbroer (2007) also mention the role of cultural factors like attitude and value orientations as a distinct class of determinants.

and 2019. France, the Netherlands and the UK experienced rises of 4 to 7 percentage points and symbolically crossed the 50 percent thresholds by 2019. Southern and Continental countries have traditionally experienced low rates of young adults living independently of their parents (with rates above 70 percent going back to 2005) (Lennartz et al. 2015; Figure 3). Southern European countries (Italy, Portugal, Spain and Greece) have also experienced an increase in the share of young adults living with their parents by 4 to 9 percentage points between 2005 and 2019, particularly in the aftermath of the Global Financial Crisis as more young adults experiencing high and sustained unemployment returned to their parents' home as a form of family welfare support (Lennartz et al. 2015; Arundel and Lennartz 2017; Martinez-Mazza 2020) and fewer were able to access homeownership (Lennartz et al. 2015; Martinez Mazza 2020), resulting in "Yo-Yo transitions" between independent living and living with their parents (Forrest and Yip 2012; Lennartz et al. 2015; Arundel and Ronald 2016).

Using data for 25 European countries over the period from 1994 to 2018, Martinez-Mazza (2020) finds that a 1 percentage point increase in the unemployment rate at the time of graduation increases the probability of living with parents by 1.5 percentage points. He also finds that part of that relationship operates through the housing market with more rigid rental markets resulting in a larger impact of negative income shocks.

[Figure 3 Around Here]

In the wake of the COVID-19 pandemic, early evidence shows that individual preference about living arrangements and location may be shifting substantially (Fry et al. 2020; Pinsker 2020; Patino 2020), with WFH technology pervasive, but it remains uncertain what the long run effect of the crisis will be on household formation decisions and on their location. While there has been much discussion of the impact of WFH on the demand for homeownership and for larger homes, particularly in more distant locations, there has been little discussion of the impact of WFH technology on household formation. The increase from 46% to 52% in the young adult living at home with the onset of the pandemic may be attributable to job loss and school closures, and, if so, it is likely to reverse. On the other hand, new WFH technology combined with higher housing costs may result in a persistently elevated share of young adults living with their parents, including once they start working. The following section examines the contribution of changes in individual characteristics and the importance of these factors relative to changes in the housing markets.

III. Data and Model

A) Data

The data used for the regression analysis come from the Current Population Survey (CPS) microdata from the Annual Social and Economic Supplement for 2000, 2005, 2010, 2015, and annually for 2019-2021.⁵ We go back to 2000, when the ratio of living with parents started rising precipitously and use 5 years interval to capture changes in endowments and relationships. We use annual data for 2019-2021 to capture the impact of the COVID-19 pandemic. The CPS is a monthly survey of over 100,000

⁵ We use the ASEC data because it includes detailed information about individual wage and salary. However, the July data is used in the descriptive statistics to capture living arrangements in the month when entry on the job market is reflected in the data following high school and college graduation. We use the CPS rather than the decennial census or annual ACS in order to focus on the period of rapid change since 2000, two decades during which there have been substantial changes in the underlying characteristics of the population (educational attainment, marital status, childbearing).

individuals sponsored jointly by the U.S. Census Bureau and the U.S. Bureau of Labor Statistics (BLS) that has been running in its current form since 1948 and collects detailed data on individual employment status but also contains information about individual socio-demographic characteristics, living arrangements, and household structure. A key missing variable in the CPS is individual wealth as well as information about parental socioeconomic conditions for individuals not living with their parents.⁶

For the purpose of this study, the CPS has the benefits of having a high enough frequency to capture changes in living arrangements associated with the Coronavirus pandemic while having a large enough sample with a long enough consistent time series to examine changes over time. Both the sample statistics and regression use person weights in order to take into account the survey sampling weights. The publicly available microdata set also has sufficient geographic detail to link to datasets with local housing and labor market characteristics. This allows us to explore the importance of regional market conditions in explaining the share of young adults living with their parents and changes in that share.

Table 1 illustrates that while the average age of young adults aged 18-29 has remained relatively stable increasing from 23.4 to 23.6 year, the other demographic variables have experienced substantial changes within the 20 years covered.

In terms of education, the share of young adults with less than a high school degree decreased from 19 to 9 percent while the share with a college or graduate degree increased from 22 to 33 percent. In addition, in terms of labor participation, the share currently enrolled in high school or college increased from 25 to 32 percent while the share employed decreased from 72 to 68 percent. The share never married rose from 68 to 81 percent, and the share with at least 1 child decreased from 27 to 15 percent. The share White non-Hispanic declined from 65 to 53 percent. As shown in the literature, these sociodemographic changes are expected to contribute to a decrease in household formation among young adults, except for the change toward higher educational attainment (Lee and Painter 2013; Paciorek 2016).

In terms of housing affordability, the median annual gross rent to median gross income increased from 16 to 20 percent and the median house value to median gross income increased from 2.9 to 4.1. These changes are also expected to contribute to decreased household formation by making it harder for young individuals to save the amounts needed to for a place to rent or buy.

The data for 2020 and 2021 also captures the increase in unemployment and share of individuals not in labor force associated with the initial unemployment shock of the pandemic induced recession. By 2021 employment levels for this age group had largely recovered.

[Table 1 Around Here]

B) Model

In order to examine factors associated with higher likelihood to live with their parents for young adults (18-29) we control for the following individual characteristics: age, gender, marital status, having children, high school or college attendance, educational attainment, employment, race/ethnicity, income. We also include metropolitan areas and non-metropolitan areas of the state characteristics: median

⁶ Information about individual and parental wealth as well as credit usage would allow to explore the role of financial constraints in explaining living arrangements and interactions between individual characteristics and market level housing costs.

household income, median house value and median gross rent from the 2000 decennial census and annual ACS for 2005, 2010, 2015 and 2018 (IPUMS 2020) and unemployment rate from the BLS (2020).

$$Pr(LH_i = 1 | X_i) = F(\beta_0 + X_i\beta_1)$$

Where $LH_i = 1$ indicates that an individual lives in the same home than at least one of their parents and 0 otherwise X_{it} is the vector of independent variables associated with whether young adult i is living home at and β_1 is the vector of parameters. The sample statistics by year are shown in Table 1. The marginal effects of the logit models, calculated at the covariate means, for 2000, 2005, 2010, 2015, 2019 and 2020 are shown in Table 2.

In addition, we use the Blinder-Oaxaca approach to decompose the role of changes in coefficients relative to changes in characteristics in explaining the higher observed rate of young adults living with their parents in 2019 to 2021 relative to 2000. We apply the non-linear decomposition for binary dependent variables proposed by Yun (2004) and implemented using stata's *oaxaca* procedure. This approach divides the change in outcome (in our case the probability that an individual i lives with their parents) into two components averages over individuals: the change in the average covariates, and the marginal effect of F. This decomposition approach allows to examine how the change in the likelihood to live with one's parents between two period is explained by changes in Xs or endowments and changes in coefficients β . This approach is similar to the decomposition approach used by Paciorek (2016) for multinomial prediction of living arrangement but adapted for the binomial outcome examined here.

We apply the decomposition to the full model as well as to models without variables that are endogenous with the decision to live with one's parents (marital status and having children) and with models with both housing cost variables included.

IV. Results

In order to implement the Oaxaca-Blinder decomposition strategy, we first estimate logit models predicting the likelihood of living with one's parent. We then combine the changes in the values of the underlying variables, the endowments, as described in the data section with the regression coefficient results to decompose the changes in the share of young adults living at home due to the underlying variable values and to the changes in the importance of the variables.

A) Regression Results

Table 2, Panel A reports the marginal effects from the logit model with living in the same home as one's parent as the dependent variable. This model includes the metropolitan area or state level median gross rent to median household income as the measure of housing affordability. Table 2, Panel B reports the results from the same model with median house value to median household income as the measure of housing affordability.⁷

[Table 2 Around Here]

Coefficients of control variables are largely in the expected direction and similar to what has been found in other studies in Panel A and B. Individuals who are older, college graduates, married, and have

⁷ Given the high level of collinearity between median rent and median house value we run these models separately.

children are less likely to live with their parents in all time periods. Individuals who are unemployed or not in the labor force, currently enrolled in high school or college, non-white are more likely to live with their parents.

The coefficients on most of these variables remain stable in the annual data from 2000 to 2019, although the effect of two exogenous controls (unlikely to be co-determined with the decision to live with one's parents): age and having attained a college degree or more increased substantially over that period. In comparison the effect of two endogenous variables: being married and having children is not estimated to change substantially.

There are also variations in the difference across racial and ethnic groups. Over the period African Americans young adults are 6 to 8 percentage points more likely to live with a parent than whites. However, for Hispanic or Latinx, Asian and young adults of other race or ethnicity the differences fluctuate over the period and are not significant in some years but appear to be at their largest in 2021, potentially reflecting the disparate impact of the pandemic on these communities.

Turning to the role of market environment variables (as opposed to sociodemographic factors), we find substantial changes over the period covered. With regards to housing affordability, individuals in areas with higher median gross rent to median income ratio were not significantly more likely to live with their parents in 2000 but starting in 2005, a higher level of rent to income is associated with a significantly higher likelihood to live with one's parents. In addition, the point estimate for the marginal effect increases from 0.1 percentage point to 1.1 percentage point in 2019 and 2020 and 0.8 in 2021. This increase in the coefficient associated with housing affordability is also found for the median house value to median income ratio that is not significant in 2000 but becomes significant in 2005 and increase in size to reach 2.3 percentage points in 2019 and 2020 as reported in Table 2, Panel B.

In terms of local labor market characteristics, young adults are more likely to live with parents in areas with higher rates of unemployment, as has been found in other studies. However, the estimated marginal effect of local area unemployment is smaller in 2020 and 2021 than in other year although given the large increase in the unemployment rate the overall effect of unemployment increase substantially. Young adults are less likely to live independently in areas with higher median household income, although the relationship is not statistically significant in 2000 and 2021.

[Table 3 Around Here]

The role of long-term demographic trends such as later age at first marriage and first child can be seen as partially endogenous with living arrangements. When excluding marital status and having a child, the coefficients on other variables, including local characteristics, are generally higher as reported in Table 3 Panel A and B. In particular, the coefficients of the rent to income ratio variable increase from 1.1 to 1.4 in 2019 and 2020 and from 0.8 to 1.0 in 2021 and of the housing value to income ratio from 2.3 to 3 percentage points in 2019 and 2020 and from 1.7 to 2.4 in 2021.

B) Decomposition Results

Table 4 reports the decomposition of the change in endowments and in coefficients in explaining the change in the share of young adults living with their parents in 2019, 2020 and 2021 relative to 2000. The 2000 baseline unweighted share of young adults living with their parents in the sample is 37.5 percent compared to 48.2 percent in 2019, 50.5 percent in 2020 and 47.0 percent in 2021.

In terms of changes in individual characteristics, the main variables for which changes in endowment is estimated to contribute to the increase are changes in young adults' marital status, having children. Together, the change in these variables contributed to a 4 to 5 percentage points increase in young adults' likelihood of living with their parents.

In terms of market level factors, the change in median annual gross rent to median household income from 2000 to 2019 is an important contributor. The change in the coefficient associated with this variable is also an important contributor to the increase in the share of young adults living with their parents in both years. Combined the change in endowment and coefficient associated with the housing costs at the market level are estimated to account for a substantial share of the observed increase between 2000 and 2019, and while the contribution is smaller in the midst of the Covid-19 pandemic it continues to be attributed an important role.

The change in local unemployment rate is a slight negative contributor in 2019 but becomes a positive contributor in 2020 and 2021 amid the rise in unemployment. The limited employment opportunity as a result of the COVID-19 pandemic can have contributed to the rise in young adult living with their parents temporarily. This is consistent with what happened in previous economic recession in the U.S. (Paciorek 2016) and Europe (Martinez-Mazza 2020).⁸

A number of changes in endowment went in the opposite direction, towards fewer young adults living with their parents in 2019 to 2021 relative to 2000. These include the increase in educational achievements (lower share of individuals without a high-school diploma and higher share of college graduates) and increase in real income.

Figure 4 and 5 illustrate how these trends have played out at the regional level. All regions have experienced an increase in the share of young adults living with their parents, but those with the smallest share in 2000 experienced the largest increase by 2020. Young adults in the Northeast have historically been more likely to live with their parents with 49 percent of them in that situation back in 2000 compared to 36 percent in the South and West and 40 percent in the Midwest. The gap relative to the Northeast has shrunk over the last decade, particularly for the South and West, going from 13 percent in 2000 to 10 and 7 percentage points respectively in 2019 and to 5 percentage points in 2020. The gap with the Midwest has remained more stable.

In addition, consistent with the regression results, there appears to be an emerging gap between metros and states with median housing rent to median income below and above the median. While there was no difference between these in 2000, by 2019 there was a 3 percentage points difference and a 7 percentage points difference by 2020, indicating that young adults are increasingly more likely to be living with their parents in the least affordable markets.

[Table 4 Around Here]

[Figure 4 and 5 Around Here]

⁸ The effects of these living arrangement in response to rising local unemployment may partially reverse once the economic situation recovers. However, this reversal may last for several year, particularly for young graduate who make the choice to stay at home and face rigid rental market as reported by Martinez-Mazza who finds an impact for up to 10 years after the initial shock (2020).

Overall, this decomposition exercise shows that during the 2000-2019 period changes in local factors such as housing affordability and income explain the larger share of the changes in likelihood of young adults to live independently both through changes in rent to income ratio and on the coefficients associated with these ratios. Long term demographic changes with regards to marital status and education of young adults contribute more moderately to the changes in the share of young adults living independently during that period. For 2020, a smaller share of the changes is explained by these variables.

Discussion

In the decades following WWII, the share of young adults that lived independently rose to reach 71 percent by 1960. This increase was supported by demographic trends such as younger age at marriage and first child, higher levels of college attendance and increased geographic mobility as well as market and policy dynamics that allowed young households to become homeowners with a limited downpayment in new suburban subdivisions.

By July 2019, only 53 percent of young adults lived independently, an 18 percentage points drop relative to 1960 and a 7 percentage points drop relative to the 60 percent observed in 2006, before the Great Recession. The Great Recession contributed to a drop in the share of young adults living independently as employment opportunities decreased, but contrarily to some predictions, this rate did not rise in the following years. Towards the end of the longest economic expansion on record, with unemployment among young adults reaching record lows, the rate of young adults living independently remained close to the Great Recession levels, indicating a longer-term shift in living arrangements. By July 2020, amid the COVID-19 pandemic and the accompanying recession, only 48 percent of young adults lived independently. The impact of the low share of young adults living independently could be particularly pronounced for certain housing types and certain locations. For example, smaller rental apartments in central locations could experience a stronger negative demand shock questions as to the demand for housing units and types in the coming decade.

If the rate of young adults living with their parents in 2019 had remained at 2006 levels, there would have been demand for an additional 2 million units assuming they had formed 2 person households on average. Further work is needed to understand the interaction between economic conditions and lower rates of household formation in the post-Great Recession period. As pointed out by Paciorek (2016: 39), “the role of credit, including mortgage availability and student debt, in depressing the headship rate remains largely unknown,” while the evidence of credit availability on lagging homeownership of the young is strong (Haurin et al. 1996; Acolin et al. 2016b).

To illustrate the potential impact of living arrangements on demand for housing units going forward, we can look at population projections by age group, assuming constant headship rate for young adults aged 20-29 living independently.⁹ If the share of young adults living independently was to remain at 55 percent, by 2030, one would expect 19.1 million housing units to be occupied by young adult householders. If it goes back to the 2019 level of 60 percent, one would expect 20.8 million and if it goes back to 2006 levels of 68 percent 23.6 million units. The 4.5 million housing units difference

⁹ We look at the 20-29 age group here because the census projections by age group groups 18-19 year old with 15-17 year old. In that age group, the headship rate (share of individual who are reported as reference person for a household) is 77 percent among those who do not live with their parent.

between the 2020 level and the 2006 level is massive, but even the 2.8 million between the 2019 and 2006 level is substantial. As a point of comparison, the average annual level of housing production from 2011 to 2019 was below 1 million a year.

Beyond the secular trends in college attendance, marriage, and age at first child, the economic environment and policies may have a strong effect in which scenarios plays out. Economic environments with full employment and shared wage growth positively affect individuals' ability to choose to live independently. In the midst of the Covid 19 pandemic, there are signs that some younger adults with stable employment were able to accelerate their homebuying plans, including in farther away suburbs taking advantage of expected remote working option (Carpenter 2021). This contributed to an increase in owner households (U.S. Census Bureau 2021). However, the K-shaped recovery may leave young adults who experienced economic hardship over the 2020-2021 period unable to afford rental units, contributing to a decline in the number of renter households (U.S. Census Bureau 2021) and potentially maintaining the share of young adults living with their parents at elevated levels in years to come.

Policies that affect young adults' ability to afford their rents or mortgages such as changes in student loans or availability of housing vouchers could have large direct effects on their living arrangements and indirectly on housing demand. Changes in the housing markets that would contribute to greater affordability and availability of housing units for young adults such as relaxed supply constraints and increased production of starter homes could also affect their decision to live independently. Further work is needed to better understand the relationship between household debt, including student debt, and young adult living arrangements. Further work is also needed to examine how housing costs, both to rent and to own, interact with credit constraints in explaining individual living arrangement and location choices.

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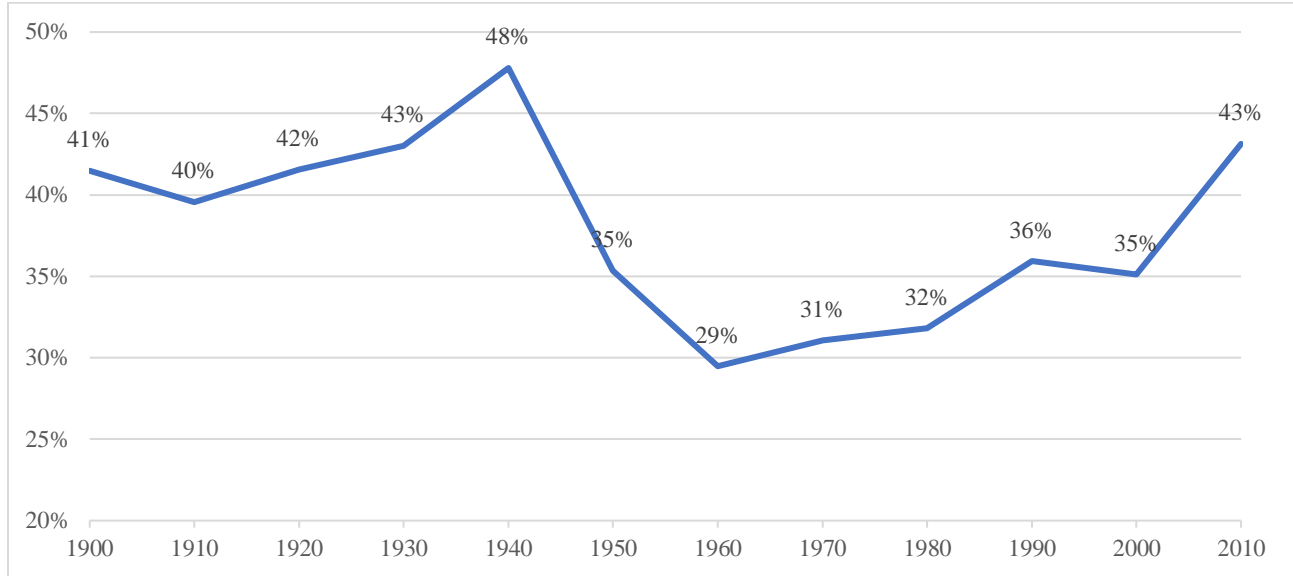
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Figures and Tables

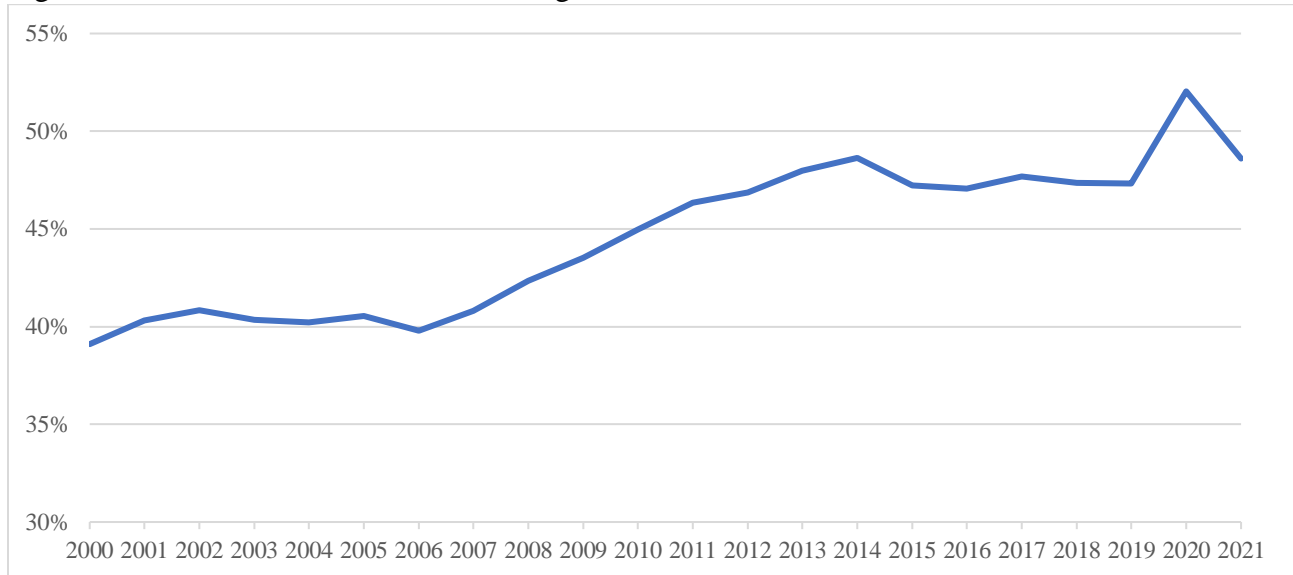
Figure 1a: Share of 18-29 Years Old Living with at Least One Parent, 1900-2010



Note: Excludes group quarters population.

Source: Decennial Census Data from IPUMS (2020).

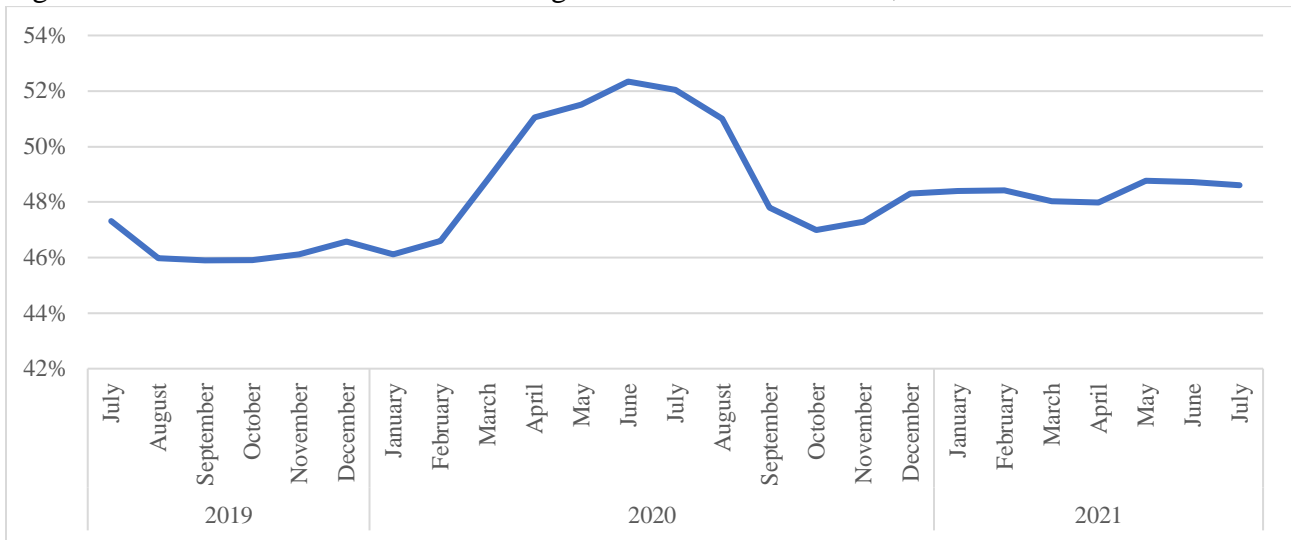
Figure 1b: Share of 18-29 Years Old Living with at Least One Parent, 2000-2021



Note: Excludes group quarters population.

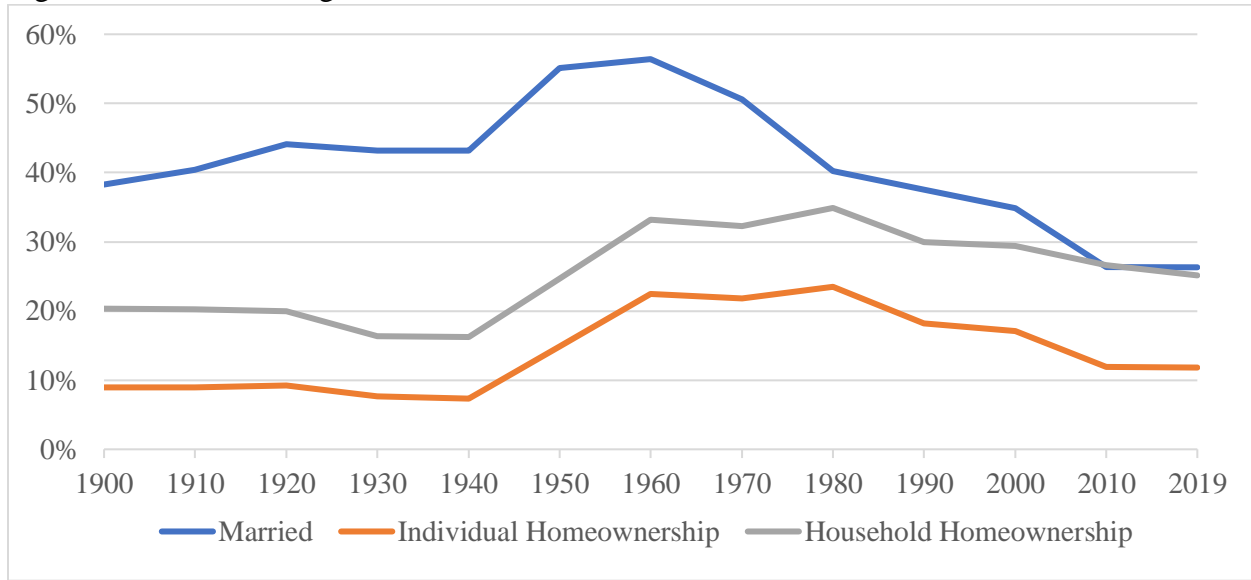
Source: July Current Population Survey data.

Figure 1c: Share of 18-29 Years Old Living with at Least One Parent, 2019-2021



Note: Excludes group quarters population.
 Source: Monthly Current Population Survey data.

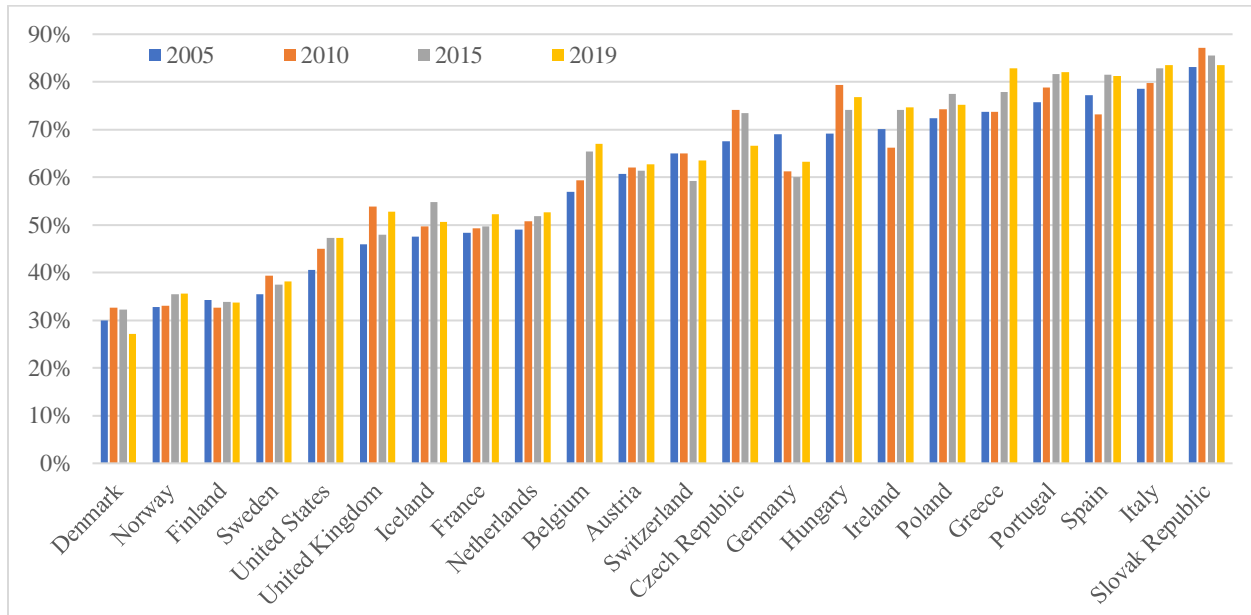
Figure 2: Share of Young Adults Married, Homeowners, 1900-2019



Note: Married is reported for all individuals 18-29. Individual Homeownership is defined as: Number of Young Adults Who Own or whose Spouses Own/Total Number of Young Adults (including those living with their parents or in group quarters) and Household Homeownership is defined as: Number of Young Adults Who are Householders and Own /Total Number of Young Adults Who are Householders. 1950 tenure information is not available.

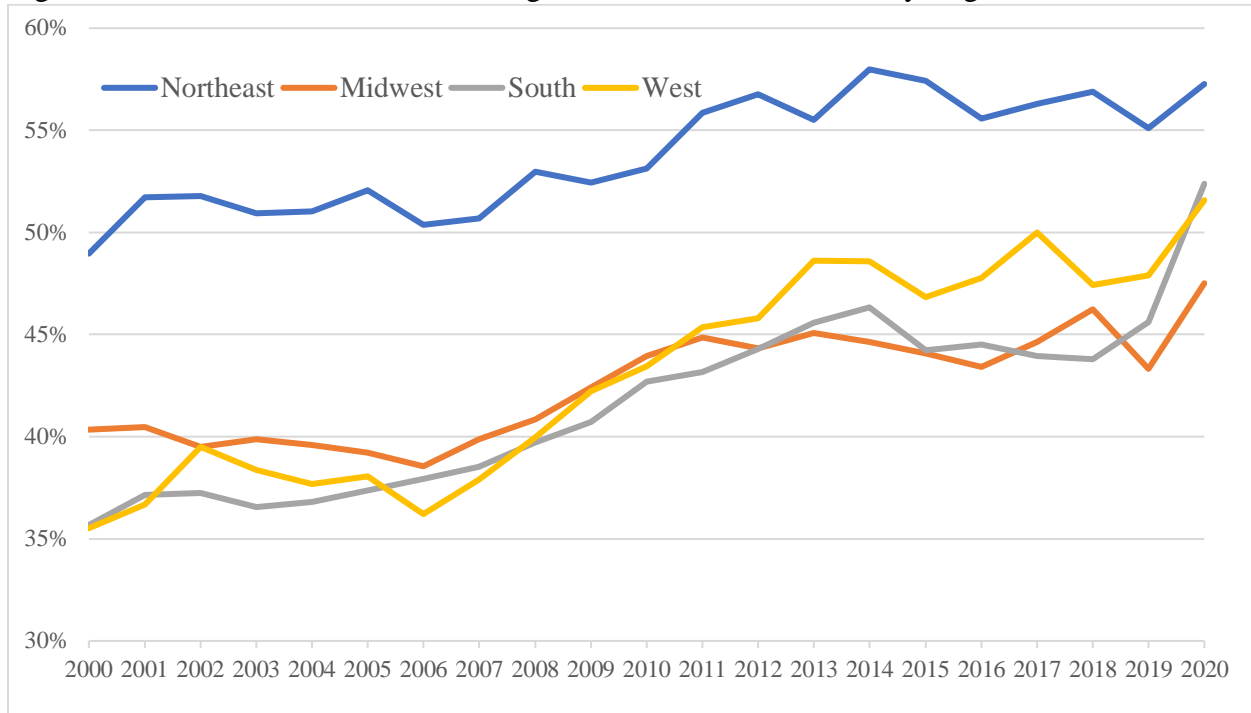
Source: Decennial Census and 2019 ACS Data from IPUMS (2021).

Figure 3: Share of 18-29 Years Old Living with at Least One Parent, European Countries and United States



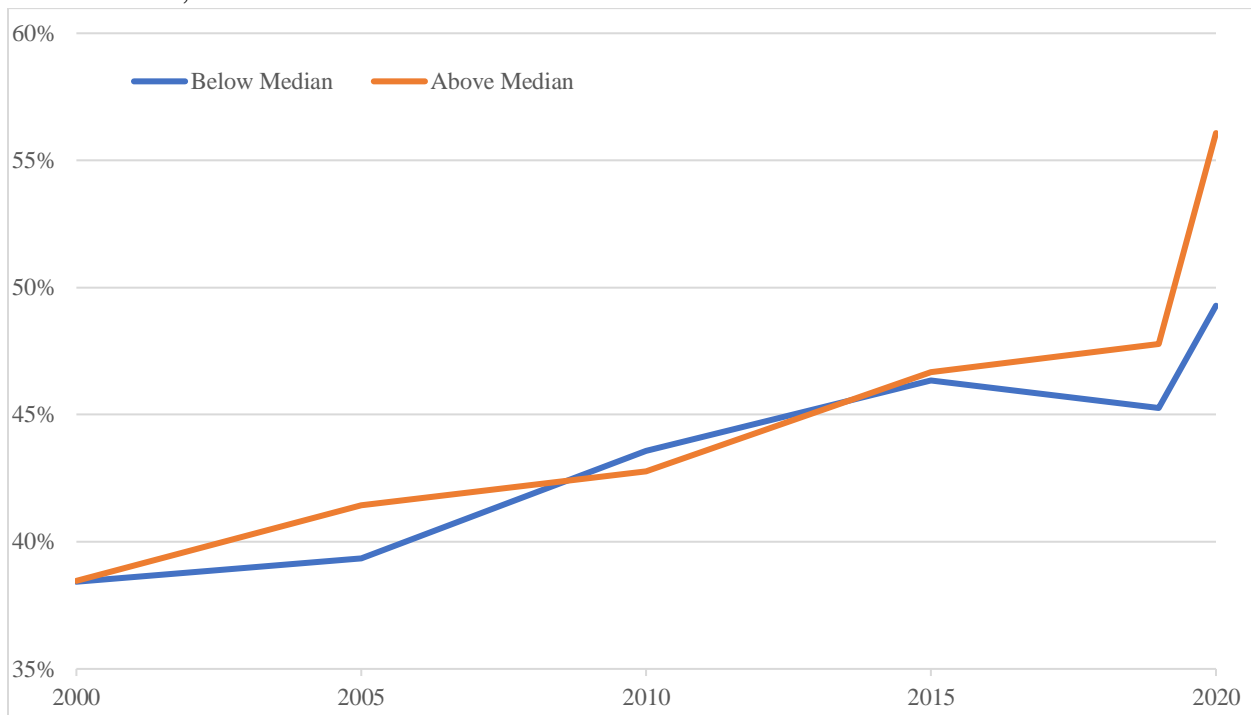
Source: EU-SILC for European Countries, July CPS for United States

Figure 4: Share of 18-29 Year Old Living with at Least One Parent, By Region, 2000-2020



Note: Excludes group quarters population.
 Source: July Current Population Survey data.

Figure 5: Share of 18-29 Year Old Living with at Least One Parent, By Median Gross Rent to Median Income Ratio, 2000-2020



Note: Excludes group quarters population.
 Source: July Current Population Survey data from NBER (2020).

Table 1: Sample Descriptive Statistics, 18-29 Years Old

| | 2000 | 2005 | 2010 | 2015 | 2019 | 2020 | 2021 |
|---|---------|---------|---------|---------|---------|---------|---------|
| Living with Parents | 40.1 | 39.3 | 43.8 | 46.5 | 46.7 | 49.1 | 48.6 |
| Average Age | 23.4 | 23.5 | 23.5 | 23.6 | 23.7 | 23.7 | 23.6 |
| Employment Status | | | | | | | |
| Employed | 71.6 | 67.0 | 60.6 | 63.8 | 68.3 | 65.2 | 68.3 |
| Unemployed | 5.4 | 6.6 | 10.6 | 6.5 | 4.4 | 5.8 | 6.2 |
| Not In Labor Force | 23.0 | 26.4 | 28.9 | 29.7 | 27.3 | 29.1 | 25.6 |
| Enrolled in High School or College | 25.5 | 26.1 | 28.3 | 33.0 | 31.7 | 31.7 | 31.7 |
| Educational Attainment | | | | | | | |
| Less than High School | 18.8 | 18.6 | 16.4 | 13.5 | 11.6 | 10.8 | 8.5 |
| High School Degree | 30.1 | 29.7 | 28.7 | 28.4 | 28.2 | 28.8 | 33.7 |
| Some College | 28.9 | 28.8 | 29.5 | 29.5 | 27.9 | 27.0 | 25.2 |
| College Degree | 19.6 | 20.2 | 22.1 | 24.6 | 27.6 | 28.6 | 27.4 |
| Graduate Degree | 2.6 | 2.8 | 3.3 | 4.1 | 4.7 | 4.9 | 5.2 |
| Race/Ethnicity | | | | | | | |
| White Non-Hispanic | 65.2 | 61.0 | 58.2 | 55.6 | 53.9 | 53.2 | 53.2 |
| Black/African American | 14.0 | 13.3 | 12.9 | 13.9 | 13.8 | 14.0 | 13.7 |
| Hispanic/Latinx | 15.2 | 18.8 | 20.5 | 21.1 | 22.2 | 22.6 | 23.0 |
| Asian | 4.8 | 4.4 | 5.3 | 6.0 | 6.4 | 6.4 | 6.2 |
| Other | 0.9 | 2.5 | 3.1 | 3.5 | 3.8 | 3.8 | 4.0 |
| Marital Status | | | | | | | |
| Never Married | 67.9 | 69.9 | 73.7 | 77.7 | 79.1 | 80.7 | 81.4 |
| Married | 27.7 | 26.1 | 22.3 | 18.8 | 18.4 | 16.9 | 16.2 |
| Separated/Divorced/Widowed | 4.4 | 4.0 | 4.0 | 3.5 | 2.5 | 2.4 | 2.4 |
| Sex (Female) | 50.4 | 49.7 | 49.9 | 49.7 | 49.6 | 49.5 | 0.5 |
| Median Income (\$) | 18,750 | 17,122 | 14,815 | 15,288 | 20,017 | 20,253 | 20,658 |
| Has At Least One Child (%) | 26.9 | 26.7 | 23.8 | 20.2 | 17.3 | 15.0 | 15.1 |
| Metropolitan Area (%) | 82.9 | 84.9 | 86.1 | 87.3 | 88.9 | 89.1 | 0.9 |
| Median Annual Gross Rent to Median Household Income (%) | 16.5 | 18.5 | 19.9 | 20.1 | 20.2 | 20.2 | 20.2 |
| Median House Value to Median Household Income (ratio) | 2.9 | 4.2 | 3.7 | 3.7 | 4.1 | 4.1 | 4.1 |
| Median Household Income (\$) | 41,793 | 40,693 | 43,445 | 46,431 | 49,409 | 49,166 | 48,033 |
| Median Gross Rent (\$) | 924 | 1,003 | 1,055 | 1,123 | 1,169 | 1,172 | 1,113 |
| Median House Value (\$) | 202,444 | 290,835 | 248,256 | 261,221 | 295,374 | 296,257 | 291,473 |
| Unemployment Rate (%) | 4.0 | 5.2 | 9.8 | 5.4 | 3.7 | 10.5 | 5.7 |

Note: All dollar amounts are in 2021 dollars. 2019-2021 regional income, rent and house value are from the 2019 ACS data.

Source: Population Survey Annual Social and Economic Supplement, American Community Survey, and Local Area Unemployment Statistics data.

Table 2, Panel A: Logit Model, Young Adults Likelihood to Live with Parents, Rent to Income, Marginal Effects

| | 2000 | 2005 | 2010 | 2015 | 2019 | 2020 | 2021 |
|---|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------|
| Age | -0.0218*** (0.00102) | -0.0263*** (0.000925) | -0.0286*** (0.000914) | -0.0298*** (0.000871) | -0.0300*** (0.000894) | -0.0298*** (0.000975) | -0.0347*** (0.00103) |
| Employment Status (ref.=Employed) | | | | | | | |
| Unemployed | 0.0129 (0.0115) | 0.0405*** (0.00933) | 0.0333*** (0.00807) | 0.0189 (0.0101) | 0.0505*** (0.0128) | 0.0333** (0.0121) | 0.105*** (0.0148) |
| Not In Labor Force | 0.0156* (0.00743) | 0.0297*** (0.00627) | 0.0452*** (0.00642) | 0.00738 (0.00646) | 0.0339*** (0.00702) | 0.0395*** (0.00756) | 0.132*** (0.00900) |
| Enrolled in High School or College (ref. = Not Enrolled) | 0.111*** (0.00875) | 0.0891*** (0.00752) | 0.0668*** (0.00744) | 0.0457*** (0.00673) | 0.0418*** (0.00713) | 0.0332*** (0.00765) | 0.0541*** (0.00979) |
| Educational Attainment (ref.=Less than High School) | | | | | | | |
| High School | 0.0166* (0.00799) | 0.0218** (0.00708) | 0.00179 (0.00748) | 0.00424 (0.00839) | -0.0386*** (0.00953) | -0.0297** (0.0108) | -0.0302* (0.0143) |
| Some College | 0.00816 (0.00854) | 0.0156* (0.00751) | 0.00473 (0.00775) | 0.00110 (0.00853) | -0.0311** (0.00963) | -0.0163 (0.0109) | -0.0215 (0.0151) |
| College | -0.0311** (0.0105) | -0.0249** (0.00920) | -0.0274** (0.00929) | -0.0461*** (0.00986) | -0.0961*** (0.0108) | -0.0760*** (0.0120) | -0.101*** (0.0156) |
| Graduate Degree | -0.0840*** (0.0254) | -0.113*** (0.0234) | -0.0576** (0.0197) | -0.177*** (0.0194) | -0.167*** (0.0190) | -0.174*** (0.0205) | -0.209*** (0.0227) |
| Race/Ethnicity (ref.= White Non-Hispanic) | | | | | | | |
| Black/African American | 0.0167 (0.00941) | -0.00514 (0.00763) | -0.0154* (0.00762) | 0.00283 (0.00779) | -0.00608 (0.00866) | 0.0204* (0.00935) | 0.0675*** (0.0113) |
| Hispanic/Latinx | 0.0265*** (0.00755) | -0.0211** (0.00691) | 0.0151* (0.00676) | 0.0380*** (0.00666) | 0.0528*** (0.00674) | 0.0513*** (0.00741) | 0.0830*** (0.00944) |
| Asian | 0.0324* (0.0142) | 0.0319* (0.0129) | 0.0314** (0.0122) | 0.0165 (0.0111) | -0.0364*** (0.0111) | 0.00675 (0.0119) | 0.0668*** (0.0154) |
| Other | 0.0773*** (0.0222) | -0.00680 (0.0119) | 0.0375** (0.0123) | 0.0295* (0.0124) | 0.0222 (0.0126) | 0.0227 (0.0141) | 0.0571** (0.0190) |
| Marital Status (ref. = Never Married) | | | | | | | |
| Married | -0.326*** (0.00825) | -0.318*** (0.00797) | -0.296*** (0.00858) | -0.321*** (0.00931) | -0.310*** (0.00981) | -0.321*** (0.0112) | -0.334*** (0.0126) |
| Separated/Divorced/Widowed | -0.0709*** (0.0166) | -0.0222 (0.0147) | 0.0140 (0.0138) | -0.0636*** (0.0153) | -0.0454* (0.0182) | -0.0596** (0.0203) | -0.0737** (0.0251) |
| Own Child (ref.= No Child) | -0.147*** (0.00877) | -0.142*** (0.00777) | -0.155*** (0.00787) | -0.181*** (0.00842) | -0.170*** (0.00939) | -0.161*** (0.0109) | -0.151*** (0.0131) |
| Sex (ref.= Male) | -0.0289*** (0.00579) | -0.0239*** (0.00509) | -0.0278*** (0.00515) | -0.0304*** (0.00525) | -0.0188*** (0.00541) | -0.0337*** (0.00590) | -0.0208** (0.00705) |
| Income | -0.00229*** | -0.00188*** | -0.00243*** | -0.00244*** | -0.00190*** | -0.00219*** | -0.00217*** |

| | | | | | | | |
|---------------------------------|-------------|------------|------------|------------|------------|------------|-------------|
| | (0.000160) | (0.000138) | (0.000145) | (0.000133) | (0.000129) | (0.000130) | (0.000132) |
| Metropolitan Area | 0.0160* | -0.0198** | -0.0157* | -0.00582 | 0.00449 | 0.0127 | -0.00231 |
| | (0.00790) | (0.00688) | (0.00727) | (0.00734) | (0.00811) | (0.00898) | (0.0104) |
| Median Annual Gross Rent to | 0.00277 | 0.0124*** | 0.0111*** | 0.0199*** | 0.0227*** | 0.0229*** | 0.0172*** |
| Median Household Income | (0.00394) | (0.00205) | (0.00315) | (0.00332) | (0.00325) | (0.00343) | (0.00440) |
| Median Household Income (0,000) | -0.00125*** | 0.0000691 | 0.00122*** | 0.000523* | -0.0000434 | -0.000251 | -0.000849** |
| | (0.000274) | (0.000271) | (0.000262) | (0.000254) | (0.000241) | (0.000259) | (0.000319) |
| Unemployment Rate | -0.0173*** | 0.0228*** | 0.0123*** | 0.0205*** | 0.0178*** | 0.0119*** | 0.00856** |
| | (0.00461) | (0.00292) | (0.00151) | (0.00257) | (0.00339) | (0.00250) | (0.00308) |
| N | 19,396 | 24,978 | 25,759 | 25,020 | 23,505 | 19,688 | 18,143 |
| Pseudo R-sq | 0.35 | 0.36 | 0.33 | 0.32 | 0.31 | 0.31 | 0.33 |
| Region Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

* p<0.05; ** p<0.01; *** p<0.001; Marginal effects; Standard errors in parenthesis.

Table 2, Panel B: Logit Model, Young Adults Likelihood to Live with Parents, House Value to Income, Marginal Effects

| | 2000 | 2005 | 2010 | 2015 | 2019 | 2020 | 2021 |
|---|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------|
| Age | -0.0218*** (0.00102) | -0.0263*** (0.000925) | -0.0286*** (0.000914) | -0.0298*** (0.000871) | -0.0300*** (0.000894) | -0.0298*** (0.000975) | -0.0347*** (0.00103) |
| Employment Status (ref.=Employed) | | | | | | | |
| Unemployed | 0.0129 (0.0115) | 0.0405*** (0.00933) | 0.0333*** (0.00807) | 0.0189 (0.0101) | 0.0505*** (0.0128) | 0.0333** (0.0121) | 0.105*** (0.0148) |
| Not In Labor Force | 0.0156* (0.00743) | 0.0297*** (0.00627) | 0.0452*** (0.00642) | 0.00738 (0.00646) | 0.0339*** (0.00702) | 0.0395*** (0.00756) | 0.132*** (0.00900) |
| Enrolled in High School or College (ref. = Not Enrolled) | 0.111*** (0.00875) | 0.0891*** (0.00752) | 0.0668*** (0.00744) | 0.0457*** (0.00673) | 0.0418*** (0.00713) | 0.0332*** (0.00765) | 0.0541*** (0.00979) |
| Educational Attainment (ref.=Less than High School) | | | | | | | |
| High School | 0.0166* (0.00799) | 0.0218** (0.00708) | 0.00179 (0.00748) | 0.00424 (0.00839) | -0.0386*** (0.00953) | -0.0297** (0.0108) | -0.0302* (0.0143) |
| Some College | 0.00816 (0.00854) | 0.0156* (0.00751) | 0.00473 (0.00775) | 0.00110 (0.00853) | -0.0311** (0.00963) | -0.0163 (0.0109) | -0.0215 (0.0151) |
| College | -0.0311** (0.0105) | -0.0249** (0.00920) | -0.0274** (0.00929) | -0.0461*** (0.00986) | -0.0961*** (0.0108) | -0.0760*** (0.0120) | -0.101*** (0.0156) |
| Graduate Degree | -0.0840*** (0.0254) | -0.113*** (0.0234) | -0.0576** (0.0197) | -0.177*** (0.0194) | -0.167*** (0.0190) | -0.174*** (0.0205) | -0.209*** (0.0227) |
| Race/Ethnicity (ref.= White Non-Hispanic) | | | | | | | |
| Black/African American | 0.0762*** (0.0101) | 0.0582*** (0.0096) | 0.0642*** (0.0102) | 0.0793*** (0.0093) | 0.0572*** (0.0103) | 0.0592*** (0.0123) | 0.0675*** (0.0113) |
| Hispanic/Latinx | 0.0265*** (0.00755) | 0.0211** (0.00691) | 0.0151* (0.00676) | 0.0380*** (0.00666) | 0.0528*** (0.00674) | 0.0513*** (0.00741) | 0.0830*** (0.00944) |
| Asian | 0.0324* (0.0142) | 0.0319* (0.0129) | 0.0314** (0.0122) | 0.0165 (0.0111) | 0.0364*** (0.0111) | 0.00675 (0.0119) | 0.0668*** (0.0154) |
| Other | 0.0773*** (0.0222) | -0.0068 (0.0119) | 0.0375** (0.0123) | 0.0295* (0.0124) | 0.0222 (0.0126) | 0.0227 (0.0141) | 0.0571** (0.0190) |
| Marital Status (ref. = Never Married) | | | | | | | |
| Married | -0.326*** (0.00825) | -0.318*** (0.00797) | -0.296*** (0.00858) | -0.321*** (0.00931) | -0.310*** (0.00981) | -0.321*** (0.0112) | -0.334*** (0.0126) |
| Separated/Divorced/Widowed | -0.0709*** (0.0166) | -0.0222 (0.0147) | 0.0140 (0.0138) | -0.0636*** (0.0153) | -0.0454* (0.0182) | -0.0596** (0.0203) | -0.0737** (0.0251) |
| Own Child (ref.= No Child) | -0.147*** (0.00877) | -0.142*** (0.00777) | -0.155*** (0.00787) | -0.181*** (0.00842) | -0.170*** (0.00939) | -0.161*** (0.0109) | -0.151*** (0.0131) |
| Sex (ref.= Male) | -0.0289*** (0.00579) | -0.0239*** (0.00509) | -0.0278*** (0.00515) | -0.0304*** (0.00525) | -0.0188*** (0.00541) | -0.0337*** (0.00590) | -0.0208** (0.00705) |

| | | | | | | | |
|---|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Income (\$ 000) | -0.00229*** (0.000160) | -0.00188*** (0.000138) | -0.00243*** (0.000145) | -0.00244*** (0.000133) | -0.00190*** (0.000129) | -0.00219*** (0.000130) | -0.00217*** (0.000132) |
| Metropolitan Area | -0.0160* (0.00790) | -0.0198** (0.00688) | -0.0157* (0.00727) | -0.00582 (0.00734) | 0.00449 (0.00811) | 0.0127 (0.00898) | -0.00231 (0.0104) |
| Median House Value to Median Household Income | 0.00277 (0.00394) | 0.0124*** (0.00205) | 0.0111*** (0.00315) | 0.0199*** (0.00332) | 0.0227*** (0.00325) | 0.0229*** (0.00343) | 0.0172*** (0.00440) |
| Median Household Income (0,000) | -0.00125*** (0.000274) | -0.0000691 (0.000271) | -0.00122*** (0.000262) | -0.000523* (0.000254) | -0.0000434 (0.000241) | -0.000251 (0.000259) | -0.000849** (0.000319) |
| Unemployment Rate | 0.0173*** (0.00461) | 0.0228*** (0.00292) | 0.0123*** (0.00151) | 0.0205*** (0.00257) | 0.0178*** (0.00339) | 0.0119*** (0.00250) | 0.00856** (0.00308) |
| N | 19,396 | 24,978 | 25,759 | 25,020 | 23,505 | 19,688 | 18,143 |
| Pseudo R-sq | 0.35 | 0.36 | 0.33 | 0.32 | 0.31 | 0.31 | 0.33 |
| Region Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

* p<0.05; ** p<0.01; *** p<0.001; Marginal effects; Standard errors in parenthesis.

Table 3, Panel A: Logit Model, Young Adults Likelihood to Live with Parents, Rent to Income, Marginal Effects, No Control for Individual Marital Status or Number of Children

| | 2000 | 2005 | 2010 | 2015 | 2019 | 2020 | 2021 |
|--|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Age | -0.0404*** (0.000986) | -0.0451*** (0.000872) | -0.0446*** (0.000857) | -0.0477*** (0.000781) | -0.0459*** (0.000813) | -0.0452*** (0.000885) | -0.0503*** (0.000902) |
| Employment Status (ref.=Employed) | | | | | | | |
| Unemployed | 0.0204 (0.0125) | 0.0521*** (0.0103) | 0.0337*** (0.00856) | 0.0227* (0.0108) | 0.0584*** (0.0136) | 0.0402** (0.0128) | 0.115*** (0.0159) |
| Not In Labor Force | 0.0173* (0.00760) | 0.00127 (0.00647) | 0.0179** (0.00662) | -0.0217*** (0.00658) | 0.00763 (0.00718) | 0.0174* (0.00777) | 0.114*** (0.00943) |
| Enrolled in High School or College (ref. = Not Enrolled) | 0.184*** (0.0102) | 0.153*** (0.00866) | 0.119*** (0.00834) | 0.0965*** (0.00733) | 0.0851*** (0.00769) | 0.0718*** (0.00824) | 0.0804*** (0.0105) |
| Educational Attainment (ref.=Less than High School) | | | | | | | |
| High School | 0.0285*** (0.00821) | 0.0308*** (0.00730) | 0.0115 (0.00769) | 0.0149 (0.00868) | -0.0178 (0.00985) | -0.0126 (0.0111) | -0.0255 (0.0149) |
| Some College | 0.0425*** (0.00893) | 0.0421*** (0.00785) | 0.0253** (0.00803) | 0.0188* (0.00888) | -0.00362 (0.0100) | 0.00588 (0.0113) | -0.0105 (0.0158) |
| College | 0.0185 (0.0108) | 0.0197* (0.00935) | 0.0107 (0.00939) | -0.00612 (0.00999) | -0.0515*** (0.0110) | -0.0348** (0.0121) | -0.0763*** (0.0161) |
| Graduate Degree | -0.0198 (0.0277) | -0.0625* (0.0244) | -0.0125 (0.0204) | -0.131*** (0.0197) | -0.113*** (0.0193) | -0.126*** (0.0207) | -0.183*** (0.0232) |
| Race/Ethnicity (ref.= White Non-Hispanic) | | | | | | | |
| Black/African American | 0.0435*** (0.0105) | 0.0284*** (0.00844) | 0.00662 (0.00818) | 0.0277*** (0.00841) | 0.0179 (0.00922) | 0.0454*** (0.00992) | 0.0869*** (0.0122) |
| Hispanic/Latinx | 0.00183 (0.00807) | 0.0374*** (0.00718) | 0.00133 (0.00712) | 0.0240*** (0.00710) | 0.0411*** (0.00715) | 0.0455*** (0.00785) | 0.0726*** (0.00996) |
| Asian | 0.0472** (0.0160) | 0.0446** (0.0142) | 0.0390** (0.0130) | 0.0263* (0.0119) | -0.0383*** (0.0116) | 0.0102 (0.0125) | 0.0709*** (0.0163) |
| Other | 0.105*** (0.0255) | 0.0186 (0.0132) | 0.0549*** (0.0134) | 0.0399** (0.0133) | 0.0404** (0.0134) | 0.0418** (0.0151) | 0.0599** (0.0200) |
| Sex (ref.= Male) | -0.0972*** (0.00598) | -0.0833*** (0.00522) | -0.0867*** (0.00523) | -0.0868*** (0.00538) | -0.0645*** (0.00556) | -0.0792*** (0.00602) | -0.0612*** (0.00725) |
| Income | -0.00269*** (0.000176) | -0.00226*** (0.000149) | -0.00282*** (0.000155) | -0.00278*** (0.000142) | -0.00219*** (0.000137) | -0.00241*** (0.000138) | -0.00223*** (0.000139) |

| | | | | | | | |
|--|------------|------------|------------|------------|------------|------------|------------|
| Metropolitan Area | 0.0221* | -0.0198** | -0.0123 | -0.00464 | 0.00677 | 0.0138 | 0.00110 |
| | (0.00864) | (0.00749) | (0.00766) | (0.00775) | (0.00856) | (0.00942) | (0.0111) |
| Median Annual Gross Rent to Median Household Income | 0.00559* | 0.0136*** | 0.00866*** | 0.0144*** | 0.0141*** | 0.0143*** | 0.0101*** |
| | (0.00226) | (0.00157) | (0.00148) | (0.00146) | (0.00142) | (0.00153) | (0.00199) |
| Median Household Income (0,000) | 0.000343 | 0.00192*** | 0.00240*** | 0.00219*** | 0.00165*** | 0.00128*** | 0.000518 |
| | (0.000296) | (0.000278) | (0.000263) | (0.000252) | (0.000248) | (0.000259) | (0.000313) |
| Unemployment Rate | 0.0188*** | 0.0225*** | 0.00914*** | 0.0184*** | 0.0129*** | 0.0101*** | 0.0104** |
| | (0.00499) | (0.00302) | (0.00165) | (0.00274) | (0.00337) | (0.00258) | (0.00335) |
| N | 19,396 | 24,978 | 25,759 | 25,020 | 23,505 | 19,688 | 18,143 |
| Pseudo R-sq | 0.25 | 0.28 | 0.26 | 0.25 | 0.24 | 0.25 | 0.27 |
| Region Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

* p<0.05; ** p<0.01; *** p<0.001; Marginal effects; Standard errors in parenthesis.

Table 3, Panel B: Logit Model, Young Adults Likelihood to Live with Parents, Housing Value to Income, Marginal Effects, No Control for Individual Marital Status or Number of Children

| | 2000 | 2005 | 2010 | 2015 | 2019 | 2020 | 2021 |
|--|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Age | -0.0405*** (0.000987) | -0.0451*** (0.000873) | -0.0446*** (0.000857) | -0.0477*** (0.000781) | -0.0459*** (0.000814) | -0.0453*** (0.000885) | -0.0504*** (0.000902) |
| Employment Status (ref.=Employed) | | | | | | | |
| Unemployed | 0.0202 (0.0125) | 0.0513*** (0.0102) | 0.0336*** (0.00856) | 0.0223* (0.0108) | 0.0587*** (0.0136) | 0.0385** (0.0128) | 0.116*** (0.0159) |
| Not In Labor Force | 0.0173* (0.00760) | 0.00129 (0.00647) | 0.0185** (0.00662) | 0.0213** (0.00658) | 0.00868 (0.00719) | 0.0183* (0.00778) | 0.114*** (0.00943) |
| Enrolled in High School or College (ref. = Not Enrolled) | 0.183*** (0.0102) | 0.153*** (0.00866) | 0.119*** (0.00834) | 0.0961*** (0.00734) | 0.0848*** (0.00770) | 0.0710*** (0.00824) | 0.0803*** (0.0105) |
| Educational Attainment (ref.=Less than High School) | | | | | | | |
| High School | 0.0285*** (0.00820) | 0.0312*** (0.00730) | 0.0117 (0.00768) | 0.0158 (0.00868) | -0.0171 (0.00984) | -0.0115 (0.0111) | -0.0255 (0.0149) |
| Some College | 0.0421*** (0.00893) | 0.0422*** (0.00785) | 0.0259** (0.00802) | 0.0194* (0.00888) | -0.00292 (0.01000) | 0.00763 (0.0113) | -0.0101 (0.0158) |
| College | 0.0186 (0.0108) | 0.0198* (0.00935) | 0.0122 (0.00938) | -0.00406 (0.00998) | -0.0495*** (0.0109) | -0.0327** (0.0121) | -0.0762*** (0.0161) |
| Graduate Degree | -0.0193 (0.0277) | -0.0618* (0.0245) | -0.0109 (0.0204) | -0.128*** (0.0198) | -0.111*** (0.0194) | -0.124*** (0.0207) | -0.182*** (0.0232) |
| Race/Ethnicity (ref.= White Non-Hispanic) | | | | | | | |
| Black/African American | 0.0429*** (0.0105) | 0.0308*** (0.00842) | 0.00871 (0.00817) | 0.0322*** (0.00839) | 0.0213* (0.00920) | 0.0498*** (0.00989) | 0.0887*** (0.0122) |
| Hispanic/Latinx | 0.00276 (0.00795) | 0.0347*** (0.00715) | 0.00311 (0.00705) | 0.0305*** (0.00702) | 0.0471*** (0.00707) | 0.0504*** (0.00778) | 0.0756*** (0.00989) |
| Asian | 0.0461** (0.0160) | 0.0459** (0.0142) | 0.0399** (0.0130) | 0.0283* (0.0119) | -0.0368** (0.0116) | 0.0111 (0.0126) | 0.0700*** (0.0164) |
| Other | 0.106*** (0.0255) | 0.0192 (0.0132) | 0.0558*** (0.0134) | 0.0458*** (0.0134) | 0.0434** (0.0134) | 0.0462** (0.0151) | 0.0599** (0.0201) |
| Sex (ref.= Male) | -0.0972*** (0.00598) | -0.0833*** (0.00522) | -0.0867*** (0.00524) | -0.0868*** (0.00538) | -0.0647*** (0.00557) | -0.0794*** (0.00602) | -0.0613*** (0.00725) |
| Income | -0.00268*** (0.000176) | -0.00225*** (0.000149) | -0.00280*** (0.000155) | -0.00278*** (0.000142) | -0.00219*** (0.000137) | -0.00241*** (0.000138) | -0.00222*** (0.000139) |
| Metropolitan Area | 0.0264** | -0.00648 | -0.00681 | 0.00414 | 0.0200* | 0.0269** | 0.0117 |

| | | | | | | | |
|---|------------|------------|------------|------------|------------|------------|------------|
| | (0.00825) | (0.00725) | (0.00758) | (0.00765) | (0.00833) | (0.00921) | (0.0107) |
| Median House Value to Median Household Income | 0.0115** | 0.0174*** | 0.0140*** | 0.0287*** | 0.0301*** | 0.0305*** | 0.0240*** |
| | (0.00425) | (0.00220) | (0.00334) | (0.00348) | (0.00340) | (0.00360) | (0.00461) |
| Median Household Income (0,000) | 0.000733* | 0.000339 | 0.00168*** | 0.00100*** | 0.000466 | 0.0000482 | 0.000596 |
| | (0.000296) | (0.000292) | (0.000280) | (0.000273) | (0.000257) | (0.000275) | (0.000337) |
| Unemployment Rate | 0.0181*** | 0.0252*** | 0.0126*** | 0.0244*** | 0.0199*** | 0.0149*** | 0.0130*** |
| | (0.00497) | (0.00307) | (0.00158) | (0.00271) | (0.00348) | (0.00257) | (0.00321) |
| N | 19,396 | 24,978 | 25,759 | 25,020 | 23,505 | 19,688 | 18,143 |
| Pseudo R-sq | 0.25 | 0.28 | 0.26 | 0.25 | 0.24 | 0.25 | 0.27 |
| Region Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

* p<0.05; ** p<0.01; *** p<0.001; Marginal effects; Standard errors in parenthesis.

Table 4, Panel A: Logit Decomposition, Young Adults, Rent to Income

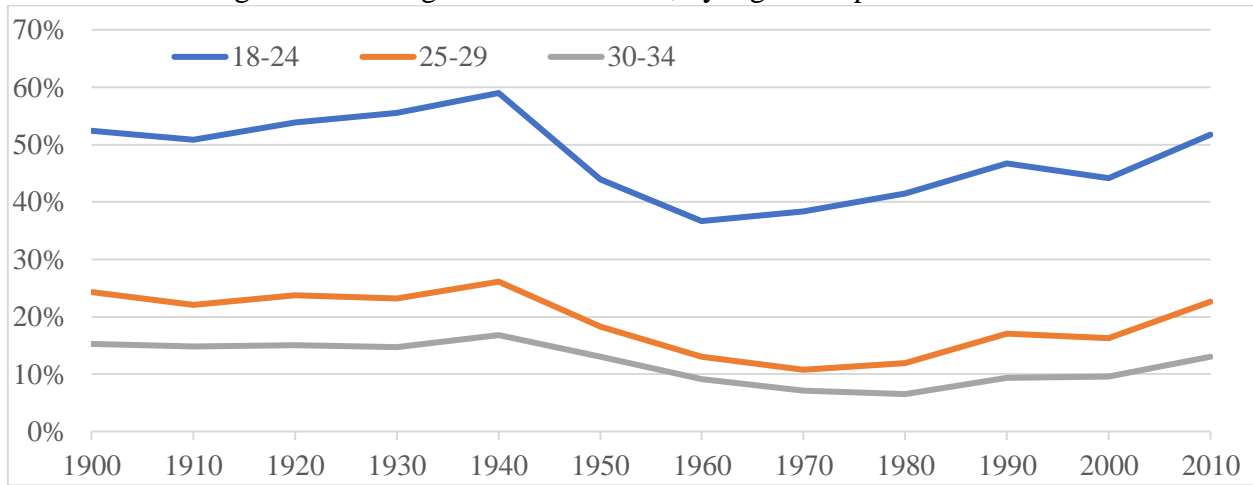
| | Overall: 2000 vs 2019 | | Overall: 2000 vs 2020 | | Overall: 2000 vs 2021 | |
|---|------------------------------|--------------------|------------------------------|--------------------|------------------------------|--------------------|
| Period 1 | 0.375 | | 0.375 | | 0.375 | |
| Period 2 | 0.482 | | 0.505 | | 0.470 | |
| Difference | 0.107 | | 0.130 | | 0.095 | |
| <i>Contribution to Difference</i> | | | | | | |
| Endowment | 0.077 | | 0.096 | | 0.148 | |
| Coefficients | 0.030 | | 0.035 | | -0.243 | |
| <i>Contribution to Difference of Individual Variables</i> | | | | | | |
| | Endowment | Coefficient | Endowment | Coefficient | Endowment | Coefficient |
| Changes in Individual Level Variables | | | | | | |
| Age | -0.001 | -0.275 | -0.003 | -0.269 | -0.003 | -0.343 |
| Employed | 0.002 | -0.019 | 0.003 | -0.014 | 0.020 | -0.007 |
| Unemployed | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 |
| Not In Labor Force | 0.001 | 0.000 | 0.002 | 0.003 | -0.002 | -0.030 |
| Enrolled in High School or College | 0.006 | -0.029 | 0.005 | -0.031 | 0.002 | -0.019 |
| Less than High School | -0.005 | 0.009 | -0.004 | 0.007 | 0.000 | 0.000 |
| High School | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.006 |
| Some College | 0.000 | 0.005 | 0.000 | 0.007 | -0.005 | 0.001 |
| College | -0.003 | -0.003 | -0.002 | -0.001 | 0.001 | -0.001 |
| Graduate Degree | -0.002 | -0.001 | -0.002 | -0.001 | -0.001 | 0.007 |
| White Non-Hispanic | 0.001 | 0.015 | 0.002 | 0.007 | -0.002 | 0.002 |
| Black/African American | 0.000 | 0.000 | 0.000 | 0.002 | -0.003 | -0.001 |
| Hispanic/Latinx | 0.001 | 0.012 | 0.001 | 0.009 | 0.001 | -0.004 |
| Asian | -0.001 | -0.002 | -0.001 | -0.001 | 0.000 | 0.001 |
| Other | 0.001 | 0.000 | 0.000 | -0.001 | -0.001 | 0.007 |
| Never Married | 0.013 | -0.013 | 0.016 | -0.006 | 0.000 | 0.001 |
| Married | 0.015 | 0.000 | 0.017 | -0.001 | 0.000 | -0.001 |
| Separated/Divorced/Widowed | -0.001 | 0.001 | -0.001 | 0.001 | 0.017 | -0.010 |
| Own Child | 0.014 | -0.006 | 0.017 | -0.004 | 0.017 | 0.003 |
| Sex (Female) | 0.000 | 0.033 | 0.000 | 0.008 | 0.000 | 0.000 |
| Income | -0.001 | 0.017 | -0.002 | 0.007 | -0.002 | 0.009 |
| Changes in Market Level Variables | | | | | | |
| Metropolitan Area | 0.000 | -0.019 | 0.000 | -0.014 | 0.000 | -0.012 |
| Median Annual Gross Rent to Median Household Income | 0.041 | 0.219 | 0.042 | 0.223 | 0.026 | 0.164 |
| Median Household Income | 0.001 | 0.127 | 0.001 | 0.122 | -0.001 | 0.146 |
| Unemployment Rate | -0.004 | 0.126 | 0.003 | 0.115 | 0.012 | 0.116 |
| Year Residual | | -0.166 | | -0.128 | | -0.002 |

Table 4, Panel B: Logit Decomposition, Young Adults, House Value to Income

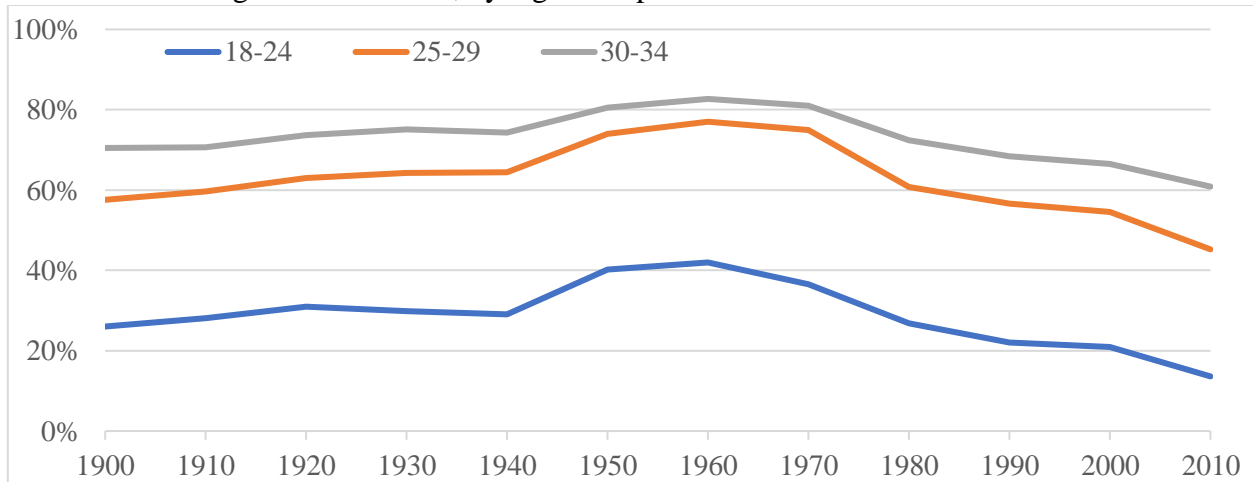
| | Overall: 2000 vs 2019 | | Overall: 2000 vs 2020 | | Overall: 2000 vs 2021 | |
|---|------------------------------|--------------------|------------------------------|--------------------|------------------------------|--------------------|
| Period 1 | 0.375 | | 0.375 | | 0.375 | |
| Period 2 | 0.482 | | 0.505 | | 0.470 | |
| Difference | 0.107 | | 0.130 | | 0.095 | |
| <i>Contribution to Difference</i> | | | | | | |
| Endowment | 0.062 | | 0.083 | | 0.148 | |
| Coefficients | 0.045 | | 0.047 | | -0.243 | |
| <i>Contribution to Difference of Individual Variables</i> | | | | | | |
| | Endowment | Coefficient | Endowment | Coefficient | Endowment | Coefficient |
| Changes in Individual Level Variables | | | | | | |
| Age | -0.001 | -0.274 | -0.003 | -0.269 | -0.003 | -0.343 |
| Employed | 0.014 | -0.007 | 0.017 | -0.014 | 0.020 | -0.007 |
| Unemployed | 0.000 | 0.033 | 0.000 | 0.000 | 0.000 | 0.001 |
| Not In Labor Force | 0.006 | -0.029 | 0.005 | 0.003 | -0.002 | -0.030 |
| Enrolled in High School or College | 0.002 | -0.019 | 0.003 | -0.031 | 0.002 | -0.019 |
| Less than High School | 0.000 | 0.001 | 0.000 | 0.007 | 0.000 | 0.000 |
| High School | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 | 0.006 |
| Some College | -0.005 | 0.009 | -0.004 | 0.007 | -0.005 | 0.001 |
| College | 0.000 | 0.001 | 0.000 | -0.001 | 0.001 | -0.001 |
| Graduate Degree | 0.000 | 0.005 | 0.000 | -0.001 | -0.001 | 0.007 |
| White Non-Hispanic | -0.003 | -0.003 | -0.002 | 0.007 | -0.002 | 0.002 |
| Black/African American | -0.002 | -0.001 | -0.002 | 0.002 | -0.003 | -0.001 |
| Hispanic/Latinx | 0.001 | 0.013 | 0.002 | 0.009 | 0.001 | -0.004 |
| Asian | 0.000 | 0.000 | 0.000 | -0.001 | 0.000 | 0.001 |
| Other | 0.001 | 0.013 | 0.001 | -0.001 | -0.001 | 0.007 |
| Never Married | -0.001 | -0.002 | -0.001 | -0.006 | 0.000 | 0.001 |
| Married | 0.001 | 0.000 | 0.000 | -0.001 | 0.000 | -0.001 |
| Separated/Divorced/Widowed | 0.013 | -0.013 | 0.016 | 0.001 | 0.017 | -0.010 |
| Own Child | 0.015 | 0.000 | 0.017 | -0.004 | 0.017 | 0.003 |
| Sex (Female) | -0.001 | 0.001 | -0.001 | 0.008 | 0.000 | 0.000 |
| Income | -0.001 | 0.017 | -0.002 | 0.007 | -0.002 | 0.009 |
| Changes in Market Level Variables | | | | | | |
| Metropolitan Area | 0.000 | -0.008 | 0.000 | -0.004 | 0.000 | -0.012 |
| Median House Value to Median Household Income | 0.027 | 0.067 | 0.028 | 0.068 | 0.026 | 0.164 |
| Median Household Income | -0.001 | 0.060 | -0.001 | 0.053 | -0.001 | 0.146 |
| Unemployment Rate | -0.006 | 0.150 | 0.004 | 0.131 | 0.012 | 0.116 |
| Year Residual | | 0.034 | | 0.082 | | -0.002 |

Appendix Figure 1

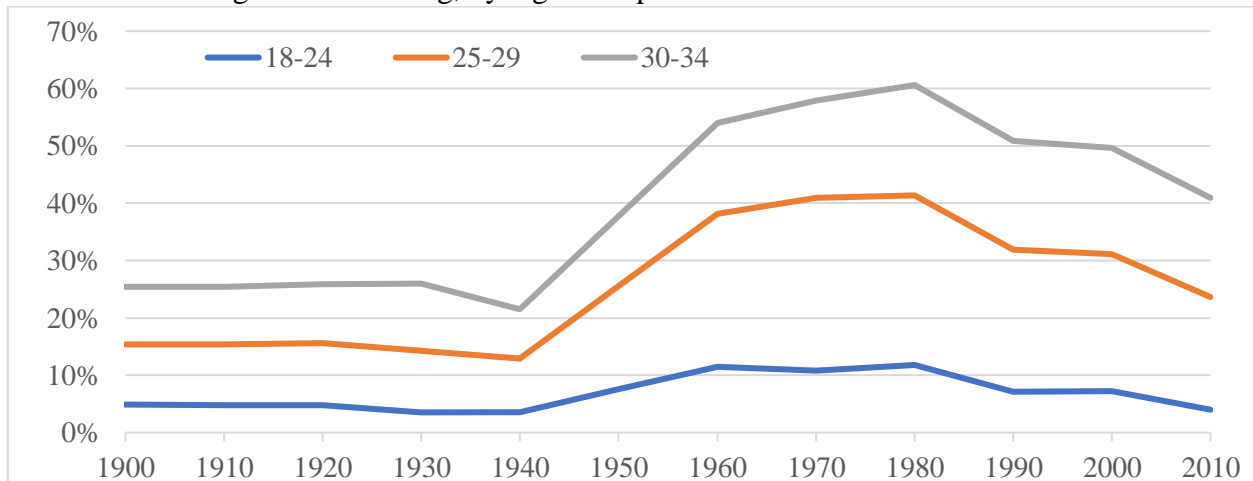
A: Share of Young Adults Living with their Parents, by Age Group



B: Share of Young Adults Married, by Age Group



C: Share of Young Adults Owning, by Age Group



Note: Note: Married is reported for all individuals 18-29.

Individual Homeownership is defined as: Number of Young Adults Who Own or whose Spouses Own/Total Number of Young Adults (including those living with their parents or in group quarters). 1950 tenure information is not available.

Source: Decennial Census Data from IPUMS (2020).

Appendix Table 1, Panel A: Logit Decomposition, Young Adults, Rent to Income

| | Overall: 2000 vs 2019 | | Overall: 2000 vs 2020 | | Overall: 2000 vs 2021 | |
|---|------------------------------|--------------------|------------------------------|--------------------|------------------------------|--------------------|
| Period 1 | 0.375 | | 0.375 | | 0.375 | |
| Period 2 | 0.482 | | 0.505 | | 0.470 | |
| Difference | 0.107 | | 0.130 | | 0.095 | |
| <i>Contribution to Difference</i> | | | | | | |
| Endowment | 0.052 | | 0.066 | | 0.037 | |
| Coefficients | 0.054 | | 0.064 | | 0.058 | |
| <i>Contribution to Difference of Individual Variables</i> | | | | | | |
| | Endowment | Coefficient | Endowment | Coefficient | Endowment | Coefficient |
| Changes in Individual Level Variables | | | | | | |
| Age | -0.001 | -0.209 | -0.004 | -0.192 | -0.004 | -0.232 |
| Employed | 0.000 | 0.055 | 0.001 | 0.030 | 0.001 | 0.026 |
| Unemployed | 0.009 | -0.033 | 0.008 | -0.037 | -0.003 | -0.038 |
| Not In Labor Force | 0.002 | -0.020 | 0.003 | -0.015 | 0.002 | -0.020 |
| Enrolled in High School or College | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Less than High School | 0.000 | 0.002 | 0.001 | 0.005 | 0.001 | 0.008 |
| High School | -0.003 | 0.011 | -0.002 | 0.009 | -0.003 | 0.003 |
| Some College | 0.000 | 0.005 | 0.000 | 0.005 | 0.001 | 0.003 |
| College | 0.000 | 0.006 | 0.000 | 0.007 | -0.001 | 0.007 |
| Graduate Degree | -0.002 | -0.004 | -0.001 | -0.001 | -0.001 | 0.001 |
| White Non-Hispanic | -0.001 | -0.002 | -0.002 | -0.002 | -0.003 | -0.001 |
| Black/African American | 0.002 | 0.014 | 0.003 | 0.005 | 0.001 | 0.001 |
| Hispanic/Latinx | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 |
| Asian | 0.001 | 0.017 | 0.000 | 0.014 | 0.000 | 0.013 |
| Other | -0.001 | -0.002 | -0.001 | -0.001 | 0.000 | 0.000 |
| Sex (Female) | 0.001 | -0.001 | 0.000 | -0.001 | 0.000 | -0.001 |
| Income | -0.001 | 0.019 | -0.003 | 0.007 | -0.003 | 0.009 |
| Changes in Market Level Variables | | | | | | |
| Metropolitan Area | 0.000 | -0.013 | 0.001 | -0.008 | 0.000 | -0.008 |
| Median Annual Gross Rent to Median Household Income | 0.051 | 0.145 | 0.052 | 0.144 | 0.033 | 0.081 |
| Median Household Income | 0.002 | 0.122 | 0.002 | 0.106 | -0.002 | 0.119 |
| Unemployment Rate | -0.004 | 0.135 | 0.003 | 0.125 | 0.017 | 0.131 |
| Year Residual | | -0.192 | | -0.133 | | -0.031 |

Appendix Table 1, Panel B: Logit Decomposition, Young Adults, House Value to Income

| | Overall: 2000 vs 2019 | | Overall: 2000 vs 2020 | | Overall: 2000 vs 2021 | |
|---|------------------------------|--------------------|------------------------------|--------------------|------------------------------|--------------------|
| Period 1 | 0.375 | | 0.375 | | 0.375 | |
| Period 2 | 0.482 | | 0.505 | | 0.470 | |
| Difference | 0.107 | | 0.130 | | 0.095 | |
| <i>Contribution to Difference</i> | | | | | | |
| Endowment | 0.034 | | 0.051 | | 0.033 | |
| Coefficients | 0.073 | | 0.079 | | 0.062 | |
| <i>Contribution to Difference of Individual Variables</i> | | | | | | |
| | Endowment | Coefficient | Endowment | Coefficient | Endowment | Coefficient |
| Changes in Individual Level Variables | | | | | | |
| Age | -0.001 | -0.208 | -0.004 | -0.192 | -0.004 | -0.231 |
| Employed | 0.000 | 0.055 | 0.001 | 0.030 | 0.001 | 0.026 |
| Unemployed | 0.009 | -0.033 | 0.008 | -0.037 | -0.003 | -0.038 |
| Not In Labor Force | 0.002 | -0.020 | 0.003 | -0.015 | 0.002 | -0.020 |
| Enrolled in High School or College | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Less than High School | 0.000 | 0.002 | 0.001 | 0.005 | 0.001 | 0.008 |
| High School | -0.003 | 0.011 | -0.002 | 0.008 | -0.003 | 0.003 |
| Some College | 0.000 | 0.005 | 0.000 | 0.005 | 0.001 | 0.002 |
| College | 0.000 | 0.006 | 0.000 | 0.007 | -0.001 | 0.007 |
| Graduate Degree | -0.002 | -0.004 | -0.001 | -0.001 | -0.001 | 0.001 |
| White Non-Hispanic | -0.001 | -0.002 | -0.002 | -0.002 | -0.003 | -0.001 |
| Black/African American | 0.002 | 0.012 | 0.004 | 0.003 | 0.001 | 0.001 |
| Hispanic/Latinx | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.001 |
| Asian | 0.001 | 0.017 | 0.000 | 0.014 | -0.001 | 0.013 |
| Other | -0.002 | -0.002 | -0.001 | -0.001 | 0.000 | 0.000 |
| Sex (Female) | 0.001 | -0.001 | 0.000 | -0.001 | 0.000 | -0.001 |
| Income | -0.001 | 0.019 | -0.003 | 0.007 | -0.002 | 0.009 |
| Changes in Market Level Variables | | | | | | |
| Metropolitan Area | 0.001 | -0.006 | 0.001 | -0.001 | 0.001 | -0.002 |
| Median House Value to Median Household Income | 0.035 | 0.057 | 0.035 | 0.056 | 0.022 | 0.033 |
| Median Household Income | 0.000 | 0.068 | 0.000 | 0.050 | 0.000 | 0.074 |
| Unemployment Rate | -0.007 | 0.162 | 0.005 | 0.142 | 0.021 | 0.140 |
| Year Residual | | -0.062 | | 0.006 | | 0.053 |