A Valuation of Student Loans: The Barriers and Ramifications on Homeownership Among Young Adults

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Dedication

To Cruz and Edison, for their encouragement and support throughout the years.

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Table of Contents

Introduction……………………………………………………………......................4

Chapter One: Student Debt Levels.………………………………………………...8

Chapter Two: Path to Homeownership……………………………...…………19

Chapter Three: Policy Implications…..……………………………………………32

Conclusion…………………………………………………………………………...38

Introduction

Background and the Issue

Several studies have been scrutinizing the undesirable effects of student debt on the young population of the United States. However, what many people do not realize is that middle-aged and even some elderly age groups still bear the brunt of student debt. Some argue that the overly accessible credit to student loans are to blame, while others claim that the cost of a college education is excessive. Also, wage stagnation has been a cause for concern since many researchers have found that productivity expanded over the past few decades while wages haven't so much. Since the actual average tuition cost rate continues to rise above the rate if it were increasing at the inflation rate, this may suggest that a growing number of people will soon find themselves in delinquency or default on their student loans.

Student debt continues to become a major part of young adults' lives, as it is the second largest consumer debt after mortgages. Therefore it is reasonable to assume that many Americans hold both debts, but since people typically enter college before purchasing a home, this means student debt can potentially prevent people from purchasing their first home at a young age. Financial illiteracy only adds to the issue, as many students sign off loan contracts without knowing what they are actually signing up for. Unlike other types of debt, young adults will be stuck with student debt because it is super challenging to get it discharged in bankruptcy. With this in mind, it will be burdensome to balance various debt payments if young people decide to go out and purchase a home. In this research, I will be discussing the repercussions that student debt may have on the homeownership rate in the United States, and if there is a link between the two by using sample data found at the U.S. Census Bureau, the National Association of Realtors,

and the National Postsecondary Student Aid Study. Subsequently, I will provide possible policy recommendations that would be logical to set forth in order to target the matter in question depending on the evidence found.

Literature Review

The History Behind Student Loans

The National Defense Education Act was an education legislation that was passed by Congress in 1958 to expand educational opportunities to many young Americans and provide funding for universities across the United States. At the time, the Cold War was ongoing and the Soviet Union had launched a new technologically advanced satellite called Sputnik in 1957. This advancement sparked terror in the eyes of the federal government and they soon perceived education as the underlying foundation in the economic development of the country. The act supplied "a billion dollars in federal aid for a dozen separate programs as described in its ten Titles", in which funds in the form of grants, fellowships and loans were distributed (Flemming, 1960, p. 134). This was a gateway for young Americans who couldn't afford to go to college to finally have the opportunity to do so. Nearly seven years later, another generous act boosted funds for universities, introduced scholarships, and reduced rates on student loans.

Before Ronald Reagan's presidency in 1981, the average cost of tuition was actually increasing at the rate of inflation. Anxious about the Russian's military power, Reagan proposed cuts to higher education spending and opted to swell the U.S. military's spending. By introducing the Budget Reconciliation Act, "over $1 billion from current policy levels for student aid programs in FY 8" ended up being cut and it "reduced student aid programs $600 million below the spending ceilings" (Saunders, 1982, p. 7). College tuition increased dramatically and a gap

appeared between the actual average tuition cost rate and the average tuition cost rate if it increased at the inflation rate. If students receive less student aid, this increases their chances of borrowing money whether it is through federal or private loans. Since Reagan's era, average tuition costs have never risen at the rate of inflation again.

In order to get a broader understanding of how large the student debt has grown by, it is important to look at the growth over a number of years. From 2004 to 2012, "student debt increased by an average of 14% per year", where it was once the smallest debt that Americans held before the Great Recession of 2008 and then outpaced credit card debt by 2010 (Brown, et al., p. 4). The growth can be explained by the amount of students who are taking out loans as well as the amount of students' balances. At one point, people with a high student loan balance had much more other debt than those with lower or no debt at all. However, for people who have a current student debt balance of $100,000 or more, there has been a sharp decline in mortgage originations due to more stern eligibility requirements such as limits on debt-to-income ratios. In 2012, borrowers aged 25-30 years of age had lower average credit scores compared to their peers without student loan debt. The study also found that people who were delinquent on their student loan debt were also more likely to be delinquent on other types of debt, which has a negative impact on borrowers since they will have poor credit and limited access to credit.

In regards to labor market outcomes, having student debt does not have to always be a dreadful thing, as people who have student debt typically have graduate degrees. Thus, they tend to have potentially higher earnings than those with only an undergraduate degree. However, using the National Longitudinal Study of Youth 1997, Daniels and Smythe (2019) found that "higher income among student loan holders is due to higher work hours rather than higher wage rates" (p. 6). So if students do not land a great paying job, they will opt to work longer hours.

The study also found that many people who just graduate from college who enter the early work life are more likely to accept lower pay just to begin paying down their student loan debt more rapidly. This effect can eventually lead to a decrease in homeownership since this means recent graduates will not be able to have enough saved up for a down payment or to afford their mortgage payments.

After college, there is this view that young adults gained financial independence and are able to move out of their parents' residence. The rate at which young adults return back home after college is growing compared to previous years, and many argue that the rise in student debt is one of the reasons for this. However, there has not been much research conducted to examine the official link between student debt and the rate that young adults go back to live with their parents. In a study done by Houle and Warner (2017) using the National Longitudinal Study of Youth, found that young adults who returned back home were more likely to be "younger, to be black, to have lower PSE attainment and are less likely to attain a degree and more likely to attend for-profit institutions", suggesting that graduating with a degree and attending non-profit institutions play a huge role in young adults' decisions (p. 97). The respondents also were more likely to have stress as well as lower pay and employment. If there are young adults returning home due to low pay and employment, it signifies that they likely will not be able to purchase a home for years to come.

Chapter 1

Student Debt Levels

As time progresses into the twenty-first century, millions of Americans are attending college and borrowing at levels never seen before. The magnitude of student loan borrowing has been an immense cause for concern over the course of a few decades. From policymakers to households, many can agree that it has grown to such an extent that it can even cause the next recession if it is not sustained. In fact, government and private student loan levels "quadrupled from $250 billion in 2003 to $1.1 trillion in 2013", indicating that demand for student loans have dramatically increased in recent years (Lochner & Monge-Naranjo, 2015, p. 8). Many Americans turn to college education because of the returns it produces once they graduate and earn their degree, yet this incentive has led to student loan debt growth outpacing other major debts such as credit card and automobile loans.

The rapid growth of student loans can be linked to the decrease in student aid and other financial grants. Even if the returns of a college degree are strengthening, the costs of attending certainly have the capacity to dig a hole in students' finances if they do not have access to financial aid. The amount of students who receive aid and end up taking out student loans "rose from 55 percent in 1993 to 65 percent in 2004", in which aid also decreased by a small percentage (Rothstein & Rouse, 2007, p. 1). This shows that even though student aid is beneficial, student loans are progressively becoming more prevalent. Rothstein & Rouse (2007) also demonstrated that "an additional $10,000 in debt leads students to accept jobs that pay about $2,000 more in annual salary" and "reduces the likelihood that the salary is below $41,395" (p. 26). Therefore, graduates are more likely to avert occupations in areas like teaching and

nonprofits. Additionally, those who had more student debt were less likely to donate to their university after graduation.

The amount of student loan debt for each student varies depending on the amount of years a student studies in college, typically with bachelor's degree graduates having less student debt than students graduating in master's and PhD programs. In fact, the recent rise in student debt consisted of graduate student loans with an estimated "40 percent of federal loan dollars" going towards graduate students (Dynarski, 2014, p. 13). This represents a huge percentage of student loan debt since the population of undergraduate students are much larger than the population of graduate students. Graduate students also are able to borrow more for their graduate studies because their borrowing limits are much higher than undergraduate student loan limits. Also, students are willing to borrow more to attend graduate school because they can expect a higher salary and better job opportunities to advance their careers.

College Enrollment

With college tuition and fee prices spiking at a high rate, students are opting for alternatives like trade school, entrepreneurship, and even joining the military. If students realize that tuition and fees are decreasing or that student aid is increasing, this would cause college enrollment to increase. According to a study conducted in 1987, "a price cut of $100 (1982-1983 academic-year dollars) on national enrollment of 18-24 year-olds" increases enrollment by "about 1.8 percent" (McPherson & Schapiro, 1991, p. 310). The same effects would occur if student aid increased by the same amount, proving that there's a positive effect on college enrollment. Frankly, most of the positive effects in enrollment came from low-income students, since there would be a greater increase in low-income candidates than high-income candidates.

The study concludes that there was no evidence found that enrollment was impeded for high-income students due to rising tuition costs.

In order to get an overview of the total undergraduate enrollment in the United States, utilizing time-series data would present an accurate representation of the rate over time. According to the National Center for Education Statistics, from 2009-2019, "full-time enrollment decreased by 7 percent (from 11.0 million to 10.2 million students) and part-time enrollment decreased by 1 percent (from 6.4 million to 6.3 million students)", demonstrating a drop in attendance in a period of ten years (NCES2 2021). In relation to the gender disparity, total enrollment for females outpaced males. However, for the same time period of 2009-2019, both decreased in college enrollment by approximately five percent. Additionally, 4-year institutions were favored compared to 2-year institutions as enrollment for 4-year institutions were greater than enrollment for 2-year institutions.

Income & Health

When students borrow more than they can afford, it can lead to disastrous consequences when the time comes to repay the loan. In a study conducted from NPSAS in 1999-2000, the average student loan debt "doubled over the past eight years to $16,928", with the rate continuously climbing over the next few years (Bannon & King, 2002, p. 2). For low-income students, this total places a massive burden on their financial status and their families. For those in high-income families, students can generally rely on their parents to assist them in paying their loans if there happens to be any trouble. However, low-income students usually need to provide financial support to their families while paying off their debt on their own. Moreover, for students with unsubsidized loans, the monthly student loan costs are higher than subsidized loans

since interest is capitalized after graduation. Attaching income inequality to rising debt leads to low-income students scrambling to reach credit access and invest in essential assets in the future.

Compared to the sharp rise of student debt over the past few years, the average wage earnings for families in the U.S. have either declined or remained stagnant. This leaves no secondary option for students other than to borrow to continue their college education. According to Dynarski (2014), “In 2001, 34 percent of undergraduates took out a Stafford loan; by 2011, that number had risen to 50 percent” (p. 7). In addition, the income distribution among families of all income sizes in the U.S. has been linked to inequality that is becoming much more prominent. Therefore, the cause for the surge in student loan debt lies on increasing college enrollment, income inequality, and possible tuition and fee raises.

In regards to the effects that student debt has on students’ health, it’s essential to observe the psychological and overall health aspects that student debt places on students as it plays a role in their life decisions. Since student loans are tremendously difficult to discharge in bankruptcy compared to other debts, this can cause students’ mental health to deteriorate. People with student debt will need to prove that their debt will cause undue hardship to them and their dependents. According to a study conducted by Gee et al. (2015) for high school graduates and college students, self-rated health in 2010 for participants in 2-year, transfer, and 4-year institutions were “11.7%, 7.2%, and 4.7%, respectively” and only “ 27% rated their health as excellent” (p. 8-9). The burden of accumulating student loans places people in dire situations, with people who attended 2-year colleges having the worst self-rated health than transfer and 4-year students. The results also showed that student loans were notably associated with low psychological functioning. Gee et al. (2015) found that “increasing loans were related to worse psychological functioning among students from wealthier families”, demonstrating that even

higher income students agonize outstanding loans (p. 13). This can cause people with student debt to have depression, inadequate sleeping patterns, and cause other harmful mental complications.

Student Loan Access

College students have two different mediums of acquiring student loans which are through the federal government and private institutions. Federal loans are offered at lower interest rates than those offered by private institutions, and the amount a student can borrow will depend on criteria such as their year of education and their dependency status. Also, students who demonstrate more financial assistance are “eligible to borrow a larger portion of their federal loans through the subsidized loan program”, in which their interest is paid for while they’re in school (Akers & Chingos, 2014, p. 5). Federal loans are considered to be more lenient when it comes to repayment if there are any financial troubles. They’re able to reduce your monthly payments if students can’t afford high monthly expenses and even forgive some loans.

On the other hand, private institutions are more intolerant when it comes to repayment plans. They “offer loans with interest rates that reflect a borrower’s likelihood of default”, and low-income borrowers “attending colleges with lower completion rates are likely to face the highest rates” (Akers & Chingos, 2014, p. 5). Some private loans require payments while students are still in school, compelling students to have an arduous time balancing school studies and loan payments. Also, interest rates for federal loans are set by Congress, and they try to guarantee that all students have access to loans whether or not they have the ability to pay back. Private loans usually require a cosigner or a credit history check in order to determine eligibility while certain federal loans do not. Private loans do not allow repayment to be postponed, while federal loans do allow this, making federal loans more desirable in all aspects. Collectively,

many students who wind up taking out student loans had no clue what the terms of their loans meant and how interest rates functioned. It is crucial for students to gain financial literacy before signing their loan documents in order for them to interpret how much they can afford throughout their school years as well as after graduation.

Taking into consideration the total amount of student loans that the average student takes out, it is essential to also look at their earnings and financial stability after college to determine if students are willing to take financial risks and partake in vital purchasing decisions such as houses. Some students who have an extra ten thousand dollars of debt are “2.3% more likely to choose jobs that are unrelated to their field of study” than those with little to no debt (Weidner, 2016, p. 2). Therefore, student debt plays a role in the job decisions that students make after graduation. Usually, students with debt take on job positions that are less professional than their peers with little to no debt, which allows them to earn significantly less. This also enables students with less professional jobs to have slight income growth over the course of a few years. Weidner (2016) explains that an “increase in debt from 1993 to 2008 caused income for affected graduates who remained in related jobs to be about 2% lower, whereas those who did switch to an unrelated job only lost about 1%”, which shows that students with debt are more likely to stay in less risky, low paying jobs (p. 4). Students typically gain the most income growth when they tend to switch jobs frequently early on in their careers, but those with debt are more risk-averse.

Delinquency & Defaults on Loan Borrowing

There is generally a lot of volatility in student debt repayment plans and there has been some concern on the number of student borrowers who are defaulting on their student loans. According to a report by Cunningham & Kienzl (2011), for borrowers who were in repayment plans in 2005, “26 percent—became delinquent on their loans at some point” and “15 percent of

borrowers not only became delinquent, but also had defaulted on their loan(s)" (p. 5). This demonstrates that roughly forty percent of all student borrowers face negative consequences when they cannot meet their monthly debt obligations, and the consequences for those students who attend college and leave without a degree are noticeably more dreadful. To be sure, students who took out loans closer to their last year of college were less likely to default or have their loans become delinquent, compared to those who borrowed closer to their first year of college. In addition, borrowers who attended institutions that are private or for-profit were more likely to be a part of the delinquency and default rates in the report conducted in 2005.

Characteristics of loans that are generally in default or delinquency are smaller outstanding balance loans and those that come from undergraduate borrowers. According to Dynarski (2014), the loan portfolio of undergraduate and graduate borrowers from the student aid data showed that "the average loan in default is about $14,000, while the average loan not in default is $22,000" (p. 13). This means that those who owe more in student loans are not as likely to default compared to those who do not owe a great amount. Student loan delinquencies are also more common than other debt delinquencies such as credit card and mortgage loans. In addition, there are many more students who are in delinquency on their student loans compared to defaults. This shows that although students need more time to repay their loans, they are still making monthly payments rather than not doing it at all.

Credit Constraints & Life Decisions

Since the cost of borrowing for student loans remains at high levels, it discourages future consumption for people with student debt. Student debt is another monthly expense in which people have to forgo other goods and services. This even includes students opting out of graduate school if they're already in undergraduate debt right after graduation. Using survey data found at

the Department of Education, Zhang (2010) found that "Ceteris paribus, a $1,000 increase in college debt reduces the probability that a public-college student will attend graduate school by 2.7 percentage points" (p. 4). People attending public universities with student loan debt are choosing not to continue their education because they would only wind up in accruing debt. However, for students attending private universities, student debt had no effect on their decision to go to graduate school but they can still nonetheless choose graduate programs that are less costly. Also, the study found that for both undergraduate and graduate students, their student debt did not have an effect on their life choices such as starting a family and homeownership.

Furthermore, student debt can also have a great impact on the career choices that students select after graduation. Certain job positions have a high entry salary but little income growth, while others can have lower entry salary but high income growth. According to Minicozzi (2002), "higher educational debt is associated with higher initial wages the year after finishing school and lower wage growth over the next four years", however wage growth could be attributed to other factors as well (p. 18). Wage growth could be linked to things such as level of education, years of experience, and licenses or certifications. The results found that when people have more debt, they are likely to chase after higher-paying salary jobs than lower-paying salary jobs. Moreover, it is strenuous to find high-paying jobs when background checks sometimes tend to reject candidates with high student debt.

In addition, after several years of borrowers graduating from college, there should eventually be a fragile relationship between student debt and homeownership since earnings will increase and student debt will decrease. When it comes to important milestones within one's life, homeownership is sometimes connected to one's marriage. If young adults are delaying in getting married, this would cause homeownership for a young age group to be low. In an

experiment conducted by Fisher et al. (2010), "Marriage delay lowers the rates by between 1.58 and 3.98 percentage points", for age groups between 40-44 and 25-29 respectively, in their 1980 and 2000 calibrations (p. 38). Another factor that the study found was that "Income risk lowers home ownership rates by age by between 3.37 and 4.59 percentage points" (Fisher et al., 2010, p. 38). Students who have unstable jobs indicate that earnings are not permanent and will be locked out of gaining access to mortgage loans or they may even decide not to purchase homes. This shows that homeownership rates are affected by other variables other than student debt, and will have to be taken into account when analyzing the relationship between the two.

Homeownership Trends

While student loan demand is rising, this leads to students not having enough capital to support numerous expenses upon graduation. In particular, those with student loan debt have been discouraged from purchasing homes. Berger and Houle (2015) state that "young adults, who now leave college with an average of $25,000 in student loan debt" are missing out on buying homes due to "high debt loads and poor credit scores" (p. 590). The speculation that there is a correlation between rising student debt and low homeownership rates within young adults is because over the years, they both moved in opposite directions. However, those with student debt typically have more education and possibly higher salaries than those with no student loans who did not attend college.

Millennials who account for the largest population in the U.S. compared to baby boomers and Generation X, have the lowest homeownership rate. In the year 2015, the average homeownership for millennials was "32.2 percent, 28.2 percentage points lower than that of Gen Xers and 42.8 percent lower than that of baby boomers" (Choi et al., 2018, p. 1). Many believe student debt is the culprit behind the homeownership decline, however it is not proven to be

accurate. Further analyzing trends in homeownership, using data from Census Bureau's Current Population Survey in the years of 1977-1997, households without children had "a nearly three percentage point higher homeownership rate in 1997 than in 1977" and households with "four or more children had a more than ten percentage point decline" (Segal & Sullivan, 1998, p. 55). Household sizes also play a role in determining if young adults with families will acquire homes, which also has to be considered when investigating the impact on homeownership rates. This can easily be explained by the fact that larger household sizes generally have more expenses than smaller household sizes.

Overall, whites tend to have more combined income and wealth compared to blacks in the U.S. Adding race as another demographic determination in the same study, from 1977-1995, "the black homeownership rate fell by 2.6 percentage points to 40.7 percent" while "white homeownership rate actually increased by 0.4 percentage points to 67.9 percent" (Segal & Sullivan, 1998, p. 53). There is a substantial gap between the homeownership rates between whites compared to minorities. Typically, students with less income and wealth have less resources to help pay off student loans. Therefore, minorities are at a disadvantage if they do not have sufficient financial aid to assist them with college costs, which only causes them to be burdened with student loan debt or they might simply choose not to attend college, in which both scenarios can decrease their chances of becoming homeowners.

The Great Recession of 2008 left many Americans unemployed and unable to afford their mortgage payments once their interest rates soared to scandalous levels that could not be sustained. From the perspective of consumer debt, student loan debt was the only debt that actually increased during the recession, while homeownership rates fell. Based on the American Community Survey Data, Berger & Houle (2015) noted that "35.1 percent of young adults under

the age of 30 owned a home in 2006 but that only 30.2 percent owned a home in 2013" (p. 591). This can be attributed to the fact that it was momentarily complicated to get a mortgage loan after the recession and that people are hesitant to take out other debt on top of their student debt. It is also important to distinguish between the years before and after the recession, to observe the influence this had on homeownership. For example, having a college degree increases the chances of adults buying homes since their expected incomes should be higher than those without degrees, and this positive relationship was demonstrated after the recession of 2008 and not before. Since credit markets were tightening, a college degree revealed more job security and stable earnings.

Now that there is substantial research that has been done between the repercussions of student loan debt and homeownership rates between young adults, it is pivotal to underline if there is a significant relationship between the two variables. Previous analysis on the subject has been intricate to determine due to the countless factors that affect homeownership and student loan debt. Although student loan debt and homeownership among young adults have had a negative correlation over the last few years, it does not signify that student debt causes a decline in homeownership. There is evidence in multiple studies that indicate student debt may have little to no effect on homeownership at all. However, considering the unfavorable results that student loan debt has on young Americans, it is difficult to completely rule out the possibility of this not having an effect on homebuyers.

Chapter 2

Path to Homeownership

With the rise of tuition costs, borrowers have increasing chances of having less financial stability and less purchasing power if they are in student loan debt. Criteria that mortgage lenders take into account are credit scores, debt-to-income ratio, the loan type, and the amount of down payment. For young adults who end up not graduating and stuck with debt, their outcomes are worse than for those who did earn a college degree. According to a report by Wei and Horn (2013), students from two cohorts from the years of 1995-1996 and 2003-2004 showed that the student debt-to-income ratio increased from "24 percent to 35 percent" for those who didn't get a degree. For some, their debt surpassed their annual income, which shows that they are not able to meet their monthly debt obligations and are withholding from paying their debt. Low income and the difficulty to find well-paying jobs makes the situation even more dire. Also, households with student debt that also includes someone who did not earn a college degree tend to be more credit constrained. This lessens the chance for young adults to own a home if they have little to no access to credit due to their extensive debt.

It is imperative for students to properly manage their student debt whether they are still attending college or have already graduated. Sometimes, people take out student loans that amount to less than tuition and end up paying the rest out of pocket. However, this means that they have to work a part-time or full-time job and it can greatly affect their academic performance. On the other hand, some people decide to borrow more than what is needed to fully cover their tuition costs and they end up over-borrowing. According to Hansen and Rhodes (1988), "three percent of seniors with debt might on average experience repayment problems", based on amounts that exceed $14,000 (p. 21). People who are considered independent while

attending a private college are those who are at most risk and make up a larger percentage of those with a lot of debt. If high student loan debt leads to a future of unpredictability and low financial security, students will be likely to skip college or if they are attending college, they may choose to drop out of school.

When comparing the homeownership rate among people with student debt and people with no student debt, it turns out that those with student debt have higher chances of being homeowners. From the years of 2003-2009, the homeownership rates were “significantly higher for thirty-year-olds with a history of student debt than for those without”, which demonstrates that student debt holders tend to have higher incomes due to higher education and are able to afford mortgages (Brown and Caldwell, 2013). However, during the Great Recession of 2008, homeownership rates among those with student debt fell more than those with no student debt. For the year 2012, people with no student debt were more likely to have home-secured debt than people with student debt. Moreover, on average, total debt for twenty-five-year olds began to decline following the recession of 2008 for people with no student loan debt and those with student loan debt. After the recession, tighter credit standards, increased delinquency rates, and poor credit scores limited the access that people with student debt have in the housing market. The trend where student loan borrowers aged 25 and 30 have lower credit scores than non-borrowers does not account for things like income correlation and financial stability.

Policy changes have a great influence on the amount of student debt that is available due to changes in annual limits, interest rates, loan eligibility, and deferment on repayment on PLUS loans. Gicheva and Thompson (2013) analyze data using the Survey of Consumer Finances during the years between 1995 and 2010, which collected data about people’s financial assets and liabilities to observe the influence that student loans had on their financial status after a

decade or so. They found that “more than one third-37 percent-of households indicate that they were either denied credit, granted less credit than they had applied for initially, or did not apply at all because they feared rejection”, proving that student loan debt led to some type of financial hardships for some (p. 8-9). During the underwriting process, an applicant’s student loan payments are considered and will dictate their available credit. Throughout the years, the study found that the volume and the amount of student loans increased rapidly. Additionally, since a college degree does not guarantee an excellent paying salary, people with private loans have little borrower protection which leads them to being more at risk of not being a part of the housing market.

After discussing the effects that student loans have on people’s future plans, such as saving for a down payment and having limited access to credit, it’s important to point out that student debt is becoming more ordinary for older age groups that are in their 40’s and 50’s. According to Lew (2015), “23 percent of households in their 40s and 9 percent of households in their 50s carried an outstanding student loan balance”, which shows that student loan debt carries a long-term negative impact on finances (p. 3). Depending on one’s payment burden, student debt should not surpass a certain percentage amount of their monthly gross income. For people with low burden, their student loan payments should be no more than eight percent of their monthly gross income, and for those with high burden should be above fourteen percent. Since mortgage lenders check for debt-to-income ratios of borrowers, considering that many Americans of all age groups have other types of debt such as credit card and automobile, student debt must not extend to a large extent.

<u>Data</u>

In order to observe the ability that young adults have in purchasing their first home, we need to analyze the savings rate for a period of a few years. The savings rate provides some insight into the amount of money that someone is able to put down for a home. Utilizing economic data found at the Federal Reserve Bank of St. Louis, the personal saving rate usually tends to increase in times of economic recessions. Another variable that we will be looking into is the average percentage amount that first time home buyers put down, as it will give us an idea about how much young adults were able to save and the amount that they are financing since they also have student debt to take care of. While monitoring this data, the other variable that will be taken into consideration is the average age of first time home buyers. If there is a trend that the age is increasing, this signifies that many young adults are not able to afford homes at a young age and are waiting to purchase later on in life or avoiding it altogether. The last variable we will look at is the average amount of student debt after graduation, which will provide an outlook as to how student debt affects life decisions years after signing student loan contracts. A major consideration to point out is that many studies have yet to find a direct link to the decline in homeownership rates among young adults and student loan debt.

As shown in Figure 1 from the Federal Reserve Economic Data, the personal saving rate seems to increase during periods of uncertainty, which is reasonable since people tend to hold onto cash and stick to accumulating their savings accounts for security purposes. During recessions, not many people consume or invest which negatively affects national income. Therefore, we can assume that people do not purchase homes during times of recessions. The line from 1960-2008 shows an overall negative trend, which simply means that Americans are not saving as much as they did since the 1970's. This is important because it demonstrates that people may not have enough savings for a down payment or be able to afford their debt and bills

if there happens to be an economic downturn. If people have student debt and are trying to save for a home, saving little to no money will not help make it possible. On the other hand, if the personal saving rate increases, we can expect a spike in homeownership rates as this means people will have more disposable income.

From 2019-2020, the personal saving rate hit 16.3%, which is the highest it has ever been in decades. This can be explained by the fact that the Covid-19 pandemic caused many people to cut back on spending and save. Figure 2 shows that the homeownership rate from 2019-2020 went up by a little over 4%, indicating that there may be a positive correlation betweens savings and the homeownership rate. The opposite can be seen during the Great Recession of 2008, where there has been a decline in homeownership rates and an increase in the personal saving rate. At the same time, the average student debt continued to rise during this time period which can suggest that people were primarily concerned about paying their debt and saving for other purposes other than purchasing a home.

Another variable that we will be looking into is the median down payment and the rate over the course of a few years. According to a report by the National Association of Realtors, they collected data since the 1980's on mortgages, down payments, and other characteristics in relation to borrowers. Figure 3 portrays data collected by NAR and it shows a decline in the median down payment for borrowers since the late 1980's. The only period that the median down payment increased at a sharp rate was during 1999 up until 2001. After 2001, homeownership rates still increased while the median down payment was decreasing, which indicates that people were taking out mortgage loans while putting a small percentage down for their homes. From 2004-2016, the homeownership rate went from 69.2% to 63.7% while the median down payment went from approximately 13% to almost 10%. Although loans with little to no down payment

were becoming pretty common, this did not attract people to go out and buy homes. This can lead people to assume that it is because people prefer to wait until the future to take out mortgages or simply because they have other debt to take care of such as student loans.

In addition, many researchers have found that the median age people tend to buy homes are steadily rising. Figure 4 conveys data based on the NAR's evaluation of mortgage borrowers' characteristics and the trend lines for first-time home buyers, repeat home buyers, and the median home buyers have been soaring since the year of 1985. The median age for all home buyers surveyed in 1985 was approximately 35 years while the median age for first-time home buyers for the same year was 30 years. In the year 2019, the median age for all home buyers has risen to 47 years and the median age for first-time home buyers was almost 35 years. Taking into consideration that the homeownership rate in general has been at a low rate compared to the early 2000's and that student debt has been enlarging for decades, it is possible that the cause for an increase in median age over the last few years is because younger borrowers are not financially suited to take on huge investments. Their investment in a college education is still being paid off and will continue to be a burden on many young Americans since it usually takes years for recent college graduates to be able to grow their income.

Further analyzing the trend between the median age and the median down payment in 2021, the median down payment for all ages is 12% and the median age was 45. According to a Money Magazine article, "in 2019, the median age of home buyers hit a record high at 47", but slightly decreased to 45 last year (Hardy 2021). The rise in home prices because of tightening credit and low inventory can also play a role in a delay in homeownership among young adults. According to the National Association of Realtors, the youngest median age for first-time homebuyers was at the age of 28 in the year of 1991. Figure 5 shows the average student debt

from 1992 to 2018, and it has increased about 233%. Since the NAR began to track homeownership rates in the U.S. in the early 1980's, the median age for repeat homebuyers and homebuyers in general has increased from 36 to 56 and from 31 to 45, respectively.

Breaking down the age groups and the average down payment that each group puts down, Figure 6 shows that older cohorts from age 56 and over make up the majority of the total average down payment for the year 2021. A report by the NJHMFA states that the Federal Housing Administration "requires 3.5% down payment" for first-time homebuyers getting a FHA loan ("NJHMFA"). This explains the small percentage of 7% for the average down payment for people in the lowest age group of 22-30 years. However, young homeowners will have to pay more interest and have larger mortgage payments over time if their down payment is small compared to the home price. Additionally, there may be additional costs in private mortgage insurance if there is little or no down payment. Some home loan programs require 0% down payment such as VA or USDA loans, but only those who are a U.S. Armed Forces Veteran or service member, and those who are buying a particular house in a qualified rural area can take advantage of this perk. Cohorts in the age group between 66 and 74 are the ones who put down the most average down payment compared to their peers. People between the ages of 22 and 30 make up the smallest size, which can be linked to the fact that low down payment programs exist, or also the fact that they have to cover costs like monthly student loan payments.

Observing the variable of the percent of first-time homebuyers from the years of 1989-2017, it seems as if the amount of first-time homebuyers has been declining. Figure 7 demonstrates data from the National Association of Realtors, and the highest percentage of first-time homebuyers was in 2010 at 50%. According to the official Federal Housing Administration site, during 2009, first-time homebuyers were "entitled to a tax credit totaling

10% of the purchase price of the home”, in which the maximum amount was $8,000 (“The 2009 First-Time Homebuyer’s Tax Credit", 2009). This was possible under the Housing and Economic Recovery Act of 2008, and people were able to claim their tax credit on either their 2009 or 2010 tax return. The percentage of first-time homebuyers in Figure 7 shows that throughout recent years starting from 2014 to 2017, it had the lowest rates since the late 1980’s while the median age also increased during this time. The average student debt seemed to remain stationary during this time period, so it is difficult to condemn student debt as the culprit of the low homeownership rate.

In the OLS regression, it will tell us how significant the independent variables are in relation to the dependent variable. In other words, we will see if there is some sort of correlation between the dependent variable “homeownership rate” and independent variables “average student debt”, “median down payment”, “median age for first-time home buyers”, and “personal saving rate”. We use data for each variable from years 2005-2017, which we gathered from the National Association of Realtors and U.S. Census Bureau. For the first variable average student debt, we took the log of this specific data set because it helps to transform the data to make it linear. As we can see on Figure 8, the p-value for this variable is 0.01, which is highly significant at the 99% level. The t-stat is 3.11, which is also highly significant at the 99% level. Next, the second variable which is the median age for first time homebuyers, the p-value is 0.05, which we can say is significant at the 95% level. The t-stat is 2.26, which is also significant at the 95% level. The third variable we will be analyzing is median down payment, we found that its p-value and t-stat are both not significant. The fourth variable is the personal saving rate and the p-value is 0.00 which is highly significant at the 99% level. The t-stat is 4.87 and it is significant at the 99% level as well.

The r-squared of the data is 90%, this means that 90 percent of the variation of homeownership rate is due to average student debt, median age, median down payment, and personal saving rate. The F-stat shows the joint effect of all the variables together, and the probability of the F-stat is also highly significant at the 99% level. The standard error of a regression tells us how accurate the statistic is, and according to the regression model, it is 0.00. The regression equation ultimately was estimated to be: HOMEOWNERSHIP_RATE = -0.154142093905*LAVERAGE_STUDENT_DEBT_CHANGE - 0.00803889618837*MEDIAN_AGE_FOR_FIRST_TIME_HOMEBUYERS - 0.0126802369058*MEDIAN_DOWNPAYMENT + 0.000848399164976*PERSONAL_SAVING_RATE + 2.47970789463.

Interpreting the coefficient correlations for the variables, for every additional unit increase of average student debt, the homeownership rate will decrease by 0.15 percentage points. This shows a negative correlation between the variables, however it is not a really strong one. Therefore, there may be other factors that can possibly affect the homeownership rate besides average student debt. For every additional year increase in the median age of a person owning a home, the homeownership rate will increase by 0.008, or 0.8%. This could be due to the vast majority of the population who are buying homes are aging and waiting a few years to buy homes in the future. For every additional unit in median down payment, the homeownership rate will increase by 0.01 percentage points. Lastly, for every additional unit in the personal saving rate, homeownership will increase by 0.00. We found that the variable average student debt with a p-value of 0.01 is the only one with a value below 0.05. Therefore, there is a great statistical significance, and an effect was in fact observed.

Figure 1. Personal Saving Rate (1960-2021)

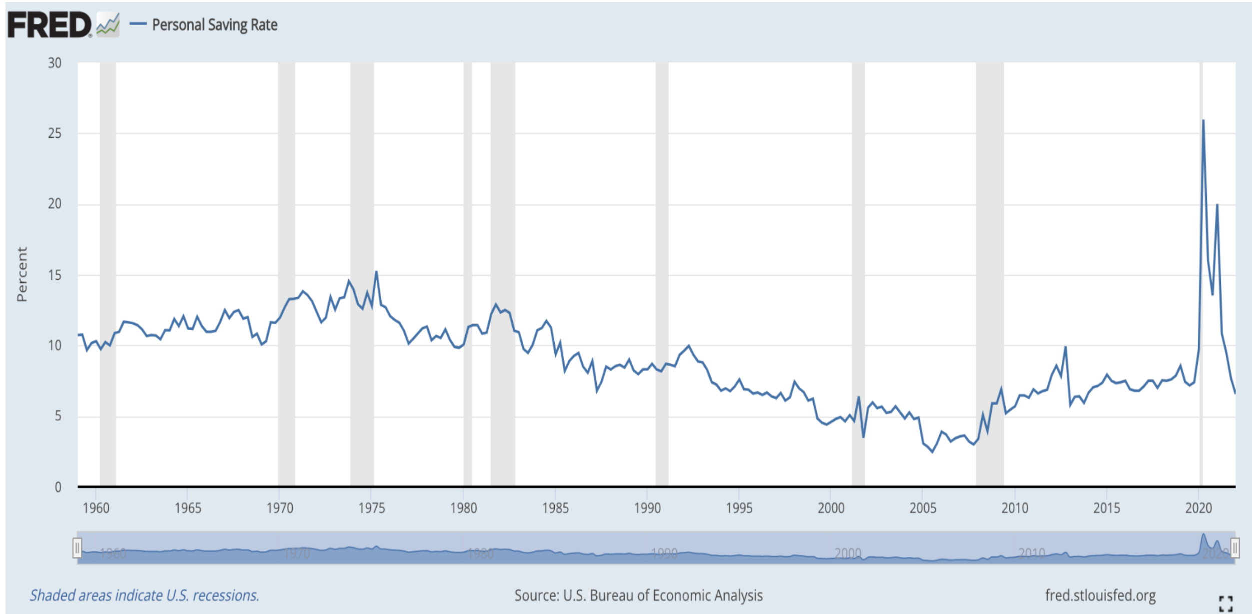


Figure 2. Homeownership Rate in the U.S. (1990-2021)

Source: U.S. Census Bureau and Statista Research Department

Figure 3. Median Down Payment (1989-2017)

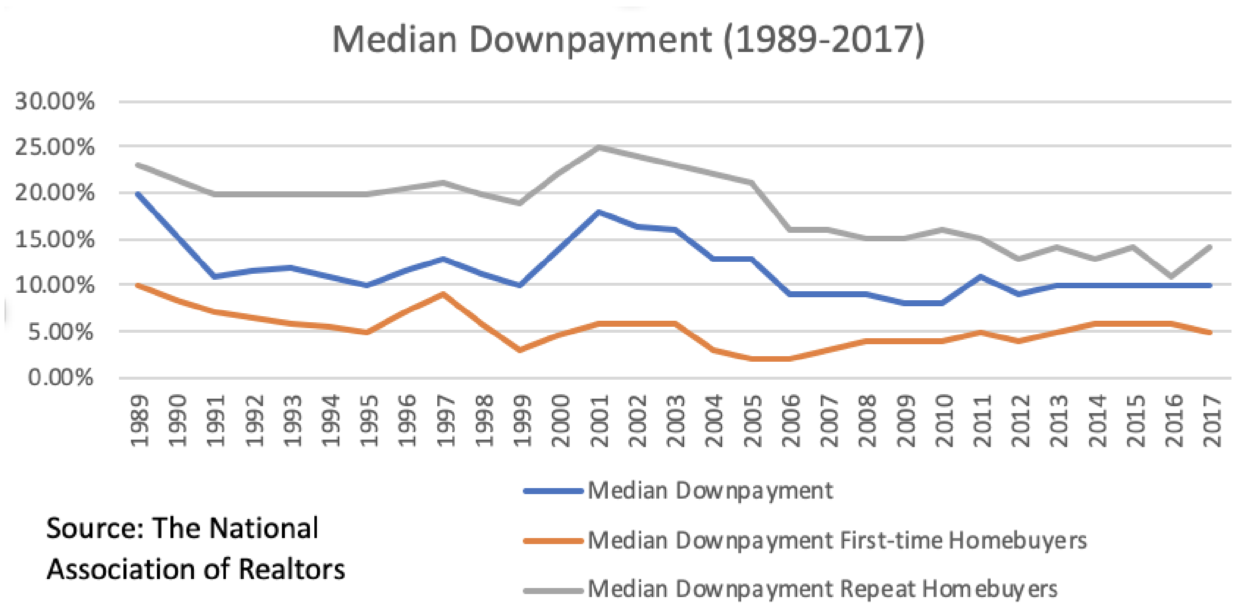


Figure 4. Median Age for U.S. Homebuyers (1985-2019)

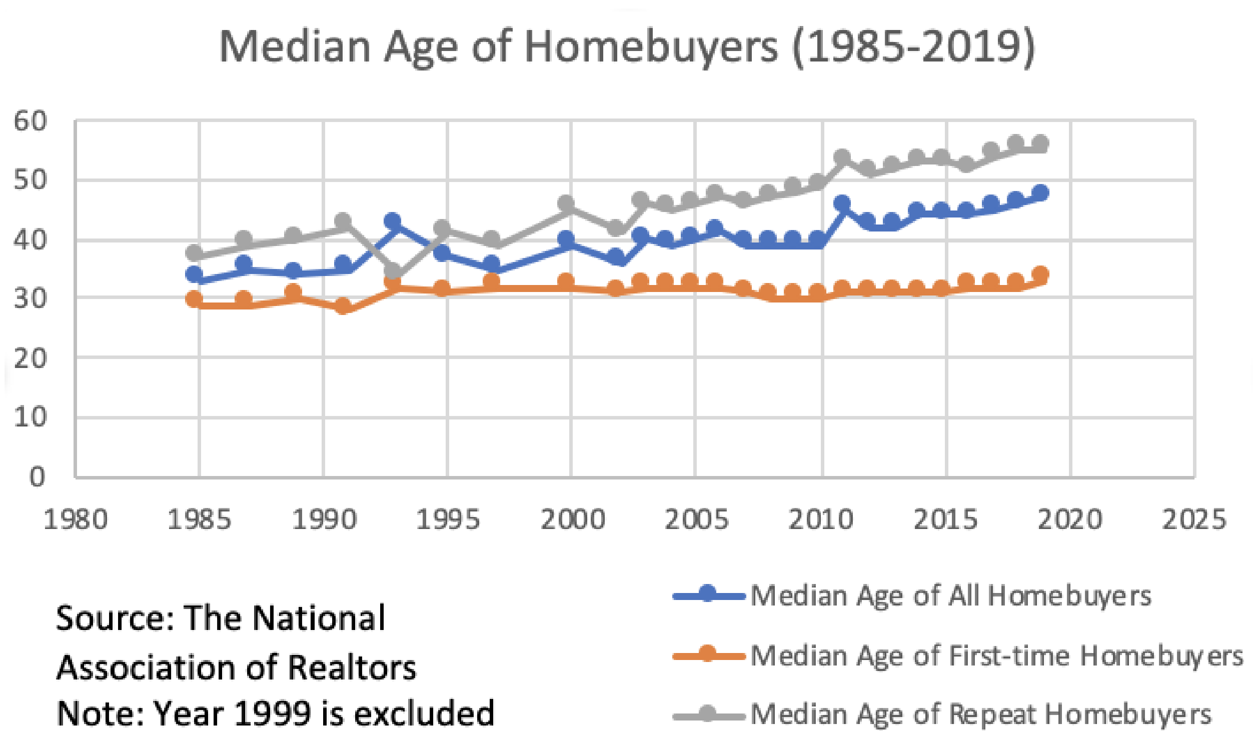
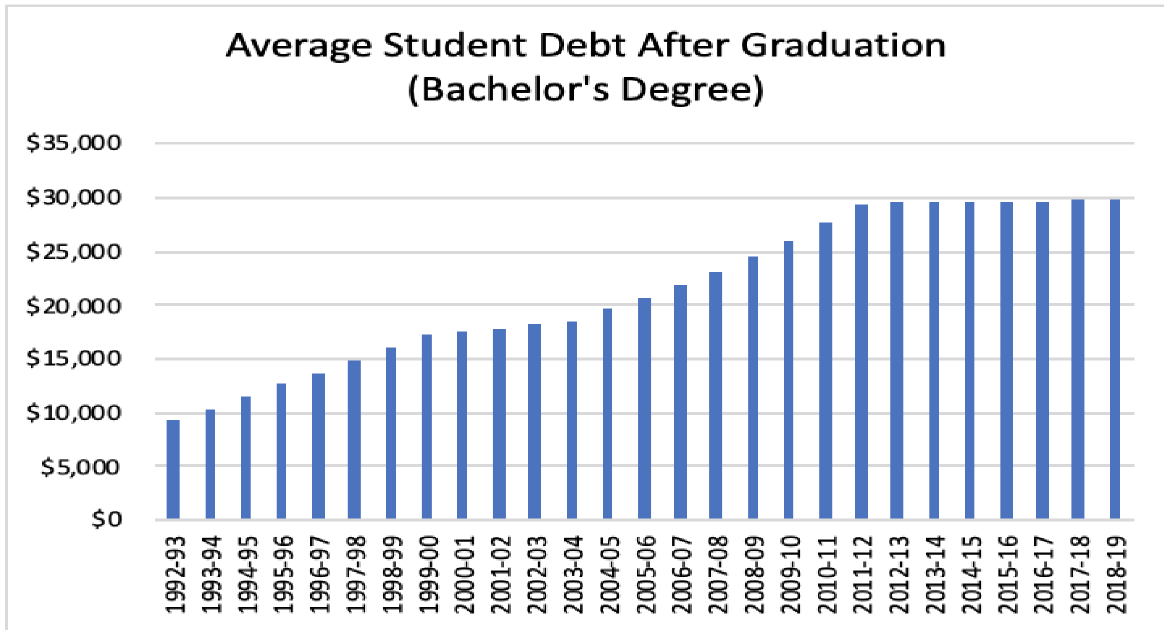


Figure 5. Average Student Debt (Bachelor's Degree) (2018 Dollars)



Source: National Postsecondary Student Aid Study for years 1992-1993, 1995-1996, 1999-2000, 2003-2004, 2007-2008, 2011-2012 and 2015-2016

Figure 6. Average Down Payment By Age Group (2021)

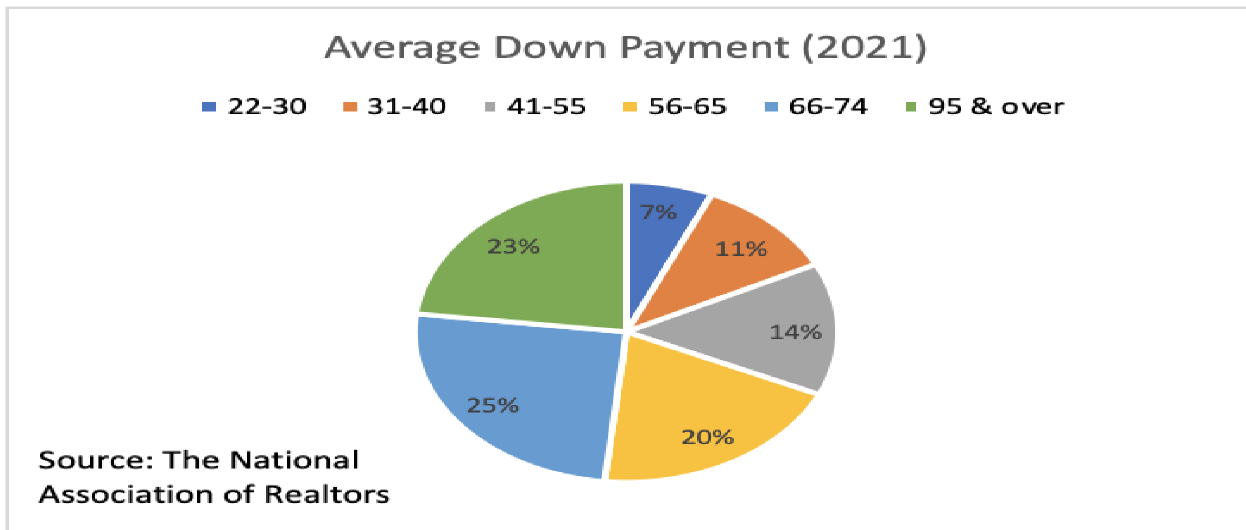


Figure 7. Percent of First-time Homebuyers (1989-2017)

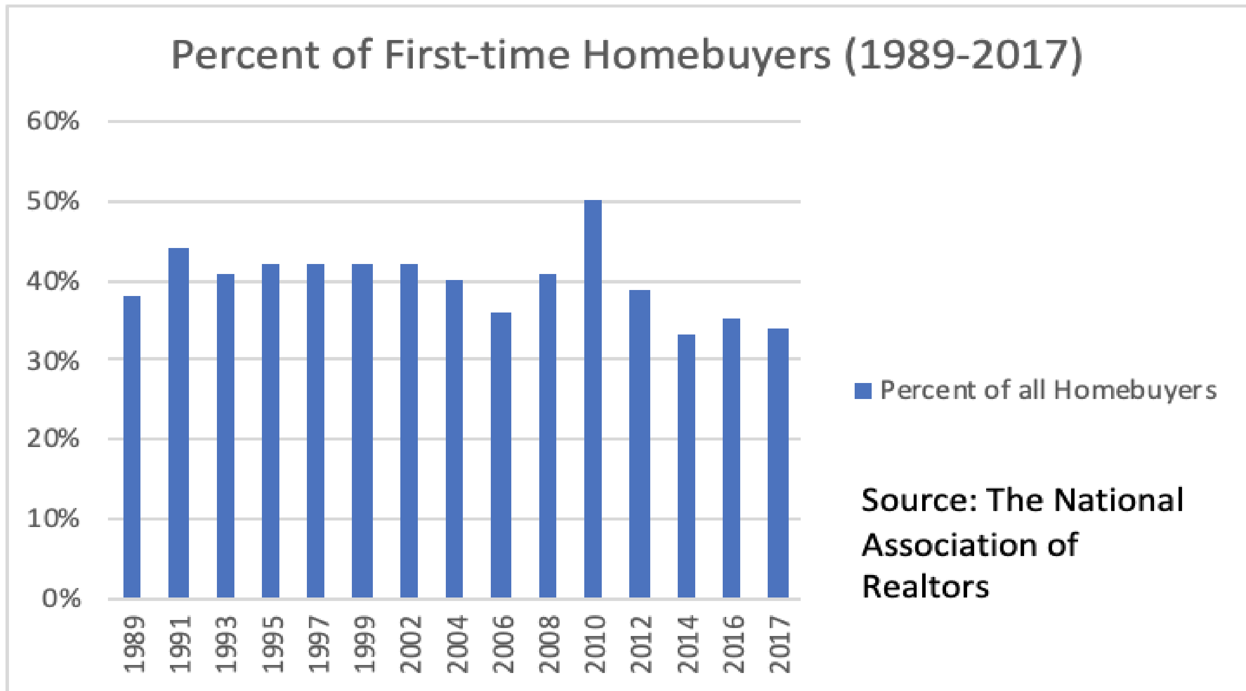


Figure 8. Effects on the Homeownership Rate

Dependent Variable: HOMEOWNERSHIP_RATE
Method: Least Squares
Date: 05/14/22 Time: 19:10
Sample: 2005 2017
Included observations: 13

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LAVERAGE_STUDENT_DEBT_CHANGE	-0.154142	0.049556	-3.110448	0.0144
MEDIAN_AGE_FOR_FIRST_TIME_HOM	-0.008039	0.003546	-2.266715	0.0532
MEDIAN_DOWNPAYMENT	-0.012680	0.206136	-0.061514	0.9525
PERSONAL_SAVING_RATE	0.000848	0.003643	0.232904	0.8217
C	2.479708	0.508330	4.878142	0.0012

R-squared	0.907756	Mean dependent var	0.661769
Adjusted R-squared	0.861634	S.D. dependent var	0.019686
S.E. of regression	0.007323	Akaike info criterion	-6.711978
Sum squared resid	0.000429	Schwarz criterion	-6.494690
Log likelihood	48.62786	Hannan-Quinn criter.	-6.756641
F-statistic	19.68155	Durbin-Watson stat	1.057523
Prob(F-statistic)	0.000335		

Chapter 3

Policy Implications

Over the past several years, there have been some policy suggestions in relation to the amount of accumulating student debt in the U.S. These include a reduction in interest rates, student loan forgiveness, generous repayment plans, and more mandates on college prices. Income-based repayment plans were created so that monthly loan payments do not exceed a certain threshold, which is great so that people can manage other obligations efficiently along with avoiding delinquency and defaults. However, these types of plans are only eligible for certain groups of borrowers. Also, one of the most critical factors that contribute to such a significant increase in student debt is financial illiteracy, in which not many young Americans are well-informed about the consequences or terms of their student loans. A good portion of young adults are also unaware of the amount that first-time homebuyers are able to put down for a home and believe that it is a pretty high percentage.

Another possible solution is a reduction in interest rates for private student loans. Majority of Americans have a fixed interest rate on their loans so therefore, their monthly payments are fixed for the life term of the loan. However, borrowers with private loans and variable interest rates see a change when the federal funds rate is adjusted. So based on market conditions, a private student loan borrower with a variable interest rate will see an increase in their student monthly bill if the federal funds rate soars. Keeping the rate at a low range can improve borrowers' ability to repay their student debt and avoid falling victim to default or delinquency.

In order to relieve some debt burdens for incoming college students, there should be more funding for public universities across the country. This can lead to students receiving more

financial aid, and taking out less federal and private student loans. Public universities gain funding from state and local governments to subsidize tuition costs for students. According to the Urban Institute, “state tax revenues are the primary source of non tuition funding, but local taxes accounted for more than 11 percent of total appropriations in the 2016-17 academic year” (“State and Local Appropriations”, 2017). However, from 1999 to 2017, there has been an almost 11% decrease in appropriations per public-sector student. Therefore, state funds and tax revenues have not been allocated towards public universities like before which is why many students require student loans to foot their tuition bills. If governments were to subsidize public universities like they have done in the past, there would be less aggregate student loan debt in the U.S. More students would be able to graduate with little debt or even debt-free, and this would provide a worry-free path to the road of homeownership.

There have been some programs that eventually forgive student loans, but only if they meet a certain criteria. An example of this is the Public Service Loan Forgiveness, in which eligible borrowers can have their loans forgiven after ten years. According to the Federal Student Aid website, borrowers must “be employed by a U.S. federal, state, local, or tribal government or not-profit organization, work full-time for that agency or organization, have Direct Loans or consolidate other federal student loans into a Direct Loan, repay your loans under an income-driven repayment plan, and make 120 qualifying payments.” Also, people who are qualified for the PSLF program do not have to pay taxes on their loans that are forgiven unlike other programs like the income-based repayment plan. The other downside is that loans in the income-based repayment plans are only forgiven after 20 to 25 years depending on circumstances and plan. Therefore, people with student loan debt will have to wait over 10 years

and have made qualifying payments per month in order to qualify for student debt forgiveness, which will prevent young adults from having extra funds in hand for a home purchase.

Another thing to consider is the fact that people with no degree make up a larger share of the amount of people who are in repayment. Therefore, people with no degree will struggle to have higher earning potential and will need some aid in repaying their loans some way. Dynarski (2014) points out that in June of 2014, President Obama signed an executive order “expanding eligibility for the Pay As You Earn program, which offers reduced payments to borrowers in financial distress” (p. 2). The PAYE program helps individuals who hold a student debt balance to manage their monthly payments easier with affordable payments based on their income. This program was first introduced in 2012, but it was revised in 2014 (REPAYE) in order to expand eligibility regardless of when the loan was first initiated. REPAYE also offers interest forgiveness and sometimes, it is greater than what is offered for the original PAYE program. Being able to have access to these programs will definitely assist people with student loans while also having that balance of being able to pay off any other debt.

Other recommendations include extending Pell Grants for low-income students so that they can attend college without having to take out massive loans. If students have trouble finding good-paying jobs or are stuck with a low-income job, this makes them more likely to go into deferral or forbearance so that they can postpone their debt payments and avoid delinquency. Lew (2015) found that “declining incomes among young renters with student loans have contributed to the accelerating increase in the share of those with medium or high student debt burdens following the Great Recession”, which shows that young adults with low wages make up a significant proportion of accumulating debt (p. 10). In fact, only 19 percent of federal student loan borrowers were enrolled in a repayment plan in the third quarter of 2015. This

means that there are a handful of borrowers who are paying excessive monthly student debt payments, which exceeds the limit of 10% of their discretionary income and will definitely have an effect on the homeownership rate.

For the past three to four decades, the average total cost of tuition has risen faster than the inflation rate. Some researchers have recommended that there should be a tuition cap for federally funded universities or a rigorous borrowing limit for all student loans. According to a Forbes article, a tuition cap can allow students to be "incentivized to stay under the Federal borrowing limits", and universities "will be forced to stay under the tuition cap" if they are interested in receiving federal funding (Farrington, 2015). As for the borrowing limit, Farrington suggested that the tuition cap "be set at an annual 25% of the Federal student loan borrowing limit", in which students will only be able to borrow within the limit. On the other hand, this will be an issue for for-profit institutions, but it would be an excellent idea for students attending those institutions. Within the past few years, there have been a number of for-profit universities who are under investigation by the federal government for their manipulative marketing methods that end up leaving students with enormous debt and unethical strategies to gain repayment. Therefore, people who hold student loans from these institutions are more likely to have a higher debt-to-income ratio and have strenuous entry to the credit market.

After researching about the effect that private loans have on students, it is evident that there should be something done to ease bankruptcy regulations for these types of loans. Before 2005, there were bankruptcy protection laws for private student loans similar to other types of private credit. However in 2005, Congress passed a law called the Bankruptcy Abuse Prevention and Consumer Protection Act, which will make it more challenging for debtors to file for bankruptcy. It also increased the waiting period for those who already filed for Chapter 7

bankruptcy to eight years. The act was passed to ensure that those with private loans are paying off debt depending on how much disposable income they have remaining after paying all other bills. Private student loans "tend to have higher interest rates than federal loans, are far less flexible when borrowers are struggling, and are not eligible for programs like income-driven repayment or loan forgiveness" (Pilkington, 2019). The aim was to remove bankruptcy protections and then eventually, private lenders would reduce interest rates for all borrowers. Plenty of studies suggested that this did not occur, so it is clear that there should be added bankruptcy protections for private loan borrowers.

Therefore, not all borrowers are eligible for income-based repayment plans. Many organizations have advocated for an automated system of income-based repayment that would automatically enroll federal student loan borrowers in this plan upon leaving school. Additionally, they suggested holding universities accountable for graduating borrowers who are not able to pay their student debt, especially for-profit institutions. Having low-income, low wealth, little to no savings, and having a high debt-to-income ratio all contribute to low homeownership rates among young adults. Not only can student debt hinder home purchases, it can also lead to people purchasing cheaper homes or having less home equity due to smaller down payments and mortgage payments. Other possible causes for a low homeownership rate for young adults could be a delay in marriage as well as waiting to have a family.

There can also be other factors like the Great Recession of 2008, which decreased homeownership across all age groups in the U.S. A study by Houle and Berger (2015) found that the "recession and associated declines in full-time employment may be more responsible for the reduction in homeownership among young adults than student loan debt" (p. 616). They found there is some type of correlation between these variables but they can not determine causation.

Consequently, if one is working full-time during times of economic prosperity, especially if they are married or have children, they are more likely to be homeowners. On the contrary, if one has characteristics of being a black or disadvantaged youth, college dropout, or a woman, there is a higher chance that they are not homeowners.

Conclusion

There is no doubt that a college education leads to higher income, better financial security, and even typically better health. Investing in education and your future is one of the greatest decisions that young adults can make. Whether it is paid for by family, grants and scholarships, or through student loans, it will eventually pay off at some point in the future. However, if the only way to enroll in college is by becoming indebted in unbelievably high amounts, this will definitely not be a superb idea and will impact one's finances along with damaging their credit. This is especially true for young adults who never finish college or have trouble getting a rewarding salary due to low-demand occupations. This type of cohort makes up the biggest portion of student loan debt, as well as those who attended for-profit and private institutions.

Access to student loans are one of the easiest attainable loans to acquire compared with other types like mortgages or auto loans. As mentioned previously, student loan debt has surpassed all consumer debts with the exception of mortgage loan debt. The student debt issue has been a result of the amount of loans being given to an increasing number of college students enrolling as well as tuition becoming more costly. The Great Recession of 2008 was a time period where all consumer debts collapsed besides student loans. Prior to the recession, it was actually the lowest consumer debt when compared to credit card and auto loans. Middle-class wage stagnation coupled with rising student debt, which has outpaced inflation may lead to higher default rates than ever seen before. In addition, people with particular backgrounds, overall higher living costs, and marital status have been seen to have a huge effect on people's homeownership position.

Beginning with Ronald Reagan's presidency with the introduction of higher education spending cuts, this had a lasting impact on average student debt because it has not increased at the rate of inflation since. The 1980's can be viewed as the period where tuition costs have climbed at a rate that has not happened before, but now in present-day it is much more prevalent. People with over $100,000 in student loan debt have been predominantly locked out of the housing market due to mortgage eligibility requirements. However, since this cohort does not represent a massive part of general student debt, this means that there are still a vast number of people with lower student debt who have the capability to own a home. With the inclusion of tighter underwriting measures, delinquency rates, and lower credit scores, people with student debt find themselves in distress trying to obtain other types of loans.

When people fall into delinquency in their student loan debt, they are also expected to have other delinquent loans. Sometimes these delinquent loans turn into defaults, and these loans typically come from undergraduate and smaller balance loans. Compared to delinquencies in credit card and mortgage loans, student loan delinquencies are much more common. The bright side about it is that when comparing student delinquency and student default rates, delinquency is much more frequent. So although people may be behind in payments, they are still paying their debt off.

Studies have shown that college dropouts with smaller outstanding balances have had high debt-to-income ratios as well as higher default rates. People with really high outstanding balances ($100,000) make up a much smaller percentage of those with student debt, but this cohort for the most part comes from for-profit and private institutions. If they are attending these institutions and are considered independent, they are more at risk of having high student debt. Sometimes, their debt exceeds their annual income which shows that they are more likely to be

delinquent or default on their loans. Then, we have people with average student debt ($30,000 to $45,000) who make up the largest portion of the total student debt, which is the set I decided to focus on. In addition, people with no college degree who attended college are linked to having less or no reach to gain credit, making becoming a homeowner more complex.

The Great Recession proved to do more harm to those with student debt since the homeownership rate for this group during this time period fell more than for those with no student debt. This provided an unpleasant scenario for people with student debt since the recession caused surging delinquency and default rates, as well as substandard credit scores. Eventually, this caused them to be denied credit or they only received a fraction of what they had applied for. This can apply to different age groups and not only young adults, as the share of student debt is becoming more apparent in people aged 40 and over. Since mortgage lenders look at debt-to-income ratios for potential borrowers, people should limit the amount of student loan debt they carry as they are also likely to hold other forms of debt.

From 1960-2008, we perceived the trend of how the personal saving rate has been declining, which could be because people are consuming or investing more than before. While taking student debt into account, this can be linked to how young adults only put a tiny percentage down for a home as a first-time homebuyer. From 1999-2006, the homeownership rate and median down payment were at really high levels, which was right before the Great Recession. Since the 1980's, the median age for first-time home buyers has aged by at most three to four years while for repeat home buyers, it has increased by a little over fifteen years. Additionally, since 2010, the percentage of first-time home buyers has been steadily decreasing and this can be attributed to the Great Recession. We can conclude that the recession had a great impact on the homeownership rate and could even have a greater impact than student debt.

Our findings tell us that from the years 2005-2017, there was a negative effect between average student debt and the homeownership rate variables. However, there are still other variables that can possibly affect the homeownership rate on a wider scale that we did not account for in the regression analysis. Considering that we focused more on the average student debt effect on the homeownership rate, we found that this variable's p-value was the only one that was below 0.05, making it very significant. However, if we were to include variables that had a possible stronger correlation with the homeownership rate, our results could have been much different.

There will have to be some reforms in order to target the student debt issue in the U.S. and it can potentially encourage young adults to become homeowners. From having more access to income-based repayment plans, extending Pell Grants for overachieving low-income students, mandates on college tuition prices, more state funding for universities, and easing bankruptcy regulations for private student loans. Research has shown that there are a lot of people who do not have access to income-based repayment plans, which can reduce monthly payments based on your income. Also, expenditures on Federal Pell Grants have not been at high levels since over a decade, and the number of recipients have been declining. Allowing for more legislation on college prices, in particular for-profit institutions, would also help offset the growing amount of student debt. Extra funding for universities and more bankruptcy protection for private loan borrowers would provide a safety net for young adults' credit and total debt balances. More government spending and adjustments to federal regulations are necessary to counter the trillion dollar student debt predicament.

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