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Student Loans and their effect on Parental Views of Education Financing

Terrance K Martin Jr. PhD.^a; Jose Nunez^b; Lua Augustin, ABD^c

Abstract

Using the 2012 wave National Longitudinal Survey of Youth 1979, this study examines the effect that parents' student debt have on their decision to use tax advantage education vehicles to save for their children's college. We also examine parental decisions on obtaining student loans on behalf of their children. The results show that parents who report having student loans are 61% less likely than those that report no student loan debt to use tax-advantaged education saving vehicles. However, we find no difference in the effect of having student loans on the decision to obtain debt to fund their children's college education.

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Introduction

One of the best investments that someone can make is earning a college degree. Having a college degree may provide a greater stability for starting a family, it allows the individual to have better job opportunities especially with higher pay, and it provides better job security in economic hardships. Those with college degrees are also more likely to donate to charity in terms of money and time. They are less likely to rely on government dependency and have lower rates of incarceration than those without college degrees. In 2015, the U.S. Bureau of Labor Statistics analyzed the earnings and unemployment rates by educational attainment. Their data contained people of age 25 and older. Their results showed that people with a high school diploma had an unemployment rate of 5.4 percent, whereas people with a bachelor's degree had a much lower unemployment rate, 2.8 percent. The median weekly earnings for people with only a high school diploma were \$678 and \$1,137 for people with a bachelor's degree, the annual difference accumulates to \$23,868.

On the other hand, college costs are increasing (Paulsen and John 2002; Carnevale and Strohl 2013). Paulsen and John (2002) note that governments are placing more of the burden of financing college education on families and individuals. Loans are replacing grants as being the primary source of education financing. Tuition rates continuously rise as state funding for colleges has decreased. The average family can now plan to pay a higher percentage of the college costs than past families did. They also find that students from lower income families, who had access to lower levels of student loans, were less likely to attend private colleges or attend full time. These results are not surprising as the level of finances available dictates the quality of education chosen for most families.

Furthermore, rising costs for college have also affected students in other ways, such as having poor academic attainment, below average performance, lower expectations, and lower college enrollment (Bennett, D., McCarty, C., & Carter, S 2015; Elliott, W., & Beverly, S. 2011). Even if a college education represents an opportunity for upward social mobility, this is not happening for students from low socioeconomic families and/or minorities, who appear to have lower levels of educational attainment, lower GPAs, and lower academic aspirations. This is due to students having to work more and study less in order to afford their education (Walpole, M. 2003; Bozick, R. 2007).

Along with rising college costs there is stagnation in graduation rates (Long and Riley, 2007). The graduation gap is evident not only across racial groups but also across income levels as well. Academic achievement is not a significant predictor of college attendance anymore, economic resources play a more substantial role in determining whether students will be able to successfully attend college (Conley, D. 2001; Zhan, M., 2006). In fact, many low income students not only took longer to graduate than higher income students but they were also less likely to go on to graduate studies. The College Board predicts that college costs can amount to about 24% of the median family income. This may not be a justifiable cost for lower income families and may drive them to seek outside funding in the form of student loans.

Although Americans value college education, they may have a hard time estimating the cost of attendance (Horn, Chen, and Chapman 2003). Many individuals simply lack the literacy to navigate the cost comparisons for college. This calculation becomes even more difficult when comparing costs across different states. Due to the complexity of the federal student aid system parents do not know the true costs of a college education, and they overestimate the coverage of financial aid which is not enough to cover the increasing costs of college (Long, B. T., & Riley,

E. 2007; Dynarski, S. M., & Scott-Clayton, J. E. 2006). Parents either do not save enough due to miscalculation or simply are unable to save enough due to the high cost of attendance. Most parents if they decide to save do it when their child is 6 years from entering college (McDonough, P. M., & Calderone, S. 2006). The majority claim that the reason they do not save earlier is that they cannot afford it (Souleles, N. S. 2000). Enabling parents to make financial preparation for the child's post-secondary education requires improving parents' financial knowledge as well as access to these financial services (Johnson, E., & Sherraden, M. S. 2007). Financial capability is combining financial literacy and the opportunities to act.

Zhan (2006) finds a positive relationship between parental assets and children's educational attainment. The more parents are able to contribute to their children's education funding the better the students perform. Additionally, students who have savings accounts in their name are four to seven times more likely to enroll in college than those with no savings accounts (Elliott III, W., & Beverly, S. G. 2011). A parent saving for their child's college implies having a plan for the future and that increases the awareness and sensibility of the child to the things that need to be done to obtain a higher education (Elliott, W. 2009; Nam, Y., Kim, Y., Clancy, M., Zager, R., & Sherraden, M. 2013). It is therefore a wise investment for parents to contribute to their children's education.

A parent can help finance the college education of their child (ren) by saving for their college education and/or taking out loans on behalf of their child (ren) usually a Parent PLUS Loan. When it comes to saving, parents' usually, use tax-advantaged education vehicles such as the Coverdell ESA or the 529 Plan. The main difference between the two is that with a Coverdell, to make a full contribution, the single tax payer's income must be below \$95,000, whereas the 529 Plan does not have that restriction. Also with the Coverdell, there are limits for

the annual contribution per child of \$2,000 maximum. For the 529 Plan, the limit contribution depends on the state in which is purchased; however, most have lifetime contribution limits of around \$300,000. In addition, the Coverdell beneficiary must be less than 18 years old, whereas there are no age restrictions for 529 Plan beneficiaries.

There is an economic benefit to save instead of using loans to pay for the college education of a child. First, by saving early the parent ends up paying significantly less for the college cost because of the interest the parent earns while saving. Parents that save 17 years until their child enrolls at a 4-year college at a 7 percent average annual return will end up paying about 71.53 percent less than the total college cost adjusted for inflation. Look at Table 1. Second, the parent that chooses to borrow will not only pay the full price of college but also the interests of the loan. Assuming a 7 percent average annual interest on the loan, the parent with a 10-year repayment plan would pay 139 percent more than the parent that saved. In addition, the parent with a 25-year repayment plan would pay 263.7 percent more than the parent that decided to save. Look at Table 2. Third, the parent that services the loan is more restricted to investing money, thus experiencing an opportunity cost. If we take the monthly payments of a 10-year repayment plan and of the 25-year repayment found on Table 2, and invest them instead at 6 percent compounded monthly, the parent with a 10-year repayment plan would forego \$128,176.33 and the parent with a 25-year repayment plan would forego \$692,038.89. Look at Table 3. It is evident that saving for college is a better strategy than borrowing for college. However, some parents do not save because they do not earn sufficient money or lack financial guidance.

Without parental help, a student can finance their own college expenses through various methods such as grants, scholarships, work-study, and student loans. Many times, student loans

are a necessity to fill the economic need. However, when students do not utilize their loans wisely, they may cause mayhem to their future. Usually, the student causes these negative outcomes by over borrowing and not contemplating their future earnings based on factors such as their major. In general, federal student loans are safer than private student loans. Although, in certain scenarios students must utilize private student loans in order to pay for colleges that are more expensive because federal student loans have limits to the amount that a student can borrow. Therefore, students may not be able to attend the college of their choice because of financial need. In addition, students from low socioeconomic families or from minority families, student loans carry adverse impacts (Baum, S., & O'Malley, M. 2003) like high academic and social integration costs, poor psychological functioning and anxiety (Walsemann, K. M., Gee, G. C., & Gentile, D. 2015; Archuleta, K. L., Dale, A., & Spann, S. M. 2013).

Student loans can have long-term effects for an individual as well as to that individual's future children. The purpose of this research is to investigate whether parents' student loan balances affect their decision to save for their child (ren)'s college education via using tax-advantaged education saving vehicles and if it effects their decision to take out loans on behalf of their child (ren) for educational purposes.

Literature Review

Student loans may have negative consequences for individuals if not used properly. Rothstein and Rouse (2011) claim that student loan debt may cause constraints to individuals such as preventing them from purchasing homes and/or preventing them from getting married because of feeling tied to massive student loan debt. Elliott and Nam (2013) use 2007-2009 panel data from the Survey of Consumer Finances to see how student loans might affect the net worth

of households. They conclude that student loan debt can affect the short run financial stability of households by finding that the median net worth for households who did not owe any loans in 2009 was as much as three times higher than the median of households with outstanding student loan debt in that same year, \$117,700 vs. \$42,800. Sometimes student loans can have negative consequences on students even if the aim of student loans is to reduce the education inequalities among different racial/ethnic groups in society. For instance, Kim (2007) conclude that the increasing dependence of students on loans to finance their own education might actually contribute to the increase in the already existent racial/ethnic gaps towards obtaining a degree. By using a hierarchical linear model (HLM), Kim (2007) finds that for Blacks, the higher the loan, the lower the probability that they would complete a degree.

Even when students use loans properly, the thought of debt can deter individuals from seeking them. Negative attitudes towards debt seem to be increasing over time (Davies, E., & Lea, S. E., 1995; Baum, S., & O'Malley, M., 2003). Callender and Jackson (2005) find that students from lower socio-economic backgrounds have a higher fear of debt compared to their peers from high socio-economic backgrounds. Students from the lower background tend to avoid taking on student debt because of this debt aversion. Even after controlling for other factors such as aspirations and encouragement, those from lower income families were more averse to taking on student loans. They also find that students from low socio-economic backgrounds chose universities close to home in an attempt to reduce the level of student debt.

One of the worst outcomes is when borrowers drop out (Gladiux and Perna, 2005; Callender and Jackson, 2005). This outcome leaves the individual with the burden of debt and without higher earnings associated with obtaining a college degree, thus making it harder to pay off the debt. This usually causes the borrowers to default on their debt, which leads to bad credit.

Two important factors associated with college completion are the students' living arrangements and the students' work hours (Bozick, 2007). Bozick (2007) uses data from the Beginning Postsecondary Student's Longitudinal Study of 1996 to evaluate the relationships between college completion and factors such as living arrangements and the students' working hours. His results conclude that students living at home rather than living in the university dorms and working more than 20 hours a week were associated with higher dropout rates. This lends credence to Callender and Jackson (2005) who note that lower income students were more likely to live at home or close to home and were more likely to drop out as well. Light and Strayer (2000) use data from the National Longitudinal Survey of Youth (NLSY) to explain the determinants of college completion and found that matching the school's quality to the student's ability gives the student a better chance of college completion. Zhan and Sherraden (2011) claim that there is a relationship between a household's assets and liabilities and the expected educational levels for the household's children. Household assets have a positive relationship to a child's future college completion, while liabilities have a negative relationship. In attempting to determine student loan defaults, Flint (1997) states that a higher GPA is associated with lower default rates, and Dynarski (1994) states that minorities, low-income households, and two-year college students are more likely to default on student loans. Knapp, Greene, and Seaks (1992) claim that increasing retention programs in college will lower default rates because if the borrower graduates college, then he/she will earn a higher income and be more likely to pay off their student loan debt.

Another important factor that contributes to the problems associated with student loans is financial literacy. Being financially literate is vital in making correct financial decisions, thus, it is important for students to be financially literate, especially when financing their own education.

Student uncertainty about how much to borrow for college might lead to poor financial outcomes. Chen and Volpe (1998) survey 924 college students from different universities in order to gauge their financial literacy; they find correct responses account for only 53 percent of the questionnaire. Sometimes even parents are not financially literate enough to advise their children on financial issues. Perna (2008) collects data from a questionnaire made to 15 public high schools in five different states (three per state), and finds that parents from low resource schools usually advise their own children not to get student loans whereas the opposite is true for middle and higher resource schools. Christie and Munro (2003) report that many students are unaware of the benefits and costs of attending a higher education. For example, in their study, 17 out of 49 students reported that although their parents saw attending college as something “normal” or “expected” to do, they never discussed the actual implications of such an act. It seemed that for both the parents and the students, simply assumed that the economic benefits of attending college always happened without even contemplating the actual expenses.

The conditions under which a student asks for loans are not the same for all students. Avery and Turner (2012) state that college students should consider many factors such as expected degree completion, college major, and expected lifetime earning when evaluating the optimal amount to borrow for college. The college major is crucial in assessing how much to borrow since different majors offer different returns on investment after graduation and therefore contain different likelihoods of paying off student loans. Carnevale, Strohl, and Melton (2011) investigate the economic value of undergraduate college majors by looking at factors such as earnings and employment status. They review 171 different majors using data from the 2009 American Community Survey. The results indicate that the highest earning major was Petroleum Engineering with median earnings of \$120,000 and the lowest earning major was Counseling

Psychology making median earnings of \$29, 000. Arcidiacono (2004) uses data from the National Longitudinal Study of the Class of 1972 to study the different returns that different majors offered. By using regressions, maximum likelihood estimations, and simulations, Arcidiacono (2004) finds that there are larger monetary returns for majors that require ability that is more mathematical.

The consequences and behaviors associated with student loans seem to be different among the distinct races and ethnic groups. Cunningham and Santiago (2008) find that in the 2003 – 2004 period, Asians and Hispanics had a lower probability of borrowing when compared to Black and White Students (30%; 25% vs. 35%; 43%). Jackson and Reynolds (2013) find that, for Black students, loans promote staying in school and create a higher probability of finishing it. However, this same study also finds that Black students usually have many outstanding loans, and when compared to White students, they are more likely to default on their loan. Due to these findings, Jackson and Reynolds (2013) argue that even though student loans are achieving their goal of creating opportunities for students who could not otherwise attend or finish college, the goal of reducing educational inequality is not necessarily accomplished among different racial/ethnicity. Volkwein, Szelest, Cabrera, and Napierski-Prancl (1998) use data from the National Postsecondary Student Aid Study to explore the factors that affected student loan defaulting among different racial/ethnic groups. By running logistic regressions, they find that when compared to Whites, Hispanics and Blacks show lower levels of degree completion and academic achievement, as well as almost twice the amount of children and twice the rate of divorce. The authors claim that these factors affect the ability that Black and Hispanic students have to pay off their loans. Kim (2004) finds that, when Asian American students use only loans or a mixture of grants and loans, they are more likely to attend their first choice for college

compared to White, African American, and Hispanic students. The author uses data from The Freshmen Survey of 1994 and suggests that Asian American students exhibit lower price sensitivity than the other groups. Therefore, the usage of loans allows them to have access to the college of their preference.

Parents can help their children's future by saving for their education. This will allow the child to be able to choose their major more freely on something they like rather than focusing on a major that is better suited to pay off debt. Elliot and Beverly (2011) use longitudinal data from the Transition into Adulthood supplement (TA), the Panel Study of Income Dynamics (PSID) and its supplements, and the Child Development Supplement (CDS) to determine that child development accounts (CDA) increase college attendance and graduation rates. According to Elliot (2013), the parental savings for child's college savings accounts positively affect the child's ability to graduate college even if savings are small. Although the idea that parents should save for their children's future education is great, there is a constraint as to how much help they can provide based on their number of children. For instance, by using data from the 1983–1986 Survey of Consumer Finances, Yilmazer (2008) finds that the parental support for a child's education decreases as the amount of children increase. Similarly, Steelman and Powell (1991) claim that the ability of parents to save for their children's educational future depends first on their total income, and then on the number of children they have, since their total income would need to support their total number of children.

Based on the review of literature there appears to be a little emphasis on parents. Parental attitudes towards student loans have a direct effect on the level of student debt that their children take on. Previous research has examined parental savings influence in children graduating college and certain factors that affect parental savings for children's college such as income and

the number of children the parent has. However, to our knowledge, few, if any, past studies have examined how parents' servicing their own student debt effect using education saving vehicles to save for their children's college as well as their decision to obtain student loans on behalf of their children. This research will contribute to the literature by examining parental student debt and its effects toward parental views of education financing.

Methodology

Data

We used the 2012 National Longitudinal Survey of Youth 1979(NLSY79). The cohort of NLSY79 initially contained a sample composed of 6,403 males and 6,283 females, totaling 12,686 respondents. The respondents were 14 -22 years old at the time of the first survey. Currently only 9,964 respondents remain in that sample. In respect to race, the initial survey contained 7,510 non-Black/non-Hispanic, 3,174 Black, and 2,002 Hispanic or Latino. Respondents were interviewed annually until 1994 and biennially thereafter. After adjusting for the invalid responses, valid skips, people that answered don't know, refused to answer, and for the not interviewed, the number of observations decreased to 7301.

Empirical Models

Use of Education Saving Vehicles

Does outstanding student loan balance of the parent affect utilizing saving vehicles such as Coverdell IRAs and 529 plans in order to save for their child(ren)'s education?

A binary logistic regression is used to obtain the likelihood of a parent using education saving vehicles to finance their child (ren)'s education based on their student loan balance.

Equation 1: Logistic Regression model for using education saving vehicles

$$\text{Let } \alpha = \beta_0 + \beta_1 \text{Parent's Student Debt} + \beta_2 \text{Male} + \beta_3 \text{Black} + \beta_4 \text{Hispanic} + \\ \beta_5 \text{College Degree} + \beta_6 \text{Married} + \beta_7 \text{Age} + \beta_8 \text{Log Net Worth} + \\ \beta_9 \text{Log Income}$$

$$\text{Pr}(\text{Education saving vehicle} = 1) = \frac{1}{1 + e^{-\alpha}}$$

Taking out loans for children

Does outstanding student loan balance of the parent affect taking out loans on behalf of the child (ren) for higher education?

A second binary logistic regression is used to assess the likelihood of a parent taking out loans on behalf of their child(ren) based on their own student loan balance.

Equation 2: Logistic Regression model for loan for child

$$\alpha = \beta_0 + \beta_1 \text{Parent's Student Debt} + \beta_2 \text{Male} + \beta_3 \text{Black} + \beta_4 \text{Hispanic} + \\ \beta_5 \text{Has College Degree} + \beta_6 \text{Married} + \beta_7 \text{Age} + \beta_8 \text{Log Net Worth} + \\ \beta_9 \text{Log Income}$$

$$\text{Pr}(\text{Loan for child} = 1) = \frac{1}{1 + e^{-\alpha}}$$

Dependent Variables

Education Saving Vehicles. Education saving vehicles is a dichotomous variable that assesses two outcomes, whether the parents are using education saving vehicles or not. It is

composed of the *Coverdell* variable that assesses whether or not a parent is using a Coverdell account and *529 Plan* variable that assesses whether or not a parent is using a 529 Plan. If either the Coverdell or 529 Plan were used then it would indicate that a parent using education saving vehicles is true, otherwise, it is false.

Loan for Child. Loan for child is a dichotomous variable that assesses two outcomes, whether the parent got student loans for their child (ren) or not. This variable has only two possible numerical values, 1 or 0. If the “Loan Balance for Child” variable equals greater than zero, then loan for child takes a value of 1; otherwise it gets the value of 0.

Hypothesis Variable

Parent’s Student Debt. Parent’s Student Debt is the hypothesis variable for this research. This variable is made dichotomous by making the numerical value equal 1, when the parent’s student debt balance is greater than 0; otherwise, the numerical value is equal to 0.

Control Variables

Sex. The sex of an individual may influence parental views towards financing for the education of their child. Taking into consideration the human capital theory, it would predict that women are more likely to invest in their child’s education since they have on average longer life expectancies than men do and would be able to gain more in the long run from the investment. In order to investigate if *sex* affects the dependent variables, the dummy variable ***Male***, is included in the model (the reference variable is *female*).

Race. Past research has concluded that race is significant in determining degree completion, student loan defaults, and even the probability of borrowing for school. It is evident from past research that this variable is correlated to educational financial decisions. The variable

race is divided into two dummy variables, *Black*, and *Hispanic*, and one reference variable, (Non-Hispanic, Non-White).

College Degree. Based on the status attainment theory, there is a positive correlation between college attainment of the parent and the parent's aspirations for their child to go to college, thus the parent is more likely to provide financial support for college. This variable is a dichotomous variable that assesses two outcomes, whether the recipient has a college degree or not. If the recipient has a bachelor's degree or a higher degree, then *College Degree* variable takes numerical value 1; otherwise, it takes value 0.

Marital Status. Marital status is included in the model because it affects the financial support a parent can grant his/her child. Based on the human capital theory, divorce parents may be more financially constrained than married parents may. The models use the dichotomous variable *married* that assesses whether the recipient is married or not. If they answered "never married" or "other" then the variable takes on the numerical value 0; otherwise it takes the value 1.

Age. Based on the life cycle hypothesis, it states that we have different propensities to consume in relation to saving depending on age. A younger person in the production stage may be able to afford the expense to fund an education savings account for his/her child(ren) as opposed to someone that is in the retirement stage.

Net Worth. Based on the status attainment theory, net worth of a parent is positively correlated to the child's educational achievement. The variable *Net worth* is log transformed in order to reduce skewedness and for interpretation purposes. Furthermore, the net worth variable

is from the year 2008 in order to assess how past net worth affected having a college savings account in the future.

Income. The status attainment theory indicates that there is a positive relationship between parent's income and child's educational attainment. The variable *Income* is log transformed in order to reduce skewedness.

High Financial Literacy. People that are financially literate make smarter decisions with their money. They are more aware of financial products and understand the importance of financial planning. The *High Financial Literacy* variable is composed of 3 true or false questions. The respondents that answered the 3 questions correctly were labeled as having high financial literacy, otherwise they were not. Therefore, this variable is dichotomous. However, in the t-test, we make this variable continuous and we call it *Financial Literacy Index*, in which the values range from 0 to 3.

Results

Descriptive Results

In Table 4, we can see the summary statistics. The mean, median, and standard deviation amount of parent's student debt are \$23,245.46, \$11,000, and 34631.31, respectively. The mean, median, and standard deviation of net income are \$75,695, \$55,000, and 82432.23, respectively. The net worth's mean, median, and standard deviation are \$259,911.67, \$68,900, and 580411.79, respectively. Lastly, the mean, median, and standard deviation of amount owed on student loans for children are \$20,778.84, \$10,000, and 29339.71, respectively.

Table 5 provides us with the results from a T-test from those respondents who have student debt, and from those that do not have student debt. We see that the difference of the

mean of age of the respondents who have student debt (51.07) is statistically different from the mean of age of those who do not have student debt (51.35). The mean net worth of the respondents with student debt is of \$133,605, while the mean net worth of the respondents with no student debt is of \$272,828, this statistically different, which means that on this sample the respondents that reported no student debt had about 104.20 percent more net worth than those who reported having student debt. The difference of net income of these two groups is not statistically significant. From a scale of 0 to 3, the mean financial literacy score for the respondents with student debt is 2.39 while the mean financial literacy score for the respondents with no student debt is of 2.25; this difference proves to be statistically different, meaning that respondents that reported having student debt scored higher in the 3 financial literacy questions.

Table 6 provides us with the results of a chi-square test. We can see that 52.38 percent of our sample is married, and from these 92.83 percent do not have student debt, and 7.17% have student debt; there is an association between being married and having student debt. Males comprise 48.27 percent of the sample, from these 93.3 percent do not have student debt, and 6.7 percent have student debt, we find that there is an association between being a male and having student debt. Blacks make up 31.37 percent of the sample, 88.82 percent do not have student debt and 11.18 percent do; we find an association between Blacks and having student debt. Hispanics make 19.27 percent of our sample, 92.68 percent do not have student debt, and 7.32 percent do have it, nevertheless there is no association between Hispanics and student debt. There are 21.26 percent of respondents with a college degree, 85.89 percent of them do not have student debt, and 14.11 percent have student debt; we find that there is an association between having a college degree and having student debt. Lastly, there are 47.08 percent of respondents

with high financial literacy, 91.24 percent of them do not have student debt, and 8.76 percent of them have student debt; there is an association between financial literacy and student debt.

Empirical Results

Table 7 provides the results of a binary logistic regression showing the likelihood of respondents of using an education savings vehicle. Table 7 shows a step progression of how the model is evolving with different control variables. The first column is just controlling for parent's student debt, and we can see that parents who have student debt are 73 percent less likely to use an education savings vehicle. On the second column, we control solely for high financial literacy, and we observe that parents who have high financial literacy are 385 percent more likely to use an education savings vehicle. The third column controls for both parent's student debt and high financial literacy, we see that in this model parents with student debt are 75 percent less likely to use an education savings vehicle and parents with high financial literacy are 393 percent more likely to use an education saving vehicle. It is important to note that all the control variables for the first 3 columns are statistically significant. Column 4 will not be mentioned but can be found in Table 7. Now, focusing on the last column, which contains all of the variables for the final model we see that parents with student debt, are 67 percent less likely to use educational saving vehicles for their children. Parents with high financial literacy are 98 percent more likely to use educational saving vehicles for their children. Gender was not statistically significant. Blacks were 55 percent less likely to use educational saving vehicles for their children compared to the reference group (Non-Black, Non-Hispanic) and Hispanics were 73 percent less likely to use educational saving vehicles for their children compared to the reference group (Non-Black, Non-Hispanic). Parents with a college degree were 298 percent more likely to utilize educational saving vehicles as opposed to parents without a college degree.

Respondents that are married were 259 percent more likely to utilize educational saving vehicles as opposed to people that are not married. Increasing age by one year represented an 11 percent decline in the odds of using educational saving vehicles for child (ren). Increasing one unit of net worth meant a 31 percent increase in odds of using educational saving vehicles for child (ren). Net Income was not statistically significant in this model. The R-Square of this final model is 0.2796.

Table 8 provides the results of a binary logistic regression showing the likelihood of getting loans to finance a child's college education. Table 8 shows a step progression of how the model is evolving with different control variables. In the first column, when we control only parent's student debt we notice that the variable is not statistically significant. In the second column, we control exclusively for high financial literacy and observe that parents with high financial literacy are 35 percent more likely to get a loan to finance his/her child's college. In the third column, we control for both parent's student debt and high financial literacy. We notice that parent's student debt remains statistically insignificant and the results for high financial literacy remains the same. Column four will not be mentioned but can be found in Table 8. Lastly, the final model shows that parent's student debt and high financial literacy are not statistically significant. Furthermore, race, age, and college degree are also not statistically significant in the model. Males are 31 percent less likely to get a loan for a child compared to females. Parents whom are married are 127 percent more likely to get a loan for a child compared to parents that are not married. A unit increase in net worth results in an 8 percent increase in odds of getting a loan for child (ren). Increasing income by a unit results in a 9 percent increase in odds of getting a loan for child (ren). The R-Square of this model is 0.0746.

Conclusion

Earning a college degree is one of the best investments that someone can make. Parental views of education financing play a huge role in children being able to obtain a college degree. It is important to understand the factors that affect parental views of education financing because it could help in creating policies aimed for an increase in college attendance by targeting the parents. We provide contributions to the literature by focusing on how parental student debt affects parental views of education financing.

The main findings of this research show that parents who are currently servicing their own student loans are 67 percent less likely to use a tax advantaged education savings vehicle such as a Coverdell ESA or a 529 Plan vs. parents with no student debt. Implications suggest that parents that still service their own student loan debt are prolonging the cycle of debt burden of their children by not saving for their education. Parental student loan debt does not appear to affect the decision of parents obtaining student loans for their child (ren) nor the loan amount for their child (ren).

Ignoring parental emotions, it is rational for parents not to save for their child's college education in favor of securing adequate retirement savings for themselves. The Life Cycle Hypothesis describes three distinct stages, the preproduction stage, production stage, and retirement stage. The people in the preproduction stage are typically the young-aged individuals and the people of the production stage are typically middle-aged. This hypothesis states that usually, the propensity to consume in relation to saving is greater for the preproduction stage and retirement stage. The reason is that retired people are using their savings and usually not earning income anymore and people in the preproduction stage usually have higher expenses than their

incomes, due to them still being in college or barely joining the labor force. The production stage individuals have a higher propensity to save due to usually earning more income in relation to their expenses. Therefore, a parent in the production stage has an optimal strategy to save for retirement instead of saving for the college education of their child because the parent is approaching their retirement stage, thus they need to have an adequate amount in the retirement account sooner. Moreover, the child will more likely be able to pay off his/her own student loans when he/she reaches the production stage. In addition, the child has the ability to borrow for college but the parent does not have the ability to borrow for retirement. Future research should examine how parental retirement accounts affect parental views towards education financing. It would be interesting to examine whether or not racial differences affect the decision to save for retirement and/or save for education.

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Table 1. Saving for College

Annual College Cost	\$25,000
Current Savings	0
Years Until Enrollment	17
Average Annual Return	7%
Number of Years the Child will be enrolled	4
Inflation Rate	5%
Total of Deposits	\$143,977.85
Projected Total Cost (adjusted for inflation)	\$246,972.14

* The first annual deposit is \$4,030.82 and then annual deposits increase thereafter with inflation.

Table 2. Loan Analysis of 10 years vs. 25 years

	10 years	25 years
Loan Amount	\$ 246,972.14	\$ 246,972.14
Average Annual Interest Rate	7%	7%
Monthly Payment	\$2,867.56	\$1,745.55
Total Cost	\$344,107.20	\$ 523,665.00

Table 3. Analysis of Investing for 10 years vs. 25 years

	10 years	25 years
Principal Amount	0	0
Monthly Deposit	\$2,867.56	\$1,745.55
Average Annual Interest Rate	6%	6%
Compounding	monthly	monthly
Interest Earned	\$ 128,176.33	\$692,038.89

Table 4. Continuous Variables Mean, Median, and Std dev

Continuous Variables:	Mean	Median	Std dev
Parent's Student Debt	\$23,245.46	\$11,000	34631.32
Net Income	\$75,695	\$55,000	82432.23
Net Worth	\$259,911.67	\$68,900	580411.79
Loan Balance for Child	\$20,778.84	\$10,000	29339.71

Table 5. T -Test

Variable	No Student Debt Mean	Pr> t	Student Debt Mean
Age	51.3541	***	51.0714
Net Worth	272828	***	133605
Net Income	76055.7		71664.3
Financial Literacy Index	2.2486	***	2.385

***, **, * indicates significance at the 0.01, 0.05, and 0.1 levels, respectively.

The proper method (Pooled or Satterwaite) to derive $Pr>|t|$ is chosen depending on the $Pr>F$ value

Table 6. Chi-Square

Variable	Full	No Student Debt	Prob	Student Debt
Married	52.38%	92.83%	**	7.17%
Male	48.27%	93.30%	***	6.70%
Black	31.37%	88.82%	***	11.18%
Hispanic	19.27%	92.68%		7.32%
College Degree	21.26%	85.89%	***	14.11%
High Financial Literacy	47.08%	91.24%	***	8.76%

N=7301

***, **, * indicates significance at the 0.01, 0.05, and 0.1 levels, respectively.

Table 7. Binary Logistic showing likelihood of using an education saving vehicles (Y/N)

Variables	A	B	C	D	E
Parent's Student Debt	0.27 **		0.25 **	0.22 **	0.33 **
High Financial Literacy		4.85 ***	4.93 ***	2.21 ***	1.98 ***
Male				1.18	1.17
Race(ref. Non-Black, Non-Hispanic)					
Black				0.33 ***	0.45 **
Hispanic				0.25 ***	0.27 ***
College Degree				5.33 ***	3.98 ***
Married				4.94 ***	3.59 ***
Age				0.90 **	0.89 ***
Log Net Worth					1.31 ***
Log Income					1.02

N=7301

R-Squared= 0.01 0.06 0.07 0.25 0.28

***, **, * indicates significance at the 0.01, 0.05, and 0.1 levels, respectively.

Table 8. Binary Logistic showing likelihood of getting loans for a child

Variables	A	B	C	D	E
Parent's Student Debt	1.17		1.15	1.19	1.31
High Financial Literacy		1.35 **	1.35 **	1.17	1.05
Male				0.70 ***	0.69 ***
Race(ref. Non-Black, Non-Hispanic)					
Black				1.01	1.20
Hispanic				1.07	1.15
College Degree				1.20	1.02
Married				2.96 ***	2.27 ***
Age				1.03	1.03
Log Net Worth					1.08 ***
Log Income					1.09 ***

N=7301

R-Squared= 0.0001 0.0034 0.0037 0.0477 0.0746

***, **, * indicates significance at the 0.01, 0.05, and 0.1 levels, respectively.