Dēmos
AN EQUAL SAY AND AN EQUAL CHANCE FOR ALL

Debt-For-Diploma Series

AT WHAT COST?

HOW STUDENT DEBT REDUCES LIFETIME WEALTH

by

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AUGUST 2013

ABOUT DĒMOS

Dēmos is a public policy organization working for an America where we all have an equal say in our democracy and an equal chance in our economy.

DĒMOS MEANS "THE PEOPLE."

It is the root word of democracy, and it reminds us that in America, the true source of our greatness is the diversity of our people. Our nation's highest challenge is to create a democracy that truly empowers people of all backgrounds, so that we all have a say in setting the policies that shape opportunity and provide for our common future. To help America meet that challenge, Dēmos is working to reduce both political and economic inequality, deploying original research, advocacy, litigation, and strategic communications to create the America the people deserve.

ACKNOWLEDGEMENTS

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KEY FINDINGS

- **Our model finds that an average student debt burden for a dual-headed household with bachelors' degrees from 4-year universities ($53,000) leads to a lifetime wealth loss of nearly $208,000.**

- **Nearly two-thirds of this loss ($134,000) comes from the lower retirement savings of the indebted household, while more than one-third ($70,000) comes from lower home equity.**

- **We can generalize this result to predict that the $1 trillion in outstanding student loan debt will lead to total lifetime wealth loss of $4 trillion for indebted households.**

- **The wealth loss will be greater for households with larger-than-average levels of student debt: students from low-income families, students of color, and for-profit students.**

INTRODUCTION

Student debt has skyrocketed over the past decade, quadrupling from just $240 billion in 2003 to more than $1 trillion today.[1] If current borrowing patterns continue, student debt levels will reach $2 trillion in 2025.[2] Average debt levels have risen rapidly as well: two-thirds (66 percent) of college seniors now graduate with an average of $26,600 in student loans,[3] up from 41 percent in 1989.[4] The rise of this "debt-for-diploma" system over the past decade was largely caused by the sharp decline in state funding for higher education, which has fallen by 25 percent since its peak in 2000.[5]

However, despite the fact that student debt is now nearly a prerequisite for a college degree, we have not yet fully explored the impact of tying opportunity to debt. Though a college education remains the surest path to a middle-class life, evidence has begun to mount that student debt may be far more detrimental to financial futures than once thought, particularly for those with the highest levels of debt: students of color and students from low-income families.

This brief attempts to quantify just how much these soaring debt levels impact college-educated households' financial stability over a lifetime. It creates a model using data from the Federal Reserve Board's Survey of Consumer Finances and other datasets to estimate household debt and assets, comparing the projected debts and assets of a college-educated household with average levels of education debt to a similar household without debt. It finds that, over a lifetime of employment and saving, $53,000 in education debt leads to a wealth loss of nearly $208,000.

We can generalize this result to predict that the $1 trillion in outstanding student loan debt will lead to total lifetime wealth loss of $4 trillion for indebted households, not even accounting for the heavy impact of defaults. The model's prediction of lifetime lost assets due to student debt also understates the impact of education debt on many borrowers in another way. Student debt levels vary widely by both race and family income of graduates; thus, for low-income and minority borrowers, the lifetime cost of student loans will likely be even greater (see following page for more detail).

Before we can account for the large differences in debt burdens by race and family income, we need to establish a baseline scenario to examine the lifetime impact of student debt on assets for an average borrower, which is the focus of the model in this brief. Even when we consider this average borrower who (as explained below) saves and accumulates under somewhat ideal circumstances, the lifetime impact of student debt paints an already troubling picture.

STUDENTS WITH HIGH DEBT FACE GREATER WEALTH LOSSES

The indebted household examined in this brief's model represents a "best-case" scenario for the wealth loss caused by student debt: as both earners are graduates of 4-year universities, the household is in fact an upper-income household, and its net worth approaching retirement is in the top 15 percent of all households, despite the wealth loss caused by its student debt. Households with higher levels of student debt— ones comprised of students from low-income families, students of color, or for-profit students—will suffer larger lifetime wealth losses due to both their higher debt levels and their other disadvantages. The impact of student debt on these disproportionately-impacted households will be examined in a forthcoming brief.

Figure 1 shows the large impact that family income has on the debt levels of college graduates. Seventy-five percent of bachelor's degree recipients from families with incomes of less than $60,000 graduated with some student loan debt in 2008, compared to just 48% of students whose families earned $100,000 or more. Students from poorer families were also much more likely to graduate with large amounts of debt: 14% of graduates from lower-income families had more than $30,500 in debt, compared to just 9% of students from families who earned $100,000 or more.

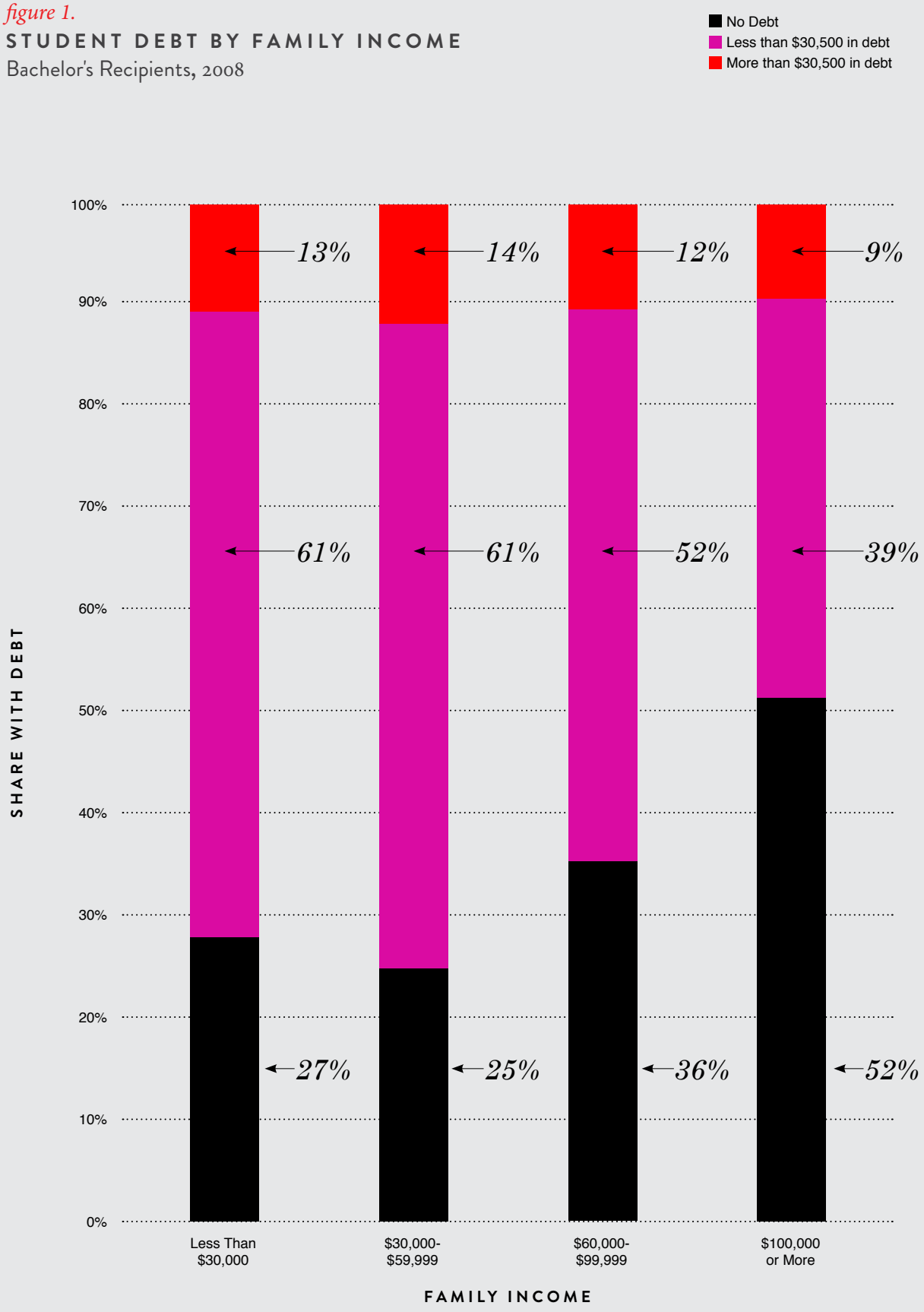
Average student debt also varies widely by the race of graduates, as shown in *Figure 2*. For the class of 2008, 80 percent of African American graduates left school with debt, compared to 67 percent of Latinos, 65 percent of whites, and 54 percent of Asian Americans. African Americans also graduated with higher levels of debt, leaving with an average of more than $28,000 in student loan debt, nearly $4,000 more than the average graduate.

Figure 3 shows the average debt levels of indebted graduates by institution type. 2008 graduates of for-profit schools leave with particularly high debt; their $33,050 average is 64% higher than that of indebted public school graduates.

figure 1.

STUDENT DEBT BY FAMILY INCOME

Bachelor's Recipients, 2008

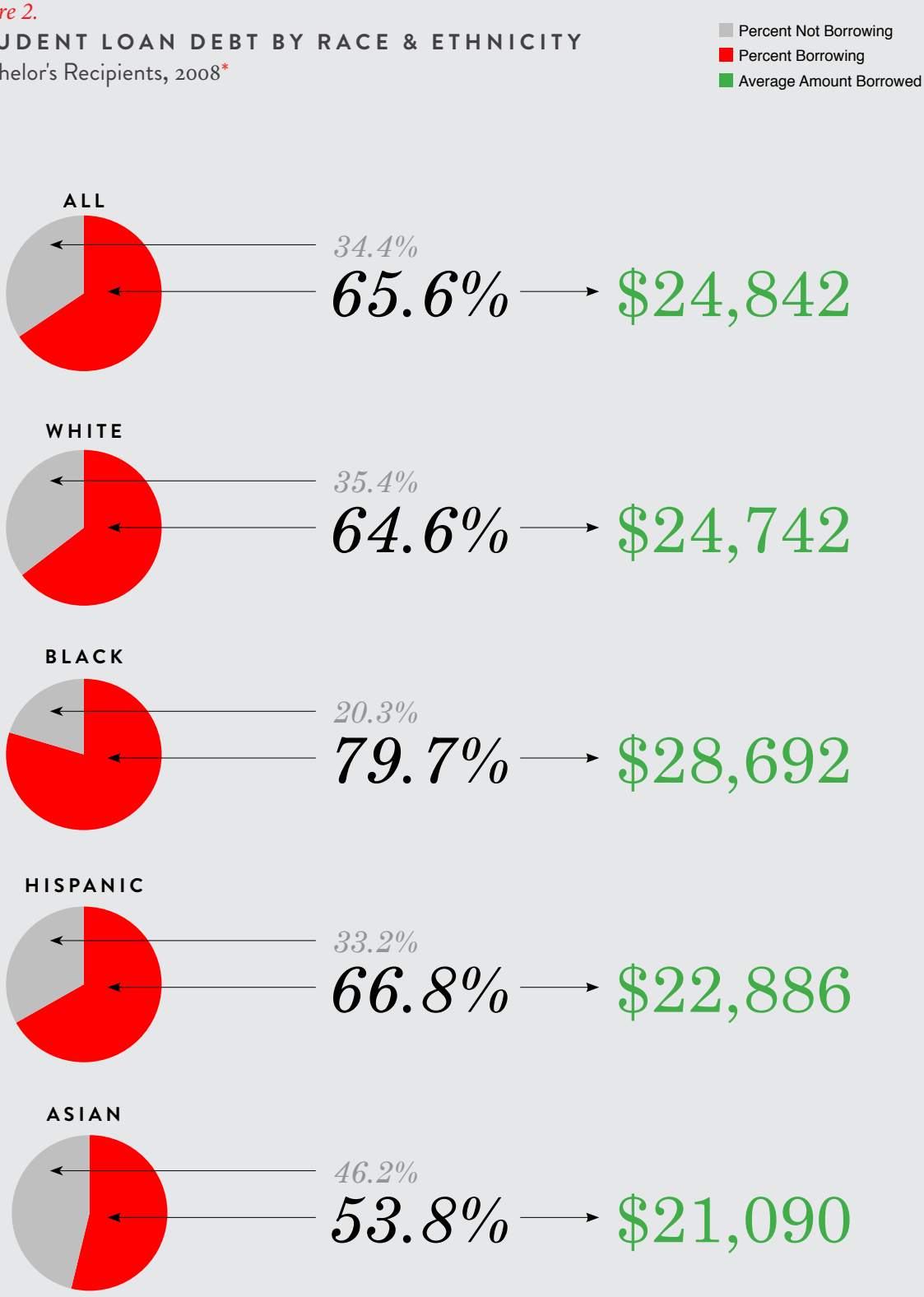


SOURCE: Sandy Baum and Patricia Steele, "Who Borrows Most? Bachelor's Degree Recipients with High Levels of Student Debt," Table 3: College Board, 2010.

figure 2.

STUDENT LOAN DEBT BY RACE & ETHNICITY

Bachelor's Recipients, 2008*



SOURCE: U.S. Department of Education, National Center for Education Statistics, "Baccalaureate and Beyond" Study, 2009

*Most recent data available

figure 3.

AVERAGE DEBT AMONG INDEBTED GRADUATES

by Institution Type, 2008*

SOURCE: Project on Student Debt analysis of 2008 National Postsecondary Student Aid Survey (NPSAS)

*Most recent data available

THE MODEL ASSUMPTIONS & RESULTS

To look at the lifetime impact of student debt on assets and net worth, we begin with two young households, nearly identical except that one has student debt and one does not. Each household is dual-headed and college educated, and begins its working life with the average salary, retirement savings, and liquid savings of an average young[a] dual-headed, college-educated household with and without education debt. Each household purchases a home at 31, the average age of a first-time homebuyer,[6] and pays the average price, mortgage interest rate, and down payment of college-educated households with and without student debt, respectively. To determine these initial values, we used the 2010 Survey of Consumer Finances to compute average values for each of the above data points. We then use these initial values, as shown in *Figure 4*, as the base points of the model. And as the table shows, even early in these young households' post college lives, the effect of student debt on assets is already becoming apparent.

Young college-educated households without student loan debt have already begun to accumulate more retirement savings than similar households with student loan debt. More young debt-free households were also able to purchase homes (though this gap narrows when households in their 30s are considered). Debt-free households purchased more expensive homes, put down a larger down payment, and paid a lower mortgage interest rate than indebted households as well. Households with education debt, however, had higher average incomes than those without, which is consistent with other research on the incomes of young college-educated households.[7] This income gap between indebted and debt-free young households is likely due to the influence exerted by the need to repay their debt on their job choices post-graduation, causing them to prioritize a job's salary over all its other characteristics. However, such research also shows that the incomes education-indebted households quickly fall behind their peers without education debt, likely because the need for indebted households to make consistent monthly payments on their debt causes them to lack the job flexibility and mobility enjoyed by debt-free households. We incorporate this finding into our model as well.

Our model uses these values to project the growth of income and assets—home equity, retirement savings, and liquid savings—and the decline in each household's debt—home mortgage and student loan debt—throughout each household's working lifetime. These projections assume that income and assets grow and debts decline at a steady rate each year, which is in reality a very rosy assumption: most households lose jobs or suffer declines in income, suspend or withdraw savings, and postpone debt pay-

A. Due to the limited sample size of the Survey of Consumer Finances, we use households headed by 24 to 30 year-olds to ensure robust estimates. We use these averages to seed the model starting at age 27, the midpoint in this age range.

figure 4.

AVERAGE DEBTS AND ASSETS

for 24-30 year-old Dual-Headed, College-Educated Households

INITIAL MODEL VALUE	HOUSEHOLDS WITH EDUCATION DEBT	HOUSEHOLDS WITH NO EDUCATION DEBT
SHARE OF ALL SUCH HOUSEHOLDS	56.9%	43.2%
MEDIAN HOUSEHOLD INCOME *Dual-Headed Households*	$80,304	$75,222
AVERAGE AMOUNT OF EDUCATION DEBT	$53,200*	$0
MEDIAN INTEREST RATE ON EDUCATION DEBT	4.9%	0.0%
SHARE WHO OWN HOME	52.26%	58.76%
MEDIAN HOME VALUE *(among homeowners)*	$165,000	$180,000
MEDIAN HOME EQUITY	$10,000	$20,000
MEDIAN HOME DEBT	$155,000	$160,000
MEDIAN MONTHLY MORTGAGE PAYMENT	$1,200	$1,080
AVERAGE MORTGAGE INTEREST RATE	5.17%	4.75%
SHARE WITH RETIREMENT ASSETS	66.63%	54.46%
MEDIAN RETIREMENT ASSETS	$14,000	$15,000
MEDIAN LIQUID ASSETS	$0	$0

SOURCE: Demos' tabulations of the 2010 Survey of Consumer Finances; *Source: Project on Student Debt (PSD), "Student Debt and the Class of 2011," October 2012, http://projectonstudentdebt.org/pub_view.php?idx=864."

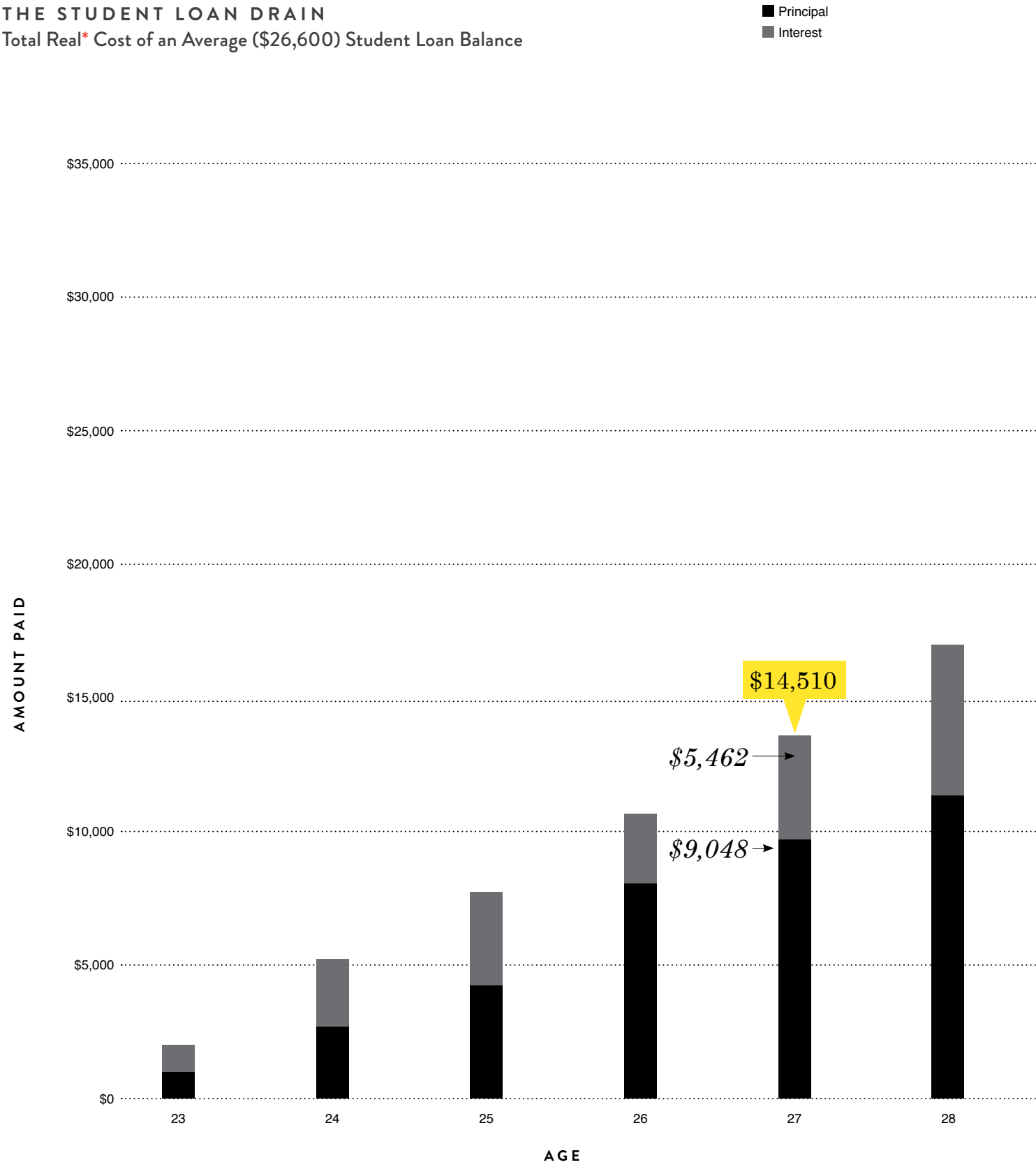
ments over the course of a working lifetime. However, in order to both keep the model as simple as possible and give predictions that are in reality a best-case scenario, our model simply assumes that each household's income grows at a steady, fixed rate each year, that retirement savings grow and accumulate returns at a steady pace, etc. (For more detail on the values used in the model for growth in home values, retirement assets, etc., see the Methodology Appendix below).

The indebted household is enrolled in an Income-Based Repayment plan for their student debt, which typically extend the repayment period significantly beyond 10 years. However, because their income rises rapidly they end up paying off their student debt over a slightly extended period of just 11 years. Their student debt payment consumes an average of 7.5 percent of their income during the repayment period. To generate the model's major predictions, we then presume that the indebted household reduces their combined yearly retirement savings and liquid savings by its yearly payment on its student debt until it is paid off (at age 33), and then saves identically to the household without student debt. Finally, to make the model slightly more realistic, we make two additional assumptions: 1.) That each household buys a larger house once in their lifetime, using their accumulated home equity and liquid savings as a down payment, and 2.) That each household also withdraws once from their liquid savings at age 54 to help pay for the educational expenses of one of their own children.

figure 5.

THE STUDENT LOAN DRAIN

Total Real* Cost of an Average ($26,600) Student Loan Balance



SOURCE: Dēmos Student Debt Model, Income-Based Repayment Plan

*"Real" means that all payments have been converted to constant 2010 dollars

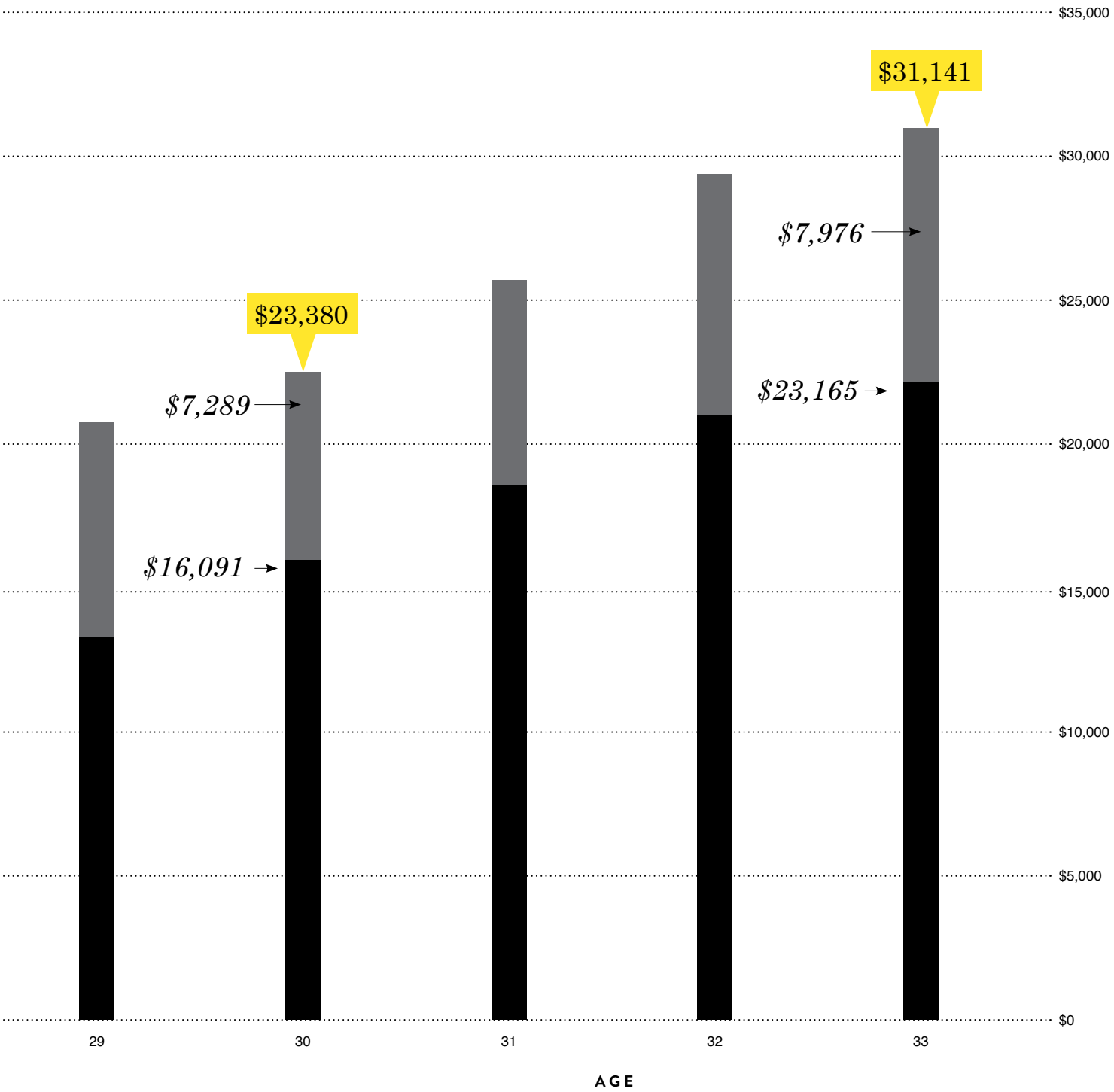
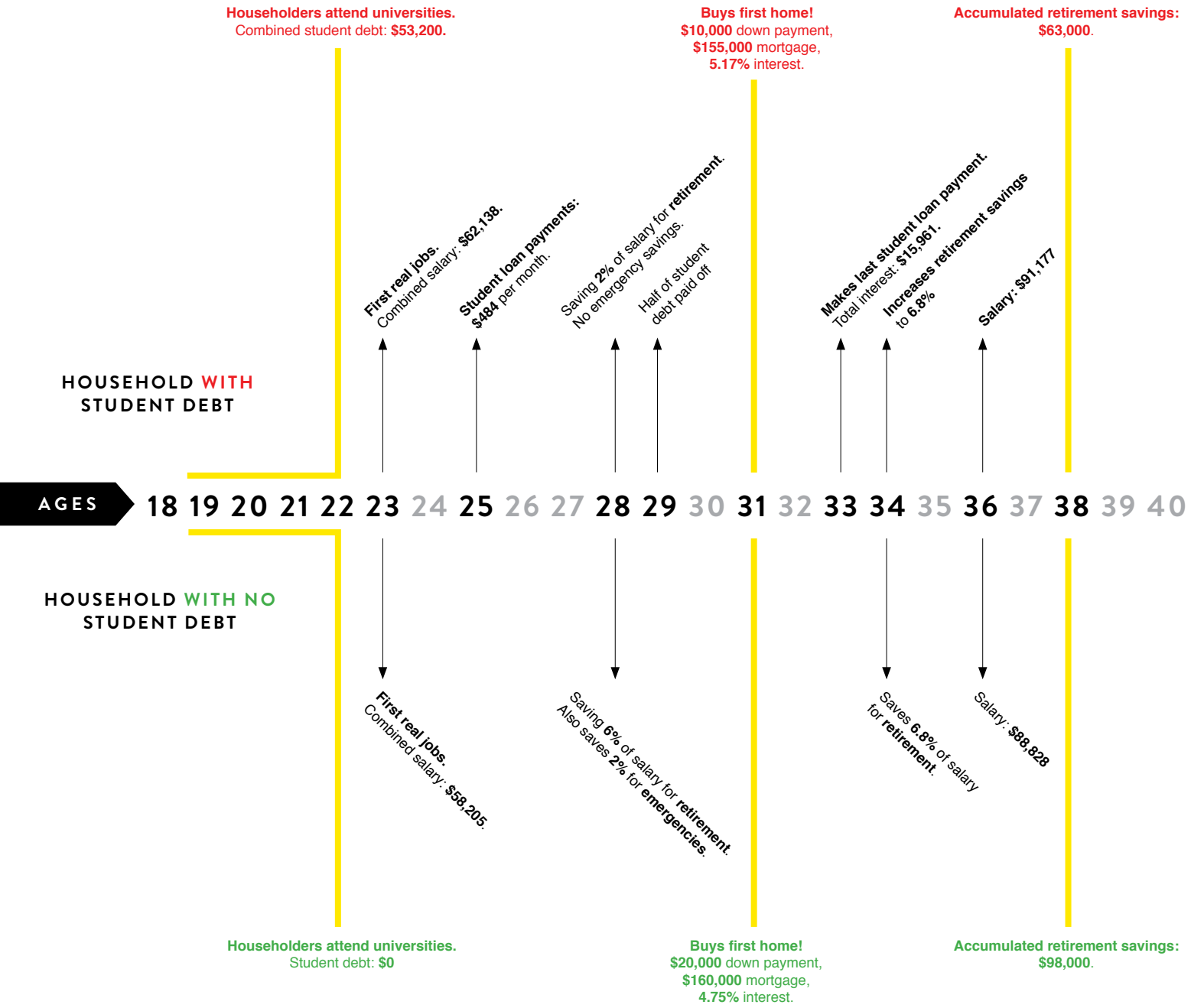
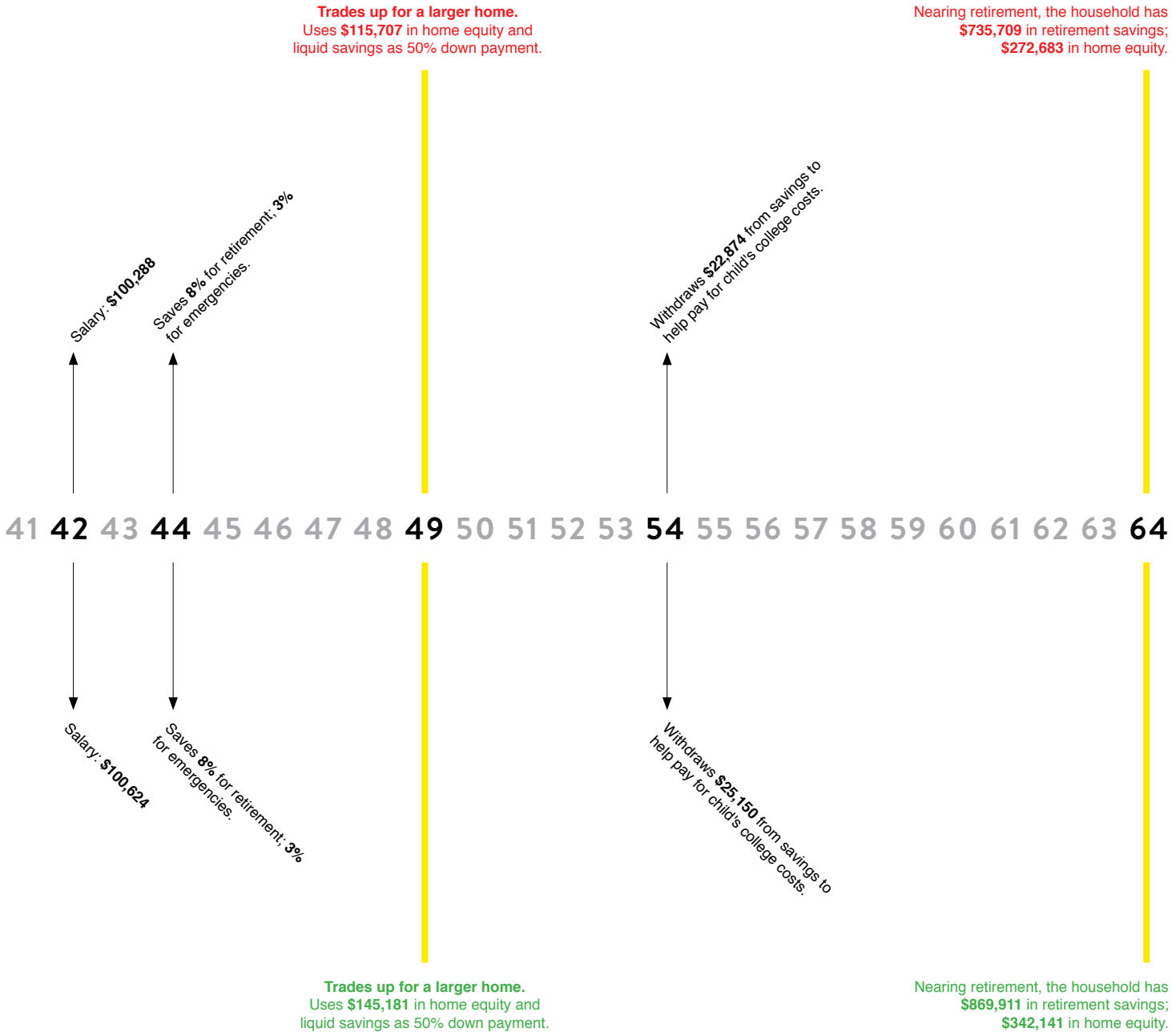

$35,000
$30,000
$25,000
$20,000
$15,000
$10,000
$5,000
$0
$31,141
$7,976
$23,380
$7,289
$23,165
$16,091
29
30
31
32
33
AGE

figure 6.

A TIMELINE OF THE MODEL'S ASSUMPTIONS

Model households with and without student debt




Trades up for a larger home.
Uses $115,707 in home equity and liquid savings as 50% down payment.
Nearing retirement, the household has $735,709 in retirement savings; $272,683 in home equity.
Salary: $100,288
Saves 8% for retirement; 3% for emergencies.
Withdraws $22,874 from savings to help pay for child's college costs.
41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64
Salary: $100,624
Saves 8% for retirement; 3% for emergencies.
Withdraws $25,150 from savings to help pay for child's college costs.
Trades up for a larger home.
Uses $145,181 in home equity and liquid savings as 50% down payment.
Nearing retirement, the household has $869,911 in retirement savings; $342,141 in home equity.

The results of the model are expressed in *Figure 7* below. Based on its projections, the indebted household will suffer a lifetime wealth loss of nearly $208,000, compared to "baseline" of the debt-free household. Nearly two-thirds of this loss ($134,000) comes from the lower retirement savings of the indebted household, while more than one-third ($70,000) comes from lower accumulated home equity; because of the two withdrawals from savings later in their lives, the liquid savings gap is just $4,000. The gap in retirement savings is particularly large because the household with student debt was forced to save significantly less for retirement early in their working lives while paying back their student loans, a gap which was exacerbated because of the significant compound interest that would have been earned had they been able to save the same amount as the household without student loan debt. Some of this gap in net assets also comes from the higher lifetime income of the household without student loan debt; though the indebted household begins their careers earning more, their income falls behind that of the debt-free household by its early 40s, and earns significantly less during the peak earning years of the mid-50s. ●

figure 7.
MODEL ESTIMATES, NET ASSETS

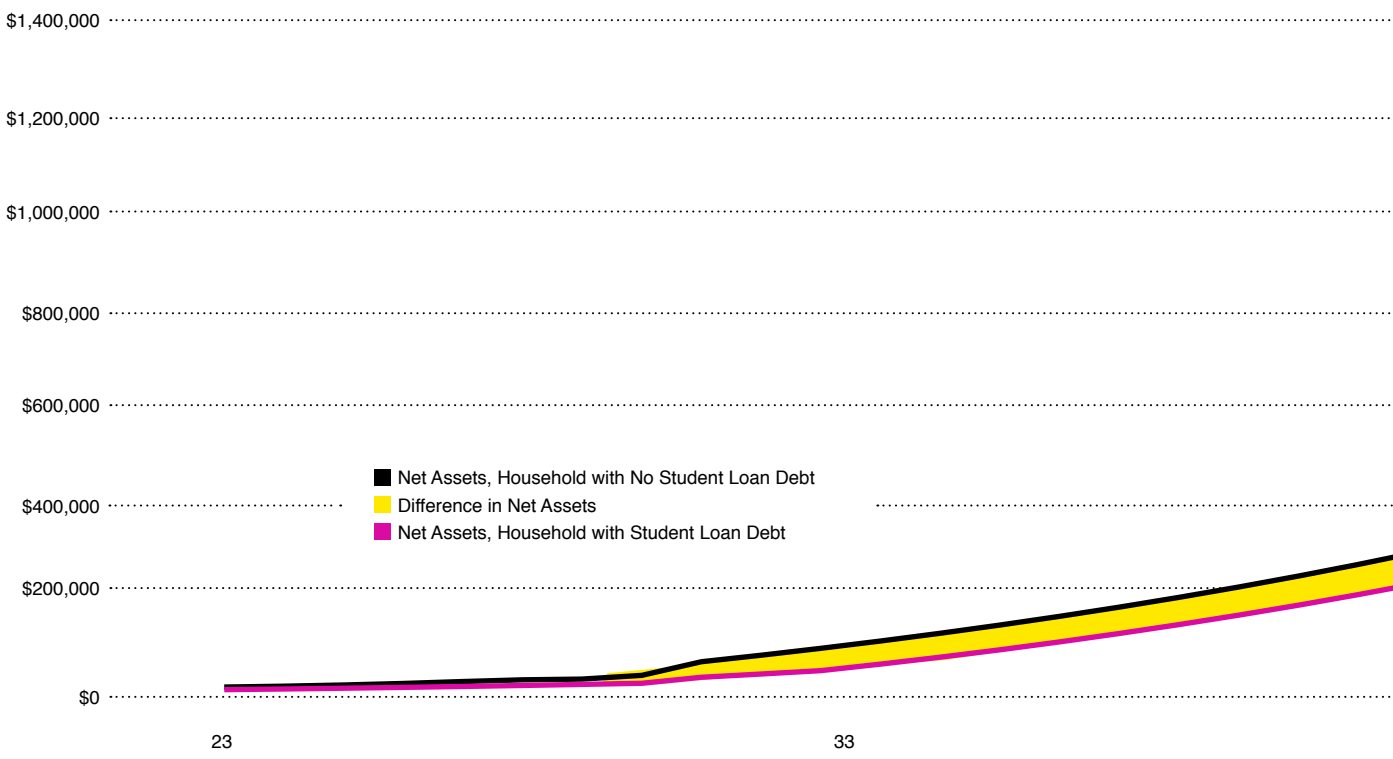
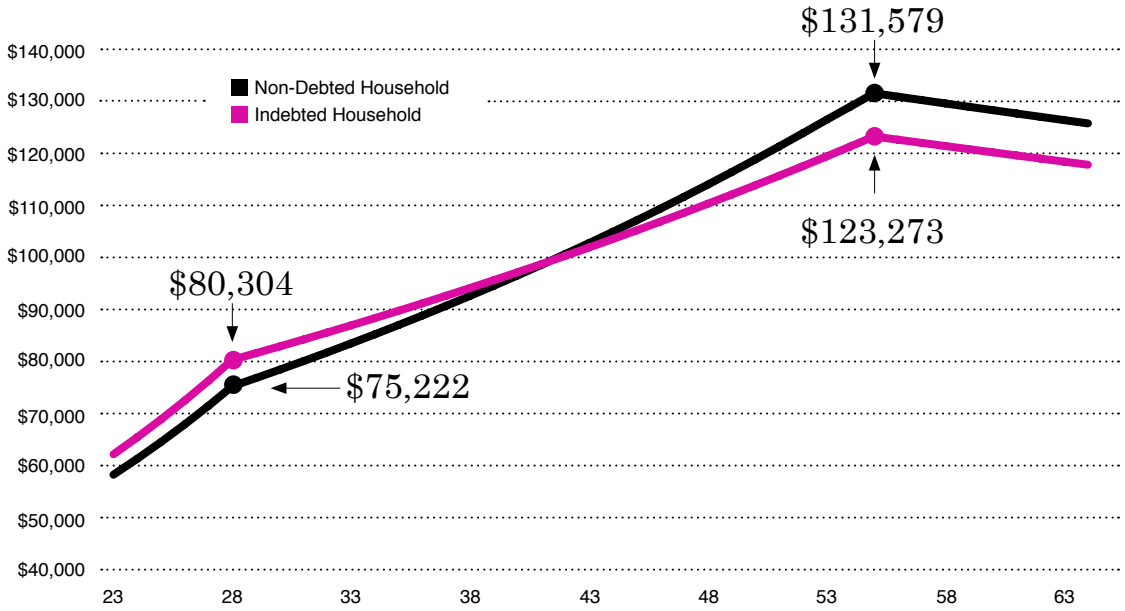
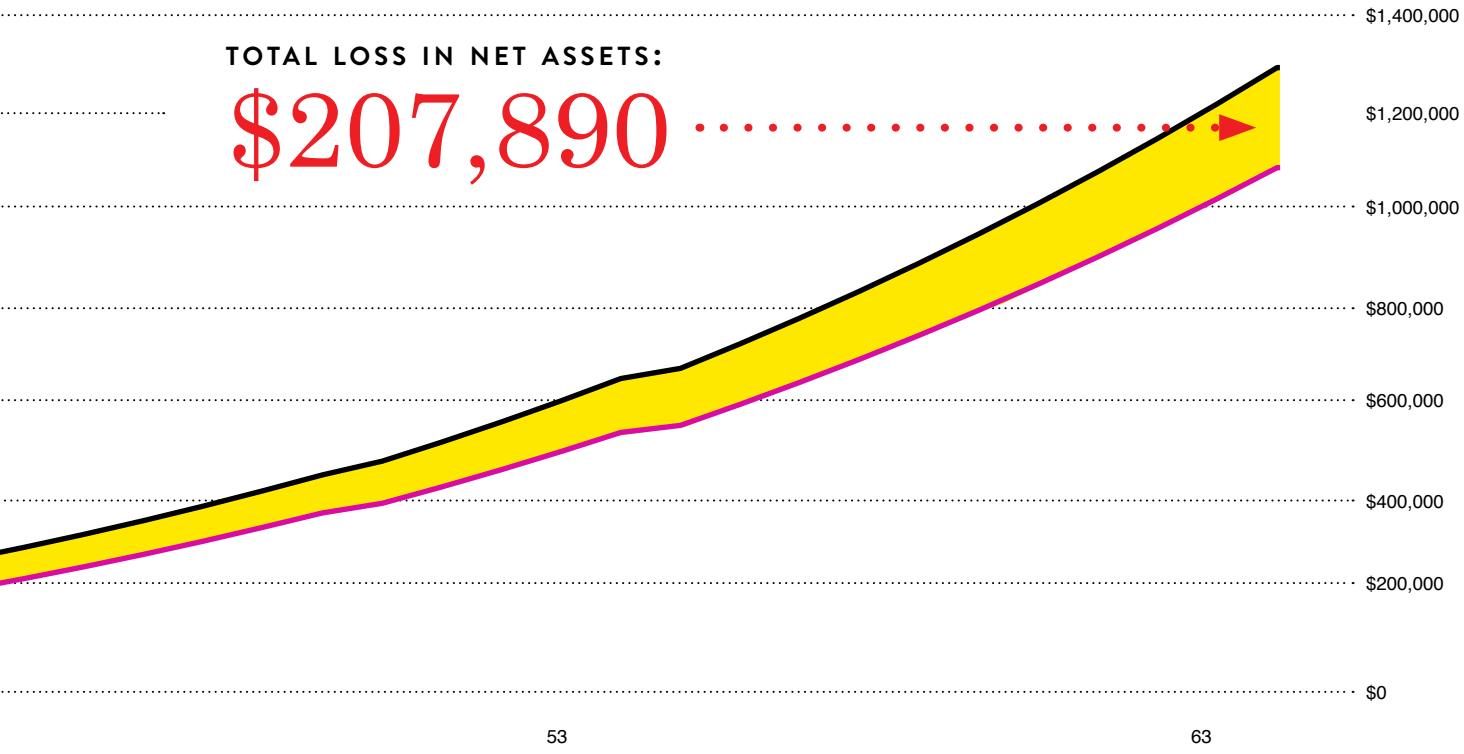


figure 8.

MODEL ESTIMATES, HOUSEHOLD INCOME





CONCLUSION

As the brief shows, the financial pictures for both the indebted and debt-free households are significantly better than an average American household, clearly illustrating the earnings power of a college degree. However, the model also clearly illustrates the damaging impact of student debt, predicting that its impact on the lifetime assets of indebted households will be nearly four times the amount borrowed. Student debt's financial impact won't just be felt by the nearly 39 million Americans who currently have student loans,[8] however; the drag of student loans on indebted households' purchasing power and ability to save will slow already-sluggish growth for the entire U.S. economy. If we wish to avoid this fate, we need to take immediate action to both reduce the burden of existing student debt and prevent future debt from piling up even higher. A comprehensive solution to the student debt crisis is needed, but enacting a series of proposals that individually address the worst aspects of the trends – reducing interest rates for future borrowers, refinancing existing student loan debt at a lower interest rate, and reforming bankruptcy laws to allow for the discharge of student debt – would together have a significant impact. And action needs to happen now, before the country's student debt burden reaches yet another terrible milestone. ●

APPENDIX: METHODOLOGY

All of the figures in the model are expressed in real 2010 dollars in order to maintain comparability with the initial asset and debt values, which were derived from the 2010 Survey of Consumer Finances (SCF). Most of the model's initial values are derived from the author's calculations of the Federal Reserve's 2010 Survey of Consumer Finances, as shown in *Figure 4*.

General Economic & Household Assumptions

- The assumed inflation rate is 2.5 percent, the same used by most federal government projections.[9]
- The real incomes of college-educated households without educational debt are projected to grow at the overall median rate of 2.05 percent per year, taken from the Social Security Administration's intermediate projections.[10]
- The real income of the indebted household is presumed to grow at a real rate of 1.6 percent, in line with findings of previous research on the post-graduation incomes of indebted graduates.[11]

Home Purchases and Value

- Each household purchases its first home at age 31, the median age for first-time homebuyers, according to the National Association of Realtors.[12]
- Each household's down payment, interest rate, and initial mortgage amount is based on the author's calculations of the SCF of the median values for similar households, as shown in *Figure 3*.
- The yearly mortgage payment for each household is calculated using a 30-year fixed rate mortgage, based on the mortgage amount, interest rate, and down payment for each household.
- The model assumes that the home "upgrade" for each household occurs at age 49, and that each household uses its accumulated home equity and liquid savings above a cushion of 3 months income to put a down payment on their new home. The mortgage for the home upgrade is a 15-year fixed rate mortgage, chosen both because of the households' higher mid-career incomes and to enable them to pay off their mortgages by retirement.
- We also presume that the down payment is equal to 50 percent of the new home's value, based on data from the National Association of Realtors.[13]
- The presumed real growth in home value is 1.1 percent, in line with the long term projections of a survey of economists.[14]

Debt and Assets

- The initial post-graduation student loan debt is taken to be $53,200, or twice the average debt of a graduating senior in 2011[15] (doubled because the indebted household is dual-headed).

- The indebted household's student loan payment is calculated using an Income-Based Repayment plan on 11-year repayment schedule—based on the increases in the debted household's income— and a 4.9 percent interest rate—the average interest rate paid on student loans, according to the SCF.

- The model assumes that the debt-free household saves between 6 and 10 percent of its income for retirement, increasing with age, rates derived from data from the Employee Benefit Research Institute.[16] The debt-free household also saved between 2 and 3 percent in liquid assets.

- While the indebted household is paying off its student loan debt, it reduces its combined savings by slightly less than its student loan payment; slightly less because we presume, along with economic literature, that a household will generally reduce consumption to some degree if it significantly values saving. After it finishes paying of its debt at age 33, it increases its savings rates to match those of the debt-free household.

- Both households are assumed to invest their retirement assets in a balanced portfolio of stocks and bonds, which is projected to grow at a real rate 5.1 percent, according to simulations from the Berkeley Labor Center[17] as well as the author's own simulations.

- Each household also withdraws from their accumulated liquid savings at age 54 to pay for a portion of the educational costs incurred when one of their children enters college.

- Finally, as mentioned in the brief, each household saves, earns, and pays down their debts continually and regularly throughout their working lifetimes. Thus, the model presumes that the households never become unemployed or take a pay cut, and that their salaries increase steadily (and then decline steadily after their peak earnings at age 55) throughout their working lifetimes. The model also assumes that the households never suspend saving or debt payments, or withdraw from accumulated savings, except for the two instances (home upgrade and education payment) mentioned above. ●

ENDNOTES

1. Federal Reserve, "Quarterly Report on Household Debt and Credit," 2013
2. *Ibid*., Author's analysis.
3. Project on Student Debt, "Student Debt and the Class of 2011," October 2012.
4. Author's calculations of the NPSAS. U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study (NPSAS).
5. Author's calculations of IPEDS and Grapevine data. U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment" surveys, http://nces.ed.gov/Programs/digest/; Grapevine Project, "State Fiscal Support for Higher Education by State," http://grapevine.illinoisstate.edu/tables/index.htm.
6. National Association of Realtors, "Profile of Home Buyers and Sellers, 2012.
7. Rothstein and Rouse, "Constrained After College: Student Loans and Early Career Occupational Choices", 2008; Minicozzi, "The Short Term Effect of Educational Debt on Job Decisions," 2002.
8. Donghoon Lee, "Household Debt and Credit: Student Debt," Federal Reserve Bank of New York, February 2013.
9. See Social Security Administration, "Trustees Report", 2012, among others.
10. Social Security Administration, op. cit.
11. Rothstein, op. cit.; Minicozzi, op. cit.
12. National Association of Realtors, op. cit.
13. Ibid.
14. Zillow, "Zillow Home Price Expectations Survey," 2013, http://www.zillow-blog.com/research/2013/03/19/zillow-home-price-expectations-survey-predicts-home-value-appreciation-through-2017-to-exceed-pre-bubble-norms/
15. TICAS, op. cit.
16. EBRI, "Factbook: Chapter 10," 2012.
17. D. Stubbs and N. Rhee, "Can a Publicly-Sponsored Retirement Plan for Private Sector Workers Guarantee Benefits at No Risk to the State?" Berkeley Labor Center, August 2012, http://laborcenter.berkeley.edu/research/ca_guaranteed_retirement_study.shtml.

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