

Student Loan Debt: Who is Paying it Down?

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Abstract

American families carry more than \$1.5 trillion in student loan debt. This debt provided many with the opportunity to pursue higher education, but remains for others a large, potentially crippling, financial burden. In this report, we explore how people of different socioeconomic groups are managing their student debt. We do this by linking administrative banking data, credit bureau records, and public records on race and ethnicity to create a unique data asset that includes the income, demographics, debt balances, and student loan payments of 301,583 individuals. In general, we find that borrowers of socioeconomic groups tend to manage student loans quite differently, often relying heavily on others—children, parents, and

spouses—in order to manage their debt. In particular, we find that while the median borrower is not unduly burdened by their debt, a significant minority of lower-income and younger borrowers are heavily burdened, required to make payments that constitute more than 10 percent of their take-home income. We also find that almost 40 percent of those involved in student debt repayment are making payments on other people's loans, with 27 percent of those involved holding no student debt whatsoever. These outside helpers play a key role in helping borrowers make progress on their loan. Nevertheless, we find that low-income and older borrowers are more likely to be several months behind on their payments,

and 7 percent of all borrowers not in deferral are on track to never pay off their loans. These dynamics of repayment put Black borrowers at a disadvantage, who, relative to White borrowers, have lower incomes and higher debt balances and are 4 times as likely to have no payments made against their loans, partly due to the fact that they are less likely to receive repayment help. This debt provided many with the opportunity to pursue higher education with commensurate income keeping debt burdens at reasonable rates. For others, student loan debt remains a large financial burden relative to income. In this report, we explore how people of different socioeconomic groups are managing their student debt.

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The mission of the JPMorgan Chase Institute is to help decision makers—policymakers, businesses, and nonprofit leaders—appreciate the scale, granularity, diversity, and interconnectedness of the global economic system and use timely data and thoughtful analysis to make more informed decisions that advance prosperity for all.

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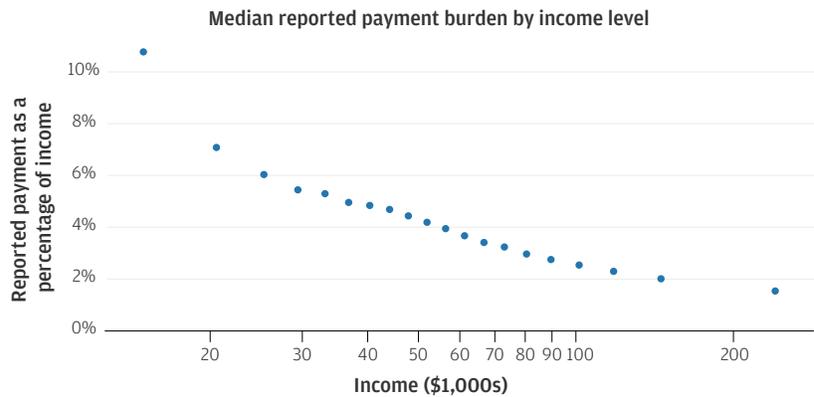
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Executive Summary

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Finding One

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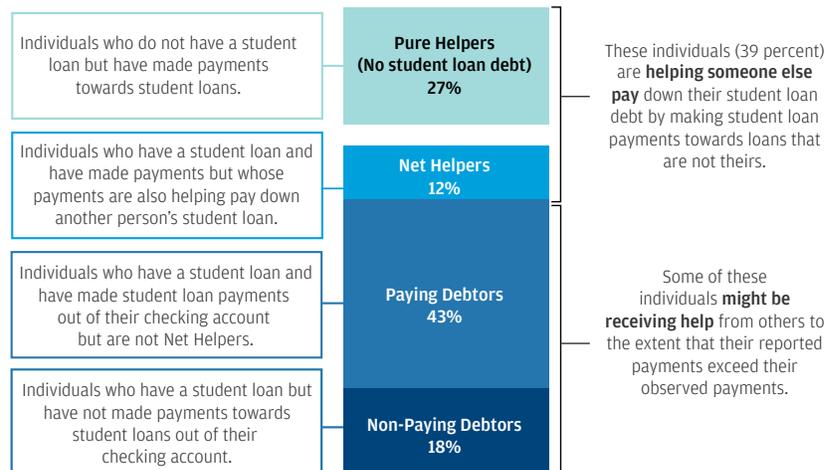


Note: Medians are calculated within twenty income quantiles. Each income bin is represented by its average income. Reported payment is total amount paid toward outstanding student debt during the twelve-month window December 2015 through November 2016. Income refers to take-home income.

Source: JPMorgan Chase Institute

Finding Two

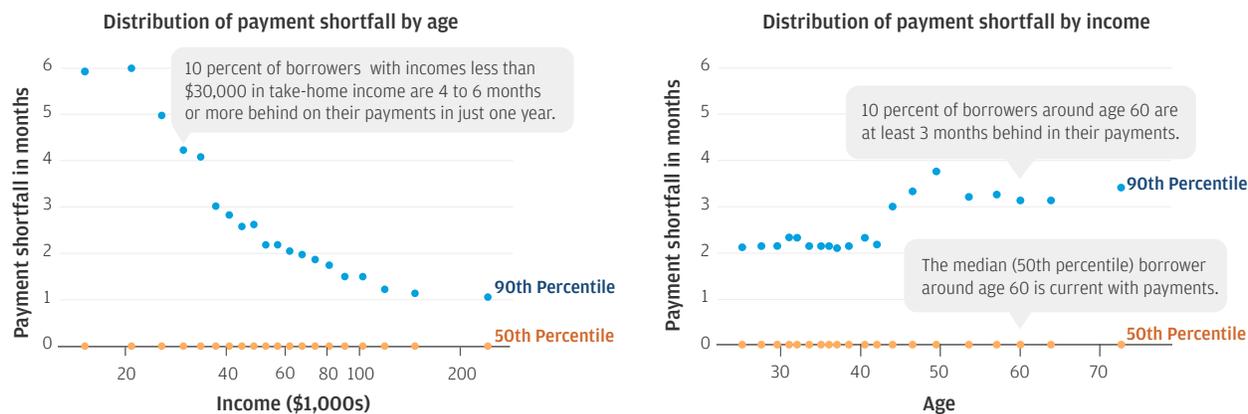
Almost 40 percent of individuals involved in student loan repayment are helping someone else pay off their student loan debt, with most helpers holding no student loan debt themselves.



Source: JPMorgan Chase Institute

Finding Three

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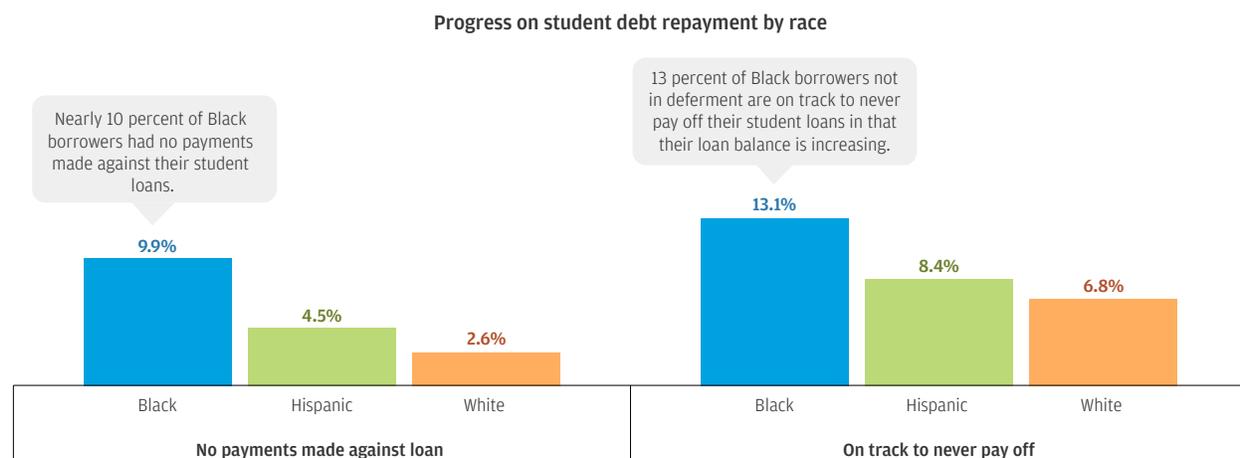


Note: Percentiles are calculated within twenty income and age quantiles, respectively. Each bin is represented along the x-axis by its average value. Payment shortfall is the difference between all scheduled and reported payments during the twelve-month window December 2015 through November 2016, divided by average monthly scheduled payment. Income refers to take-home income.

Source: JPMorgan Chase Institute

Finding Four

Compared to White and Hispanic student loan borrowers, Black borrowers are less likely to be making progress on their loans.



Note: The sample is restricted to borrowers who do not have a student loan in deferral or forbearance during the twelve-month window December 2015 through November 2016. Borrowers projected to never pay off debt have increasing balances over the twelve-month sample period; that is, interest charges over the course of the year are larger than total payments made. Income refers to take-home income.

Source: JPMorgan Chase Institute

In summary, this report finds that student debt holders are not a monolithic group. Many borrowers are not unreasonably burdened by student loan payments and are making payments on time. But certain segments of the student loan population are significantly burdened by their debt, especially low-income borrowers, the elderly, and Black borrowers. Moreover, we find that a significant portion of student debt payments are made not by the loan holder, but by other individuals not tied to the loan, presumably family members who may not directly reap the labor market returns to higher human capital investment. This means that the economic impacts of student debt likely affect a broader portion of the population than previously thought. Additionally, the prominent role of help in student loan repayment puts Black borrowers at a disadvantage in that they exhibit a greater unmet need for repayment assistance.

What should be done to address the disparate patterns we find in student loan borrower outcomes? It goes

without saying that curbing the rise in tuition costs and student loan debt borne by students and their families would address the problem at its root. In addition, reducing racial gaps in income and wealth would boost families' ability to pay for tuition and repay student loan debt among segments of the population most burdened by student loan debt.

Setting aside these structural issues that contribute to the patterns of student loan repayment that we observe, we explore a few possibilities for how targeted debt assistance programs could be expanded to alleviate the burden of existing student loan borrowers. As a general principle, because the majority of borrowers are managing their debt without being excessively burdened, efforts to alleviate undue burdens from student loan debt should be targeted at those who are facing truly difficult circumstances. This is true for payment assistance efforts like income-driven repayment (IDR) programs as well as more aggressive actions like debt forgiveness. A relatively easy first

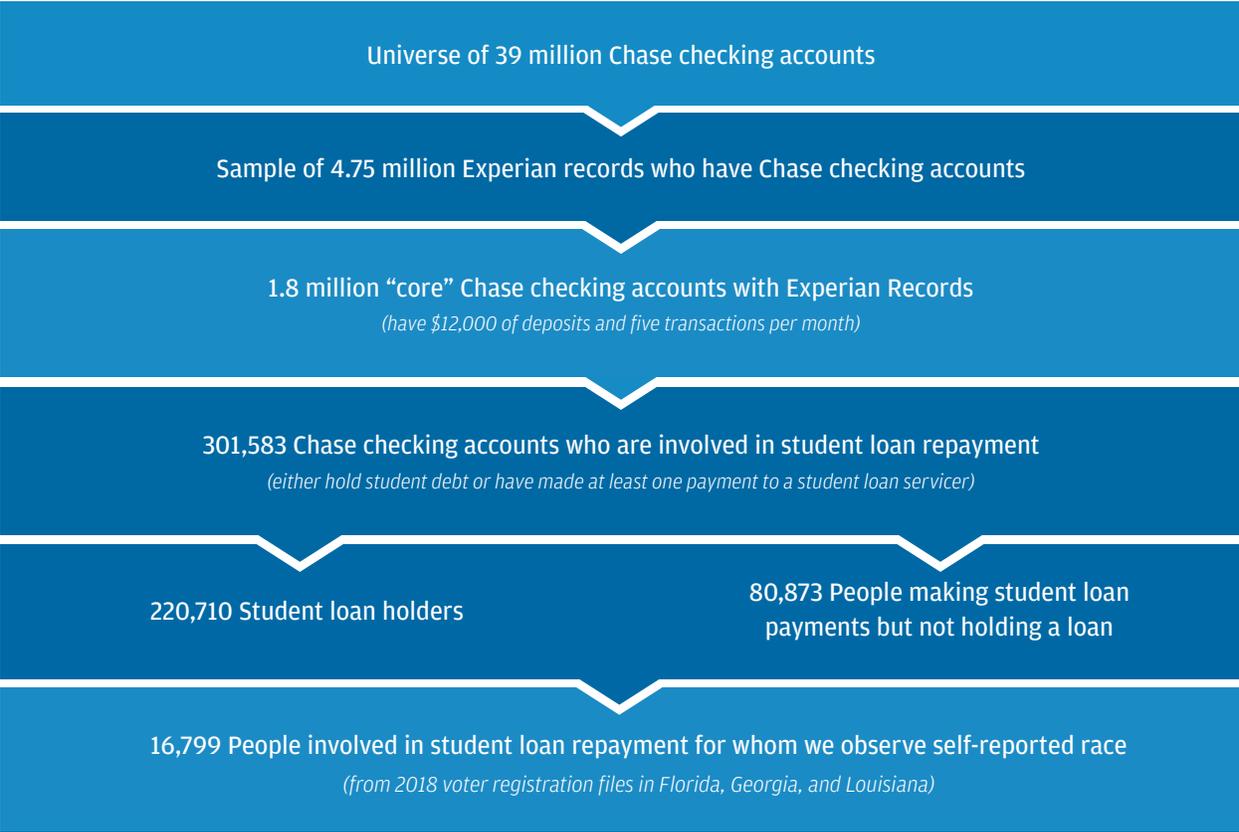
step in expanding targeted assistance would be to help additional borrowers benefit from improved access to existing payment assistance programs, such as IDR. Student loan debt policies and assistance programs should also take into consideration the extent to which students rely on a network of people to repay their student loans. Loan origination programs might want to rebalance eligibility of loans between students and parents. Additionally, there could be more avenues for payment assistance for parents. A possible complement to repayment relief programs is to allow for restructuring or forgiveness of student debt through a bankruptcy-like process.¹ A further step to address undue payment burdens would be to expand efforts to provide targeted debt forgiveness to those most burdened. Targeted student loan debt forgiveness could be a means of rebalancing our investments in public goods such as education across communities and insuring against the risk that borrowers, Black and Hispanic borrowers disproportionately, find themselves in a debt trap.

Data Asset

We assembled a novel dataset of 301,583 de-identified Chase checking account customers who had outstanding student debt or were making payments towards student debt. We linked Experian credit bureau data for December 2015 through November 2016 to these individuals' bank data. This joint data asset allows us to observe income, student loan payments, and key attributes of the student loan tradeline (e.g., origination date) and the account holder (e.g., age). For three states in our sample—Florida, Georgia, and

Louisiana—this also includes self-reported race and ethnicity data taken from public voter registration records. We constructed our sample of 301,583 from a larger match of 4.75 million Chase customers to Experian records covering December 2015 through November 2016. We then restricted this sample to those customers who meet certain activity criteria in order to ensure a reliable analytical sample. Customers in our sample must have been Chase customers for the entire period of study. They must have also actively used their Chase accounts;

we consider an account in active use if it has at least five transactions in every month of our sample period and at least \$12,000 in deposits over the course of the sample period. This gave us a base sample of 1.8 million customers. From these, we selected all individuals who either (a) have an open student loan in the Experian records or (b) make payments out of their Chase account to a student loan servicer, leaving us with our final sample of 301,583 customers involved in student debt repayment.



Introduction

Student debt allows more people to attend college with the prospects of achieving higher income levels, but many policymakers and student advocates argue that the burden of the debt—totaling over \$1.5 trillion—presents a looming crisis (Looney and Yannelis 2015). With the cost of higher education rising far faster than inflation, an increasing number of students and their families use student loan debt to finance their education. For many, this is a sound investment paid off through higher earnings over time. For others, however, unpaid student loans become a lifelong burden with minimal returns. What impact does student debt have on the financial lives of borrowers and their families?

In this report, we develop a new data asset that links credit bureau records with administrative banking data from Chase checking accounts in 2016. Together, these two data sources provide information on outstanding student debt, total monthly payments made against the debt, income, and household demographics for 1.8 million families.² Using this dataset, we answer four key questions.

First, **what is the payment-to-income burden of student loan debt?** In our recent report, we noted that one in four families spend more than 11 percent of their take-home income on student loans in months with positive payments (Farrell et al. 2019). Here we take this analysis one step further, measuring burden by not only using payments made out of the loanholder’s checking account, but also in terms of the payments they were

officially scheduled to make on their loan. Measuring the distribution of actual and scheduled payment burden is especially important in light of the income-driven repayment programs, and additional measures taken in the COVID-19 crisis, which attempt to align student loan repayment obligations with borrowers’ ability to pay.



Understanding how families share the burden of student debt is important for the design of both loan origination and repayment programs.

Second, **who shoulders the burden of student loan debt during repayment?** With a growing share of federal student lending for undergraduates now composed of Parent PLUS loans, student loan debt is increasingly shouldered by both the recipients of higher education and their family members (Baum et al. 2019). In this report, we are able to distinguish between payers who are legally tied to the student loan debt versus those who are making payments on another person’s behalf. This allows us to shed light on the extent to which student loan repayment is unofficially a “family affair.” Understanding how families share the burden of student debt is important for the design of both loan origination and repayment programs insofar as policies to

ameliorate student debt burden ought to consider not only the borrower but also the network of people the borrower relies upon, who notably may not benefit financially from the human capital investment.

Third, **who is making progress on repaying their student loan debt?**

An important metric of success for student loan debt is the ability of the debtor to pay off their loan over time. Evidence suggests, however, that a number of borrowers are stuck in a “debt trap,” with student loan balances increasing rather than decreasing over time even as they attempt to pay them down (Gibbs 2017). What share of borrowers are in this situation? How much time does the typical borrower take to repay their loan?

Finally, **are there racial disparities in student loan debt and repayment patterns?**

Survey evidence suggests that there are large racial disparities in student loan borrowing and repayment, showing that Black individuals are more likely to take on student loan debt and experience more difficult conditions for repayment.³ We contribute to this literature by assembling an administrative data set that pairs banking data with voter registration data in order to expose disparities in payment burdens, progress, and help received in repaying student loan debt across White, Black, and Hispanic families.

While the economics literature has documented the impact of student debt on many variables, from college completion to home ownership, we lack a comprehensive understanding

of how it influences families' financial outcomes.⁴ Our data allow us to expand the existing literature in several key ways: first, we describe the burden it places on the collective household income statement. If parents and spouses pay a significant portion of monthly payments, then the economic impacts (on saving, spending, income, etc.) of student debt may be broader than previously thought and have strong policy implications (Lochner et al. 2018).

Our analysis also speaks to the existing literature focused on student loan repayment (as opposed to origination), and the impact of debt on finances post-education (Goodman et al. 2019; Bleemer et al. 2017). We complement existing work on loan progress and payoff (Gibbs 2017; Conkling and Tremper 2018) by adding cuts on age, income, and race. We provide a unique perspective on monthly payment burdens since we can account for unofficial "help" received and take-home income, as opposed to official measures of scheduled payments and taxable income (Looney and Yannelis 2015). Payment-to-income ratios are an important input into income-driven repayment formulas (Herbst 2019), and an accessible means of understanding how burdened the student debtor population is.

Our findings are as follows. First, although the median student loan borrower manages to make their scheduled payment of \$2,071 or 3.8 percent of their take-home income annually, payment burdens vary widely, with low-income and younger student loan borrowers most burdened by student loan payments. Second, almost 40 percent of individuals involved in student loan repayment are helping someone else pay off their student loan debt, with most helpers holding no student loan debt themselves.

These helpers are typically older and have higher incomes. Third, low-income and older borrowers are more likely to be behind on payments or in deferral, and 7.1 percent of borrowers in a given year saw an increase in their balance, putting them on track to never repay their loans. Finally, we observe large racial gaps in student loan repayment. Compared to White and Hispanic student loan borrowers, Black borrowers are less likely to be making progress on their loans.

In summary, this report finds that student debt holders are not a monolithic group. Many borrowers are not unreasonably burdened by student loan payments and are making payments on time. But certain segments of the student loan population are more substantially burdened by their debt, especially low-income borrowers, the elderly, and Black borrowers. Moreover, we find that a significant portion of student debt payments are made not by the loan holder, but by parents and spouses, who do not directly reap the labor market returns to higher human capital investment. This means that the economic impacts of student debt likely affect a broader portion of the population than previously thought.

What should be done to address the disparate patterns we find in student loan repayment? It goes without saying that curbing the rise in tuition costs and student loan debt borne by students and their families would address the problem at its root. In addition, reducing racial gaps in income and wealth would boost families' ability to pay for tuition and repay student loan debt among segments of the population most burdened by student loan debt.

Setting aside these structural issues that contribute to the patterns of

student loan repayment that we observe, we explore a few possibilities for how targeted debt assistance programs could be expanded to alleviate the burden of existing student loan borrowers. As a general principle, because the majority of borrowers are managing their debt without being excessively burdened, efforts to alleviate undue burdens from student loan debt should be targeted at those who are dealing with genuinely challenging circumstances in repayment. This is true for payment assistance efforts like income-driven repayment (IDR) programs as well as more aggressive actions like debt forgiveness. A relatively easy first step in expanding targeted assistance would be to help additional borrowers benefit from improved access to existing payment assistance programs, such as IDR. Student loan debt policies and assistance programs should also take into consideration the extent to which students rely on a network of people to repay their student loans. Loan origination programs might want to rebalance eligibility of loans between students and parents. Additionally, there could be more avenues for payment assistance for parents. A possible complement to repayment relief programs is to allow for restructuring or forgiveness of student debt through a bankruptcy-like process. A further step to address undue payment burdens would be to expand efforts to provide targeted debt forgiveness to those most burdened. Targeted student loan debt forgiveness could be a means of rebalancing our investments in public goods such as education across communities and insuring against the risk that those investments fail to pay off for certain communities, Black and Hispanic borrowers disproportionately.

About the Data

Our sample is drawn from a de-identified universe of 1.8 million families for whom we observe Experian credit bureau data for December 2015 through November 2016, as well as administrative checking account data, which allow us to observe income, student loan payments, and key attributes of the student loan tradeline and the account holder. We focus on a subset of these customers who have at least five checking account transactions and \$12,000 in deposit inflows during our twelve-month window in order to select customers for whom we are confident their Chase account is their primary checking account. Specifically, we observe roughly 220,000 primary account holders who have a student loan tradeline and an additional 80,000 primary account holders who do not have a student loan tradeline but who we observe making student loan payments. For each of these

individuals, we observe their age and take-home income (based on their checking account inflows). Our main sample differs from the nation in some important aspects. First, by construction, our sample excludes individuals who are unbanked, roughly 6.5 percent of the nation (FDIC 2018), and those who do not have a credit bureau record, roughly 11 percent of the adult population (Brevoort, Grimm, and Kambara 2015). These populations likely overlap. Second, our sample differs slightly from national benchmarks of credit bureau record holders and student loan borrowers. As shown in the Appendix, the age distribution of credit bureau holders in the Chase-Experian sample tilts in favor of younger individuals than national benchmarks. On the contrary, our sample of student loan borrowers is slightly older than national benchmarks. This is likely because our

Chase-Experian sample oversampled Chase customers who made at least one student loan payment between October 2012 and December 2013. As a result, it likely oversampled student loan borrowers, who tend to be younger (median age of 39) than the typical credit bureau record holder (median age of 51). However, among student loan borrowers, it likely oversampled older and actively paying borrowers because many borrowers are not required to make payments until six months after leaving school. With a median student loan balance of \$14,452, the Chase-Experian sample of student loan borrowers has slightly less student loan debt compared to national benchmarks. Although the median student loan borrower has two trade lines, 16 percent of student loan holders have five or more trade lines (see Table A1 in Appendix). These borrowers also tend to have higher balances.

Table 1: The sample draws from a universe of 1.8 million families for whom we observe Chase checking account and Experian credit bureau records

	Sample of student loan holders	Full Chase-Experian sample
Number of people	220,710	1,843,857
Median number of student loans	2	0
Median age	39	51
Median income	\$56,083	\$47,541
Share female	45.5%	40.1%
Share with mortgage	61.6%	67.2%
Median liquid assets	\$3,621	\$3,930
Median student loan balance	\$14,452	\$0
Median installment loan balance	\$107,357	\$194,937
Share of sample with deferred student loans	8.5%	1.4%
Share with reported student loan payment of zero	3.1%	0

Source: JPMorgan Chase Institute

For the purposes of our analyses, we leverage the Chase-Experian sample to observe three different payment metrics:

- **Scheduled payments** are based on Experian data and reflect the minimum monthly required payments for the student loan tradeline to stay current. These payments represent the promised and expected obligation of the borrower as reported by the loan servicers to Experian.
- **Reported payments** are based on Experian data and indicate the total payments received by the loan servicer and reported to Experian. These payments represent the total amount re-paid by the borrower or anyone else during the month.
- **Observed payments** are based on Chase checking account data and reflect the total student loan payments from the borrower's Chase checking account toward any student loan trade line. Notably, we are only able to categorize student loan payments as such if they are made electronically. Student loan

payments made via paper check or money order are unable to be categorized as such. Additionally, we are unable to link electronic student loan payments out of the checking account to individual trade lines. Thus, these payments are not necessarily being made toward the borrower's own student loan debt balance; that is, the borrower may be making payments towards someone else's loan.

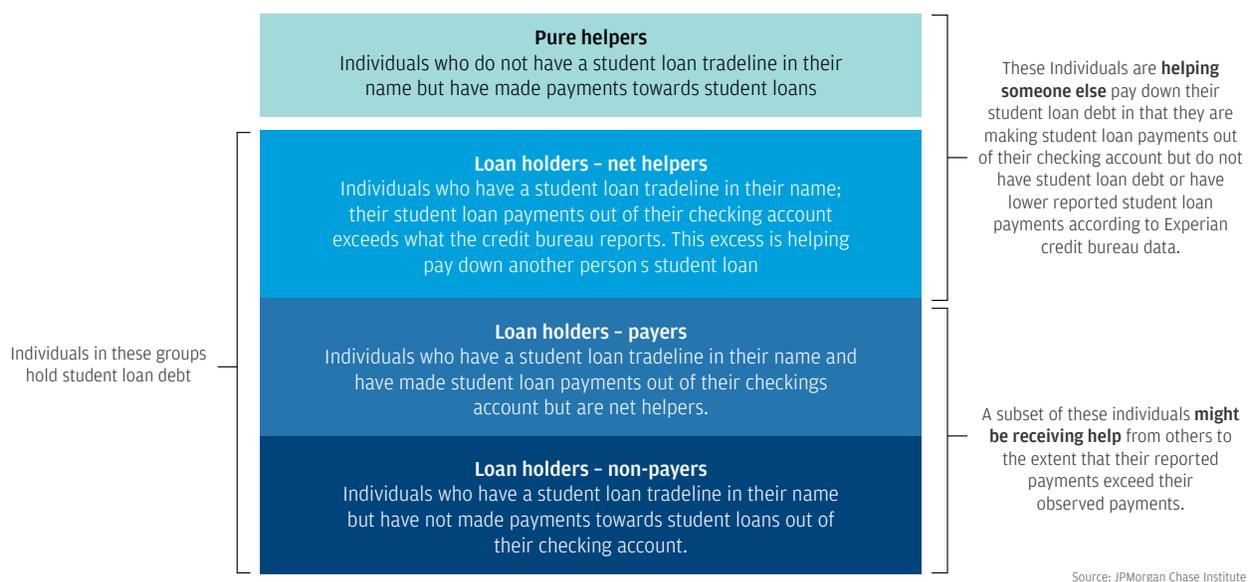
We are able to combine these payment metrics with additional bank and Experian data to examine five key student loan borrowing outcomes.

- **Payment burden (payment divided by income):** We define payment burden as the payment amount divided by take-home income; e.g., scheduled burden is the borrower's scheduled payment divided by their income. To account for seasonal fluctuations in income such as tax rebates and year-end bonuses, we consider the sum of payments and income during the last twelve months of our

sample: December 2015 through November 2016. We explore payment burden in Finding 1.

- **Payment help given and received (Reported payment minus Observed payment):** The relationship between reported payments and observed payments can indicate help given and received (Figure 1). When observed payments exceed reported payments, we call these account holders "net helpers." In addition, we can observe "pure helpers" who have no student loan tradeline (and thus mechanically no reported payment) but nonetheless are making student loan payments. In Finding 2, we calculate the share of individuals involved in student loan repayment who are extending help to another person and quantify the amount of help given and received by age and income. Specifically, we characterize people as having given (received) help when the reported payment is at least one month's payment more (less) than the observed payment.⁶

Figure 1: Individuals involved in student loan repayment can be paying down their own debt or helping someone else repay their student loan debt



When reported payments exceed observed payments, this disparity can have two interpretations. First, it can indicate that another method of payment is being used to pay down the loan besides electronic withdrawals from the borrower’s Chase checking account. The borrower is making student loan payments via paper checks or money orders, which we are unable to categorize as such, or via payments out of a non-Chase account. The second possibility is that the borrower is receiving help. Someone besides the borrower—such as a parent, a spouse, or a child—is making payments directly to the loan servicer on the borrower’s behalf. We explore help received and given by borrowers in Finding 2 by calculating the difference between reported and observed payments for each borrower. It is worth noting that since we do not observe the identity of who makes payments on any given tradeline, we cannot make conclusions, except in the aggregate, about who is providing help to whom.

- **Payment shortfall and prepayment:** We calculate payment shortfall as scheduled payments minus reported payments, divided by the average of scheduled payments for the year.⁷ The numerator is simply the difference in dollars between what a borrower should have paid and what they actually paid. By dividing this difference by average scheduled payment, we change the unit of measure from dollars to months’ worth of payments. Positive values represent how many months behind the borrower is, and negative

values denote pre-payment by the borrower or payments in excess of the minimum required.

- **Deferment or forbearance:** Deferment and forbearance can allow borrowers to temporarily stop making payments on their loan for up to three years under a variety of circumstances, including returning to school, medical circumstances, and economic hardships.⁸ During this time, loan balances may increase if borrowers do not make interest payments. Here we include any borrower in the “deferred” group if any of their tradelines are flagged by Experian as being deferred or in forbearance. For simplicity, and because less than 1 percent of these people are in forbearance alone without deferral, we will exclusively refer to them as in “deferral.”
- **Projected time to payoff:** We project the time to payoff for both borrowers in active repayment and those in deferral. To do this, we impute the interest rate for each tradeline in our data using month-to-month changes in balances together with reported payments. For example, if a tradeline’s balance in January was \$1,000, the borrower’s reported payment was \$100, and the balance in February was \$910, we assume the interest charge for January was \$10. Next, we average the interest rate across the borrower’s tradelines, weighting by the current balance. We then take the average reported payments made in our sample year and suppose the borrower makes payments at the

same rate going forward. Finally, we calculate how many years it will take for the borrower to zero out the balance on all their student loans, holding income constant.

In Finding 3 we measure progress on student loan repayment in three ways. First, we look at each borrower’s payment shortfall, or how much of their scheduled payments they did not end up fulfilling. Second, we calculate how many borrowers are in deferral. And third, we calculate how long a borrower will take to completely pay off their student debt given current payment levels.⁹

In Finding 4, we compare these student loan borrowing outcomes among Black, Hispanic, and White account holders for a subsample of roughly 110,000 primary account holders in the Chase-Experian sample for whom we observe self-reported race. Of these, 12,154 have a student loan tradeline. We take this self-reported race information from the data asset described in Farrell et al. (2020), where we observe self-reported race for Chase account holders obtained through voter registration records in Florida, Georgia, and Louisiana from 2018. Because voter registration forms do not separately ask about race and ethnicity, we are unable to separately analyze race and Hispanicity (e.g. we cannot distinguish Hispanic individuals who identify as White from Hispanic individuals who identify as Black). For this reason, we use the word “race” as a shorthand to describe responses to the question on the voter registration form, acknowledging that many people consider Hispanic identity an ethnic category and not a racial group.

Finding One

Although the median student loan borrower is obligated to pay 3.8 percent of their take-home income, many borrowers, especially lower-income and younger borrowers, face burdens well over 10 percent.

The left panel of Figure 2 shows the 10th, 25th, 50th, 75th and 90th percentiles of scheduled, reported, and observed payment amounts for all student debt holders in our sample over the twelve-month period. The distribution of median scheduled and reported payments are similar, with a median of about \$2,070 and a 75th percentile of \$3,684. Reported payments tend to skew slightly higher, with a median of \$2,146 and a 75th percentile

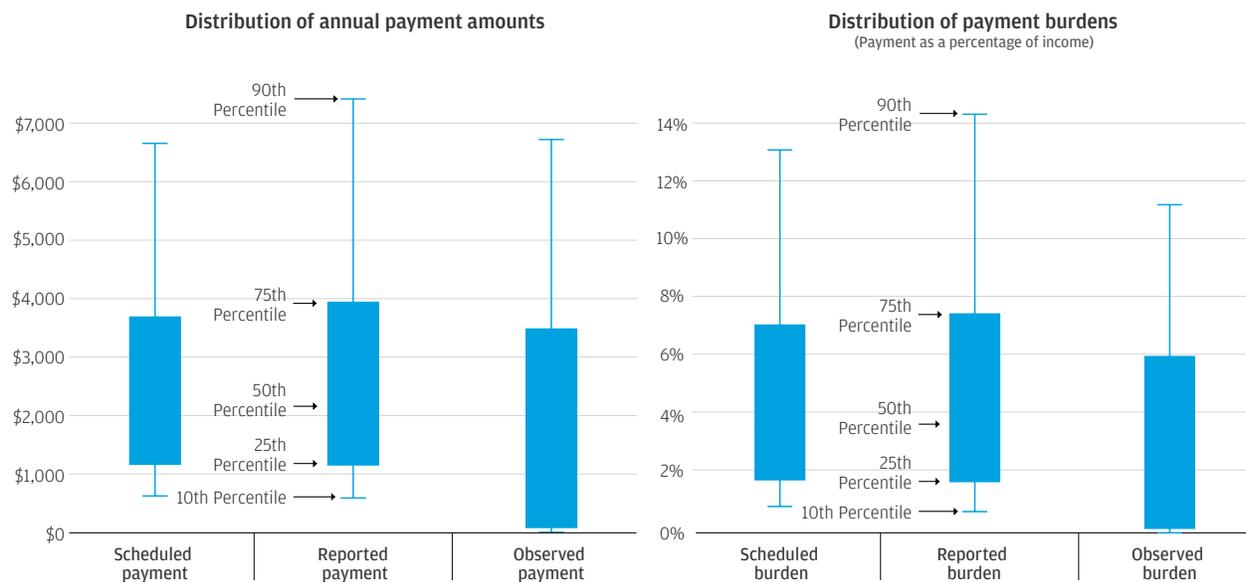
of \$3,936. The fact that, in aggregate, reported payments skew slightly higher than scheduled payments suggests that the typical borrower is making payments on track or ahead of schedule. We further examine progress on loans on a per person basis in Finding 3.

Observed payments skew lower than both scheduled and reported payments, with a median of only \$1,594. This gap could signify that borrowers are either making additional payments that we do not observe via paper checks or non-Chase accounts or receiving payment help on their loans from others.

We explore this further in Finding 2. The right panel of Figure 2 shows the distributions of payment burdens

(borrower's annual payment divided by borrower's annual income). Scheduled and reported burden are similar, as in the left panel of Figure 2, with median payment burdens of 3.8 and 3.9 percent of take-home income, respectively. The 75th percentile of scheduled burden is 7.3 percent, implying that a quarter of borrowers are obligated to pay at least 7.3 percent of their take-home pay, while 10 percent of the sample is obligated to pay at least 13.3 percent (the 90th percentile) of their take-home pay. Similar to the left panel of Figure 2, observed burden is markedly lower than scheduled or reported burden, with a median of only 2.7 percent.

Figure 2: Distributions of annual payment level and burden by payment type



Note: Scheduled payment is the sum of required minimum monthly payments for the twelve-month sample period November 2015 through December 2016. Reported payment is the sum of all payments made against the borrower's student loans during the sample period. Observed payment is the sum of all payments made out of the borrower's Chase accounts during the sample period. Income refers to take-home income.

Source: JPMorgan Chase Institute

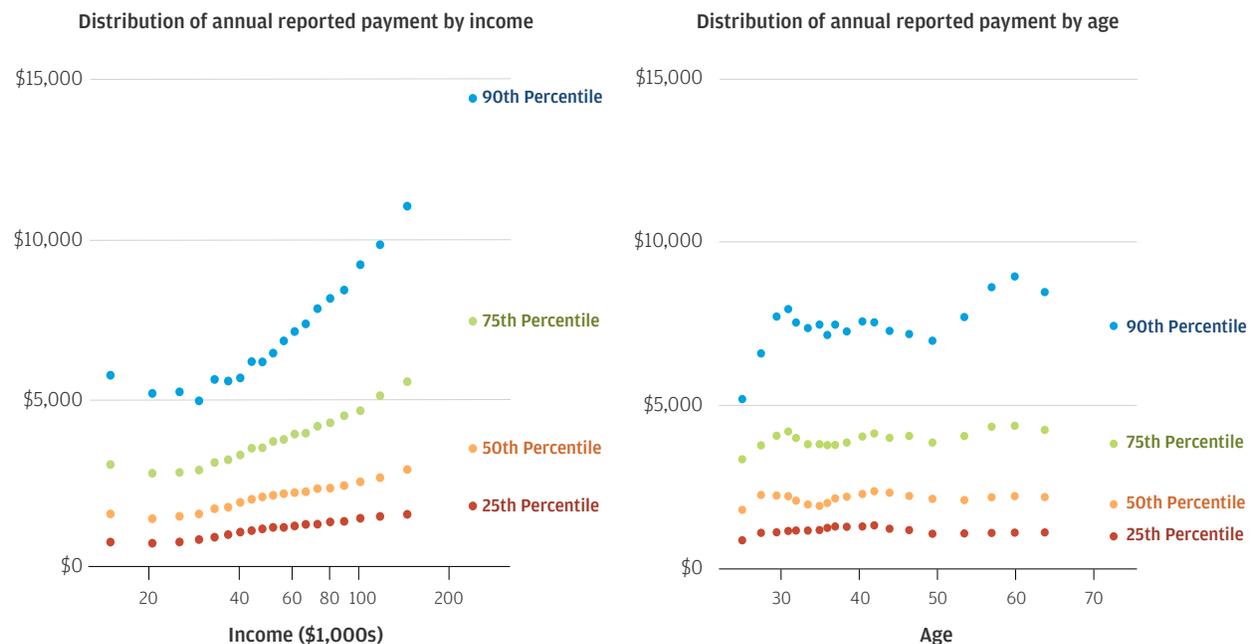
Next we examine how annual payment levels and burden vary by age and income. These borrower attributes are of great interest and often not present in other administrative datasets. Age speaks to the extent to which borrowers are experiencing the strain of student loan debt repayment over the life cycle and potentially on behalf of others rather than their own education. Income allows us to see whether debt loads are higher among people with higher earning power. It is ambiguous whether we might expect to see higher or lower levels of payment levels by income. On the one

hand, as shown by Looney and Yannelis (2015), higher income borrowers tend to have higher debt balances. On the other hand, higher income borrowers may be better able to pay off their student loan debt completely, and income-driven repayment programs aim to reduce the payment burden among low-income borrowers.

Figure 3 plots the 25th, 50th, 75th, and 90th percentiles of reported payments by income and age. We focus on reported payments in order to capture payments made, but the relationship between payments and income looks

similar when we focus on scheduled or observed payments. Most notably, the median payment amount is relatively constant across income groups. The median borrower making \$30,000 pays \$1,605 toward student loans, while the median borrower making \$117,000 pays \$2,700, a difference of only \$91.25 per month. However, extremely large payments, captured in the 90th percentiles, are far more likely for high-income borrowers, with those making at least \$30,000 per year paying \$5,038 and those making \$130,000 paying \$9,760.

Figure 3: Payment levels by income and age



Note: Percentiles are calculated within twenty income and age quantiles, respectively. Each bin is represented along the x-axis by its average value. Reported payment is the sum of all payments made against the borrower's student loans during the twelve-month sample period November 2015 through December 2016. Income refers to take-home income.

Source: JPMorgan Chase Institute

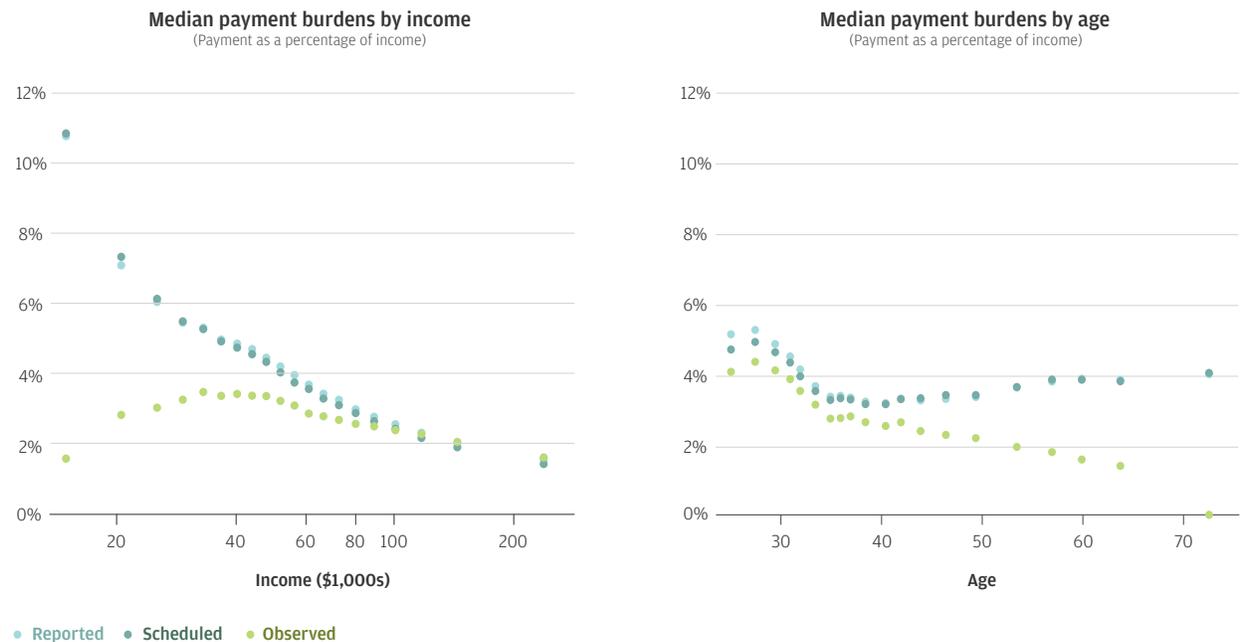
In Figure 4, we explore how payment burdens vary by age and income.¹⁰ Median burdens are highest among people in their 20s (that is, when most people have just graduated from college and enter the labor force) and lowest for people in their late 30s. Starting with 40-year-olds, the median scheduled and reported burdens steadily increase with age. Observed burden is again systematically lower than scheduled and reported burdens. Most noteworthy, however, is that observed burden steadily decreases with age, while

reported burden increases. Again, this gap could signify that older borrowers pay primarily with paper checks or non-Chase accounts, or it could signify that order borrowers receive a large amount of help on their loans. We explore this further in Finding 2.

The left panel of Figure 4 shows that scheduled, reported, and observed payment burdens are strongly negatively correlated with income. This is not surprising in light of the fact that Figure 3 shows little variation in reported payment values by income.

The median scheduled burden for the lowest income group (around \$16,000 annual take-home income) is 11.5 percent and for the highest income group (\$250,000 annual take-home income) is 1.5 percent. Observed burdens are also negatively correlated with income, but observed burden is significantly lower than other burden metrics for low-income borrowers. Again, this could be due to unobserved payments or help received from others. Next we turn to examine the extent of help being received and given in student loan repayment.

Figure 4: Median payment burden by income and age



Note: Percentiles are calculated within twenty income and age quantiles, respectively. Each bin is represented along the x-axis by its average value. Scheduled payment is the sum of required minimum monthly payments for the twelve-month sample period November 2015 through December 2016. Reported payment is the sum of all payments made against the borrower's student loans during the sample period. Observed payment is the sum of all payments made out of the borrower's Chase accounts during the sample period. Income refers to take-home income.

Source: JPMorgan Chase Institute

Finding Two

Almost 40 percent of individuals involved in student loan repayment are helping someone else pay off their student loan debt, with most helpers holding no student loan debt themselves.

Figures 2 and 3 above show that, in aggregate, the distribution of observed payments skews lower than the distribution of reported payments. This suggests that more money is being received by student loan servicers than we observed leaving borrowers' checking accounts. This additional money could be coming from relatives or friends of the borrower in the form of financial help. We explore this possibility in two ways. First, we look for these potential "helpers" in our data; specifically, we look for "pure helpers"—people who make payments to student loan servicers but do not have a student loan according to Experian data—and "net helpers"—people who are making larger student loan payments than what is received on their own tradeline. In order to be classified as a net helper, a borrower must make at least one month's worth of their own payments to someone else's tradeline. Second, we examine the magnitude of help by calculating the difference between reported and observed payments for each individual in our data to explore any systematic trends in who is receiving and giving financial help. Table 2 lists summary statistics for everyone in our data involved in student loan repayment either through their

own student loan debt (220,710 people or 12 percent of the Chase-Experian sample) or because they are making payments on someone else's student loan debt (80,873 people or 4 percent of the Chase-Experian sample). It shows that 39 percent of individuals involved in student loan repayment are actually helping someone else repay their loans as either "pure helpers" (27 percent) or "net helpers" (12 percent). Most of those helpers (69 percent) are pure helpers who do not have a student loan tradeline in their own name. The remaining 31 percent of helpers are net helpers—they have a tradeline in their name but their observed payments exceed payments reported to Experian, suggesting they are helping to make payments on another person's tradelines.

Compared to the median student loan holder, helpers of both sorts tend to have higher incomes (over \$70,000 among helpers compared to \$54,000 among all borrowers). Pure helpers tend to be substantially older than the typical student loan holder (47 compared to 39, respectively), suggesting that some of them could be parents making payments on behalf of their adult children. Net helpers tend to be slightly younger (37 years) than the median student loan holder, suggesting that some of these helpers could be spouses.

The degree of this help is substantial. The median size of observed payments by pure helpers (\$1,772) is actually

slightly larger than the observed payments made by student loan holders themselves (\$1,594).¹¹ Notably, student loan borrowers have higher median reported payments (\$2,146) than observed payments (\$1,594). In fact, 42 percent of student loan borrowers have higher reported payments than observed payments, additional evidence that many borrowers are receiving help from others with their obligations.

Table 2 further breaks down the sample of borrowers according to whether they are making payments or not. Fifty-nine percent of our borrowers are "Payers" in that they are making payments less than or roughly equal to their reported payments. Even among this group, 34 percent show larger reported payments than observed payments, potentially indicating some level of payment help received. Finally, the remaining 25 percent of student loan borrowers are "non-payers" in that we observed no student loan payments were made from their Chase accounts during our twelve-month observation window. Non-payers tend to be older and have lower incomes than the rest of student loan holders. However, 88 percent of these borrowers still had payments made against their tradelines by someone. Moreover, the median reported payment for the non-paying group is \$1,783, only \$363 lower than the median student loan payment for all student loan holders, suggesting that the amount of outside help is substantial.

Table 2: Summary statistics for accounts associated with student debt

Description	No student loan tradeline but makes payments	Has student loan tradeline			
	Pure helpers	Net helpers	Paying debtors	Non-paying debtors	All
	Parents or family members making student loan payments on student's behalf	e.g., Debtors, who are also helping make student loan payments on another's behalf	e.g., Paying Students, paying parents on parent-plus loan, excluding net helpers	e.g. Debtors in deferment, grace period, IDR with \$0 payment, or delinquent	Anyone with an open student loan tradeline according to Experian data
Number	80,873	36,495	129,946	54,269	220,710
Share of full Chase-Experian sample	4%	2%	7%	3%	12%
Share of individuals involved in student loan repayment	27%	12%	43%	18%	73%
Share of student loan holders	N/A	17%	59%	25%	100%
Median age	46.9	36.9	37.9	44.9	38.9
Median annual income	75,568	72,919	53,818	44,613	54,083
Median student debt balance	\$0	\$10,812	\$15,522	\$14,370	\$14,451
Median observed payments (annual)	\$1,772	\$4,184	\$2,052	\$0	\$1,594
Median reported payments (annual)	\$0	\$1,854	\$2,375	\$1,783	\$2,146
Share of people with reported student loan payments > observed student loan payments	0%	0%	34%	88%	42%
Share of people with no reported student loan payments	N/A	1%	0%	12%	3%

Source: JPMorgan Chase Institute

In Figure 5, we show the distribution of different repayment roles by age and income band. More than a third of the lowest-income individuals are not making payments on their student loans. In contrast, more than half of the highest-income individuals are pure helpers (40%) or net helpers (17%) towards loans held by other individuals.

By age, we observe among individuals under 35 years old the modal person is actively repaying their loans. In contrast, among the oldest age groups, roles diverge. Those in the 65 plus category are most likely to be either helping with someone else's loan repayment (35 percent are pure helpers) or not making payments on their own loan (33 percent are non-paying debtors). These non-paying debtors could be simply not paying or receiving

repayment help from another person. We explore this possibility below.

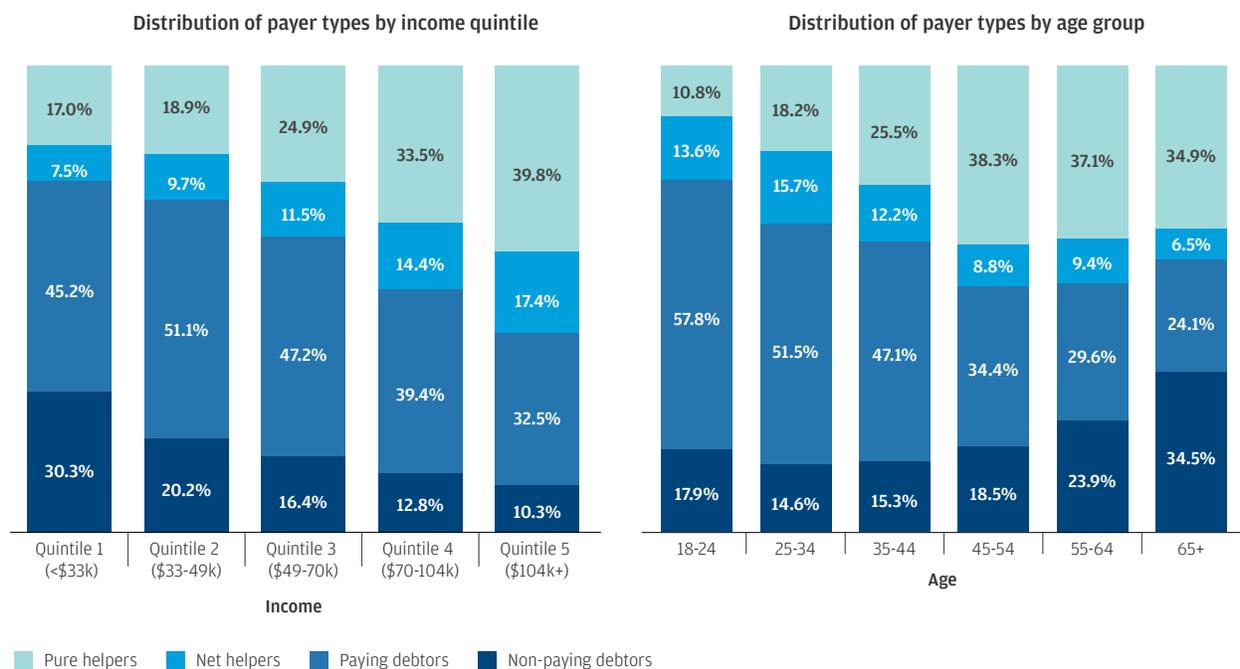
The nature of our data do not allow us to determine whose tradelines the helpers are contributing to, but we can describe the demographics of people who appear to be receiving or giving help, which we do in Figure 6 by comparing person-level calculations of reported payments minus observed payments among student loan borrowers. A positive value indicates the borrower could be receiving help, while negative values indicate borrowers who must be providing help in addition to any payments they make on their own loans.

The left panel of Figure 6 plots help given and received across the income distribution. Perhaps unsurprisingly, lower-income borrowers are more

likely to receive larger amounts of help and are unlikely to extend help. The median and 25th percentile of help is zero or near zero for all income groups below \$81,000, with the exception of the lowest group, whose median person receives approximately \$200 of help. Of borrowers with around \$30,000 of income, 25 percent receive at least \$1,000 of help.

Older individuals are more likely than younger borrowers to both extend and receive help with student loan repayment.

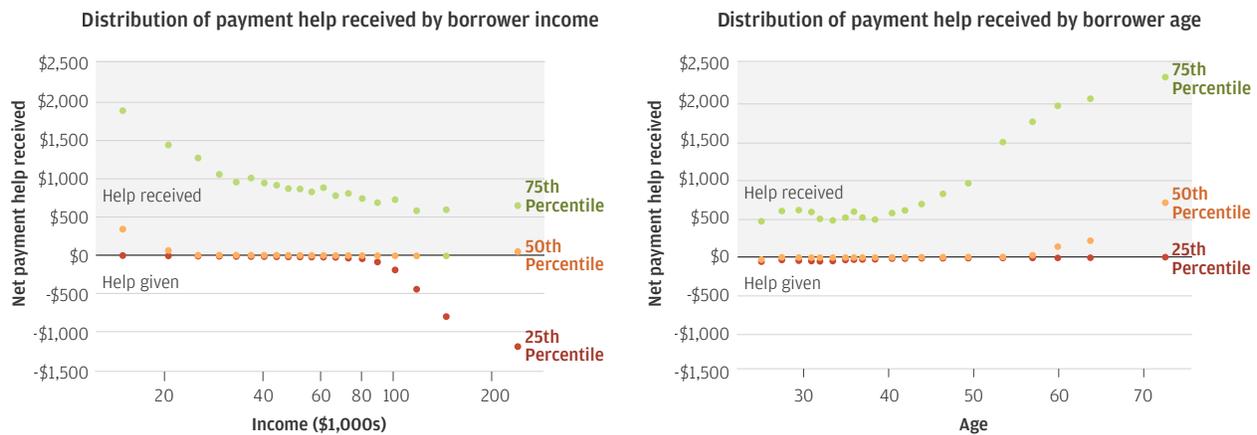
Figure 5: Share of non-debt holding helpers and debt-holding payers by income and age group



Note: A pure helper is a Chase account holder who made payments toward a student loan out of their Chase accounts during the sample period but did not hold a loan themselves. A net helper is a student debt holder whose observed payments exceed their reported payments by at least one month's worth of reported payments; that is, they pay more towards student debt that is credit to their own loans. A paying debtor is a student debt holder who makes student loan payments out of their own account and is not a net helper. A non-paying debtor is a student debt holder who made no student loan payments out of their Chase accounts. Income refers to take-home income.

Source: JPMorgan Chase Institute

Figure 6: Distribution of help given (negative values) and received (positive values) by income and age



Note: Percentiles are calculated within twenty income and age quantiles, respectively. Each bin is represented along the x-axis by its average value. Payment help is the difference between reported and observed payments; that is, the difference between the total paid against a borrower's loans and the total payments made toward student debt from the borrower's Chase accounts. Negative payment help represents help provided by the borrower to other student debt holders. Income refers to take-home income.

Source: JPMorgan Chase Institute

At higher income levels, few borrowers receive any help, and a significant portion of high-income borrowers are net givers of help despite holding loans themselves. The medians and 75th percentiles for income above \$134,000 are all zero, and 25 percent of borrowers paid at least \$594 toward student loans over and above what was credited toward their own debt. This additional help could reflect a high-income borrower paying down student loan debt for a spouse, parent (e.g. a Parent PLUS loan), or child. However, this last possibility is less likely in light of the right panel of Figure 6.

The right panel of Figure 6 plots the distribution of help by age. It shows that older individuals are more likely to receive help. The 25th percentiles and medians are all approximately zero for borrowers below age 60. The 75th percentiles hover around \$500 from the youngest bins through the early 40s, after which the values increase to a maximum of \$2,348 for the oldest borrowers. This matches the increase in median help received for borrowers over 60. The large amount of help going to older

borrowers could be from their child who is helping to pay down Parent PLUS loans that were taken out on for the benefit of the child's education. This scenario is corroborated by the fact that, based on the age of the borrower at loan origination, most loans held by people over 60 appear to be loans taken out for children's education rather than their own education: 75 percent of 60+ borrowers originated their first student loan after the age of 40, and the modal 60+ borrower originated their first loan at age 55.¹² Additionally, we observed a large number of non-payers among student loan borrowers in the 55-64 and 65+ age bins in Figure 5.

One caveat is that it is also possible that help received particularly among older individuals could reflect unobserved payments made out of a non-Chase account or via paper checks.¹³ To check for this, we re-calculate the right panel of Figure 6 restricting to people who made at least one electronic student loan payment between 2013 and 2016. Individuals who have previously setup electronic payments are less likely to use paper checks than the general population.

The results, shown in Appendix Figure A1 are qualitatively similar to Figure 6, with help received increasing markedly for borrowers above age 50.

In summary, we find that a large group of people are assisting student loan borrowers with repayment, the majority of whom do not have a student loan tradeline in their own name. This underscores the extent to which student loan repayment is a "family affair," perhaps more so than previously thought. Moreover, the help appears to involve intergenerational transfers in both directions: we observe younger individuals serving as net helpers by servicing their own debt and the debt of others, many older borrowers who are making no payments on loans in their own name but are receiving help from others, and many older individuals with no loan in their own name nonetheless making student loan payments. While helpers tend to have higher incomes, borrowers receiving help are likely to be lower-income and older. Thus, older individuals are more likely than younger borrowers to both extend and receive help with student loan repayment.

Finding Three

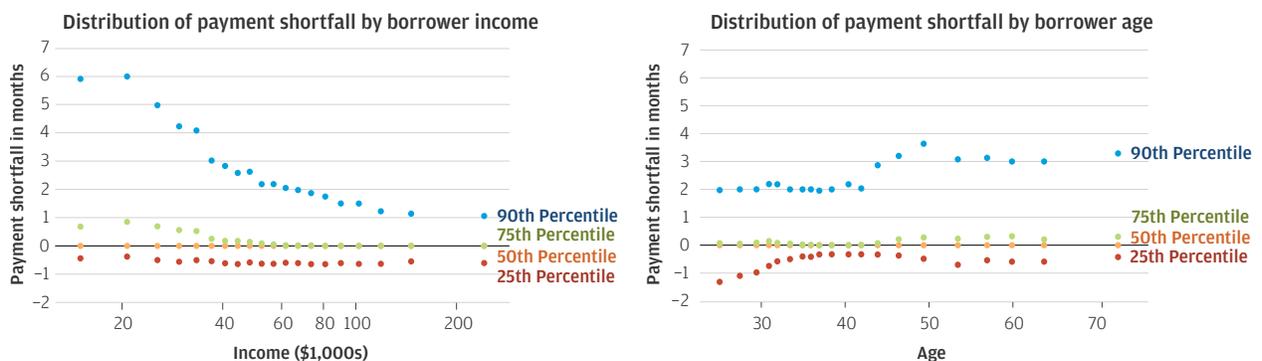
Low-income and older borrowers are more likely to be behind on payments or in deferral, and roughly 7 percent of borrowers are projected not to repay their loans.

Having documented the large degree of financial help given and received in student loan repayment, we next turn to examining the extent to which individuals are making progress on paying down their debt. We measure progress on student loan repayment in three ways. First, we look at each borrower's payment shortfall, or how much their reported payments fall short of their scheduled payments within our sample year. Because reported payments include help received from others, this measure of shortfall takes into consideration all outside help. Second, we calculate how many borrowers are (temporarily) in deferral or forbearance. And third, we calculate how long a borrower will take to completely pay off their student debt given their current payment levels.

The left panel of Figure 7 shows payment shortfall in our sample year by income bin. The vast majority of borrowers are not behind on their payments, but low-income borrowers are more likely to be behind on their payments. Across the income spectrum, the 25th, 50th, and 75th percentiles of borrowers are paying on schedule or are less than one month behind. However, 10 percent of borrowers (the 90th percentile) with incomes less than \$30,000 in take-home income are 4 to 6 months or more behind on their payments in just one year, and 10 percent of middle-income borrowers (between \$30,000 and \$50,000) also have shortfalls of at least two months. These results largely align with conventional wisdom that lower-income borrowers are more likely to have trouble paying. This is especially true considering Figure 3, which shows that scheduled payments are largely constant across income groups.

The right panel of Figure 7 shows payment shortfall by age bin. Again, most groups have little shortfall, as all medians and 75th percentiles are at or near zero. However, grouping by age instead of income reveals that we see many people who are behind in payments, as well as few who are making significant pre-payments. Twenty-five percent of borrowers under 30 years old have a pre-payment (a negative shortfall) of at least one month. At the same time, 10 percent of borrowers under 30 are at least two months behind. Shortfalls at the 90th percentile stay around two months up to age 40, while the 25th percentiles move toward zero. This could be due to selective survival: those who pre-pay their loans in their 20s are done paying by the end of their 30s and thus disappear from our sample of student loan holders. After age 45, shortfalls increase markedly, with the 90th percentiles rising above three months and the 75th percentiles rising as well to about 0.25 months.

Figure 7: Payment shortfall by income and age



Note: Percentiles are calculated within twenty income and age quantiles, respectively. Each bin is represented along the x-axis by its average value. Payment shortfall is the difference between all scheduled and reported payments during the twelve-month sample period December 2015 through November 2016, divided by average monthly scheduled payment. Negative values of shortfall constitute pre-payment. Income refers to take-home income.

Source: JPMorgan Chase Institute

Having documented that the median borrower is making payments on time, it is worth noting that some borrowers within this group—8.5 percent—are still not making substantial progress on repaying their loans because they are in deferral or forbearance and may not be required to make payments towards their loan balance or interest. Figure 8 describes the demographics of borrowers with at least one tradeline in deferral or forbearance during our sample period. The left panel shows that the modal person in deferral is in the lowest income bin (less than \$25,000) and that deferral is strongly negatively correlated with income. The age distribution of deferred borrowers in the right panel is less clear cut. The modal deferred borrower is in the youngest age group (18-24), likely due to more people under 25 still being in school or recently graduated. Deferral rates decline through age 44 but spike again in the 45-54 age group

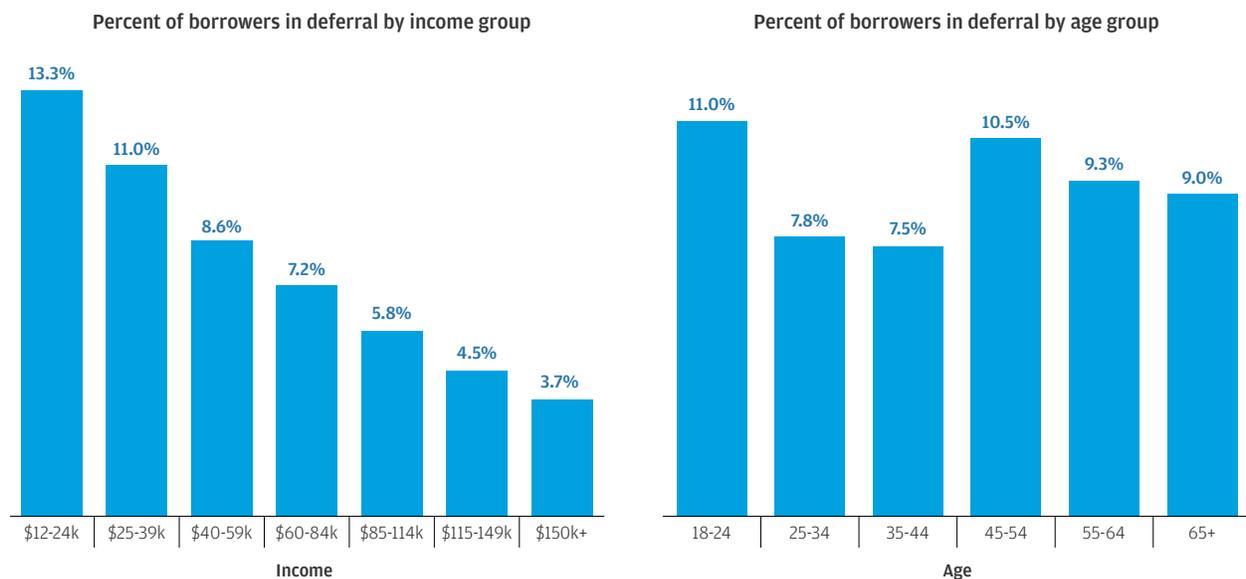
and then again steadily decrease with age. This could be a survival effect—any students still carrying their own student loans past age 45 are likely to have larger balances and lower repayment—but the ultimate causes are unclear.

In a single year, 10 percent of borrowers with incomes less than \$30,000 in take-home income are 4 to 6 months or more behind on their student loan payments.

Beginning with Figure 9, we describe who is making progress on their loans through the lens of projected time to debt pay off. The left panel of Figure 9 shows projected time to pay off for

the non-deferral sample according to both scheduled payments (green) and reported payments (blue). The right panel shows the same for the deferral sample. The majority of borrowers, 60 percent, are split between 1-5 and 6-10 years to pay off. These trends coincide with the fact that the standard pay off term is ten years. About a quarter percent of the sample is projected to pay off in more than ten years.¹⁴ In addition, about 7 percent of the sample projected to never pay off their loan because their average monthly payment is less than the monthly interest charge. In other words, their loans are negatively amortizing insofar as their balances are *increasing* over time. This situation could occur when someone falls behind on their payments, but notably just over 5 percent of borrowers are projected to never pay off their loans even if they make all their *scheduled* payments.¹⁵

Figure 8: Distribution of borrowers with a tradeline in deferral or forbearance



Note: A borrower is flagged as in deferral if any of the borrower's student loans is in deferral or forbearance at any point during the twelve-month sample period December 2015 through November 2016. Income refers to take-home income.

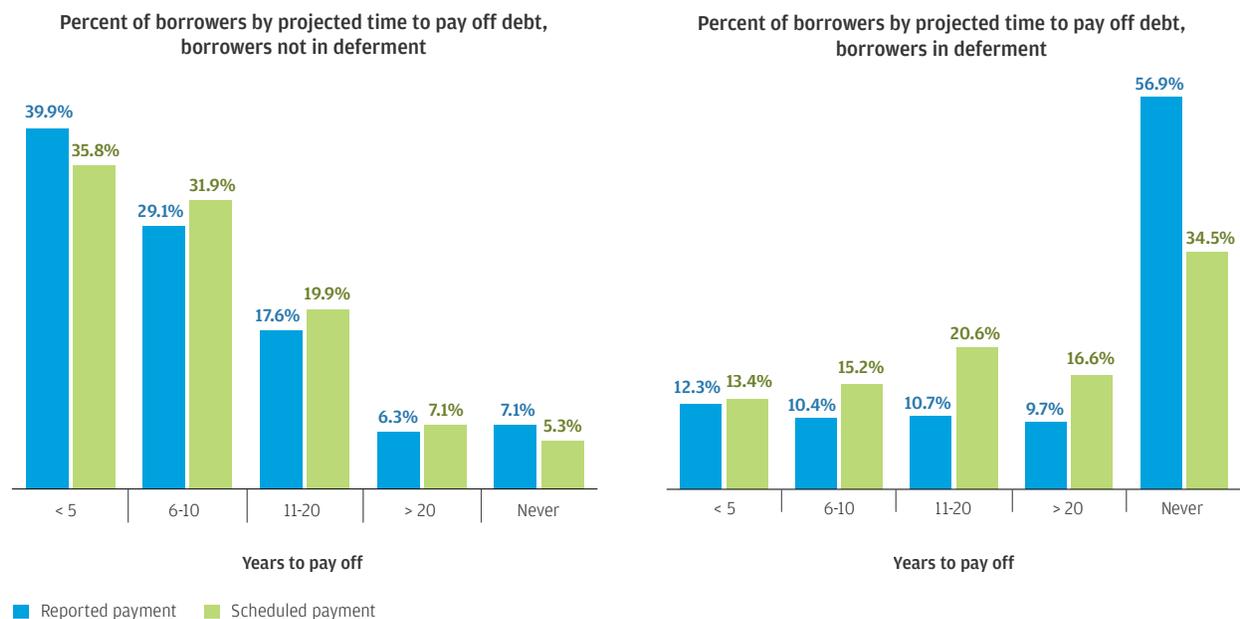
Source: JPMorgan Chase Institute

The right panel of Figure 9 tells a markedly different story for the deferral sample. About 57 percent of the deferral sample is projected to never pay off their loan. This statistic is not surprising, given that the goal of deferral is to temporarily relieve the borrower from making payments during times of economic hardship. However, we can also see that if borrowers followed their scheduled payments, only 34 percent would be a

part of the never-pay-off group. This divergence is likely due to two factors. First, we classify someone as “in deferral” if any of their tradelines are in deferral for any part of our sample year. Some people end their deferral statuses quickly, and moreover, borrowers may only have one of their tradelines flagged as deferred. Second, some deferment programs do not reduce scheduled payments to zero. More generally, the status

of deferment is temporary, both due to legal time limits and unusual economic hardships. Many, if not most, people in deferral during our sample year will not be in deferral the following year. As such, the twelve-month payment stream we observe for them is unlikely to be representative of their long-term payment habits, and our further discussion of projected time to pay off excludes our deferment sample.¹⁶

Figure 9: Projected time to pay off by deferral status



Note: We project a borrower's time to pay off debt by imputing the interest rates on their loans and then calculating how many months it will take to reach a zero balance assuming the borrower continues to make the same payments as in our sample period. A borrower is flagged as in deferral if any of the borrower's student loans is in deferral or forbearance at any point during the twelve-month sample period December 2015 through November 2016. Borrowers projected to never pay off debt have increasing balances over the twelve-month observation period; that is, interest charges over the course of the year are larger than total payments made.

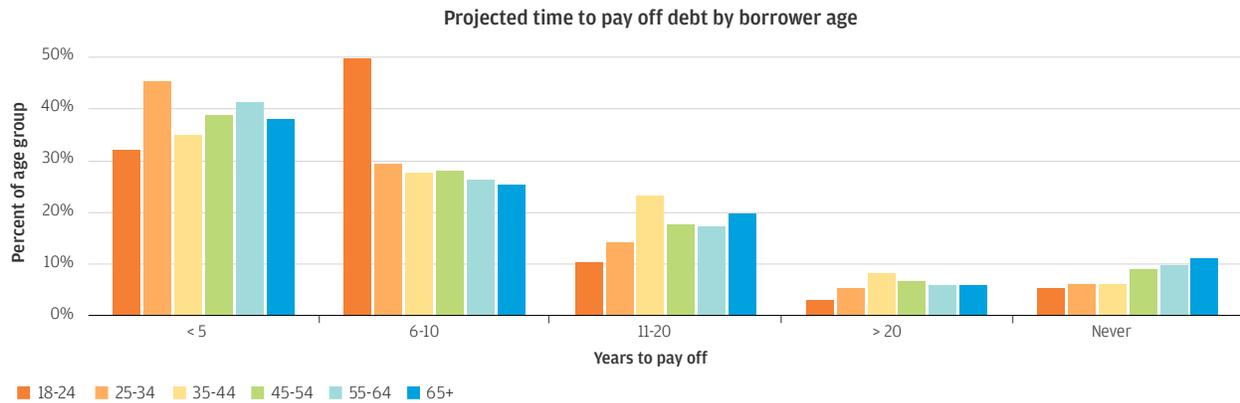
Source: JPMorgan Chase Institute

Figures 10 and 11 show the distribution of time to pay off by age and income, respectively, among borrowers who are not in deferral. The modal 18-24-year-old is projected to pay off in 6-10 years, consistent with recent graduates finishing payments early within the standard ten-year repayment term constraint. About 77 percent of this youngest age group is projected to pay off in less than ten years. Similarly, the modal person in the 25-34-year-old

group is projected to pay off in 5 years or less, again consistent with the ten-year repayment period. About 71 percent of this group is projected to pay off in 10 years or less. Older borrowers are also concentrated in the 5-or-less and 6-10 year pay off ranges, but they are also much more likely to have longer projected pay offs, with the effect increasing with age. Most notably, a borrower's odds of

falling in the “never payoff” group is strongly correlated with age; about 11 percent of the 65-and-over group falls here, compared to 5 percent of the youngest group. This trend is particularly noteworthy because most of these borrowers' debts are probably taken out for the benefit of a child; recall that 75 percent of borrowers in our sample who are over 60 originated their first loan after they were 40.

Figure 10: Projected time to pay off by age



Note: The sample is restricted to borrowers not in deferral. We project a borrower's time to pay off debt by imputing the interest rates on their loans and then calculating how many months it will take to reach a zero balance assuming the borrower continues to make the same payments as in our sample period. Borrowers projected to never pay off debt have increasing balances over the twelve-month observation period; that is, interest charges over the course of the year are larger than total payments made.

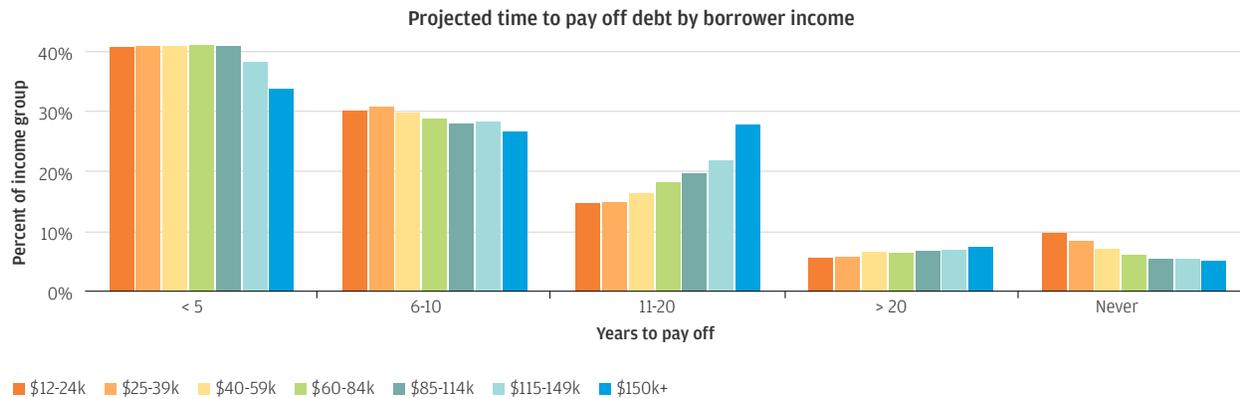
Source: JPMorgan Chase Institute

Figure 11 shows time to pay off by income group. The modal borrower for each income group but the highest (\$150,000 and over) is in the 5 years or less pay off range. The highest income group has slightly more people, about 28 percent, in the 6-10 year pay off range. The likelihood of having 11-20 years is, surprisingly, positively correlated with income. This could be because higher-income borrowers are more likely to have

extremely large balances (e.g., from postgraduate professional training) which have been consolidated to receive a longer term. Less surprising is the strong negative correlation between income and the likelihood of being in the group that will not pay off the loan. Roughly 10 percent of people making less than \$25,000 are projected to not pay off their student loan debt versus just over 5 percent for the highest income group.

To sum up, across all three metrics—payment shortfall, deferral status, and time to payoff—lower-income borrowers are making the least amount of progress in paying off their student loans, and one in ten individuals making less than \$25,000 a year are projected to never pay off their loans. Notably, older borrowers are more likely to face a payment shortfall and be projected not to pay off their student loans.

Figure 11: Projected time to pay off by income



Note: The sample is restricted to borrowers not in deferral. We project a borrower's time to pay off debt by imputing the interest rates on their loans and then calculating how many months it will take to reach a zero balance assuming the borrower continues to make the same payments as in our sample period. Borrowers projected to never pay off debt have increasing balances over the twelve-month observation period; that is, interest charges over the course of the year are larger than total payments made. Income refers to take-home income.

Source: JPMorgan Chase Institute

Finding Four

Compared to White and Hispanic student loan borrowers, Black borrowers are less likely to be making progress on their loans.

We now reconsider our previous analytics—burden of debt, payment help given and received, and payment progress—through the lens of race and ethnicity. Farrell et al. (2020) document systematic differences in the financial outcomes of Black, White, and Hispanic families. In particular, they find that Black and Hispanic families have fewer liquid assets and thus have less cash buffer to weather financial shocks like job loss. These underlying differentials

may result in large differences in student debt outcomes across racial groups, affecting the efficacy of debt-related policy (e.g., income-based repayment) and the overall equity of these policies.

Table 3 gives summary statistics on the sub-sample of our data with race and ethnicity information. Across all customers in the Chase-Experian sample, 53.2 percent of the sample identify as White, 17.3 percent identify as Black, and 19.5 percent identify as Hispanic. When looking only at student loan holders, the share of the sample who is Black increases significantly to 24.3 percent

and the share Hispanic increases marginally to 21 percent. The median income of Black and Hispanic student loan borrowers is approximately \$12,500 or 22 percent lower than the income of White student loan borrowers. Despite (or perhaps due to) their lower incomes, the median Black student borrower is slightly older and has significantly higher student loan balances than median White and Hispanic student loan borrowers. Notably, one in ten Black student loan borrowers had no payments made on their loan in our observation year; the equivalent rate among White borrowers is one in thirty-nine.

Table 3: Summary statistics by race

		Student loan holders	Pure helpers	Full Chase-Experian sample
Number of people	Black	2,949	703	19,005
	Hispanic	2,554	901	21,443
	White	6,651	3,041	69,600
Share of sample	Black	24.3%	15.1%	17.3%
	Hispanic	21.0%	19.4%	19.5%
	White	54.7%	65.5%	63.2%
Median income	Black	\$45,095	\$58,444	\$36,763
	Hispanic	\$44,908	\$60,399	\$37,221
	White	\$57,572	\$78,129	\$50,186
Median age	Black	45	51	55
	Hispanic	41	49	50
	White	42	49	56
Median student loan balance	Black	\$16,607	\$0	\$0
	Hispanic	\$12,017	\$0	\$0
	White	\$14,282	\$0	\$0
Median observed payment	Black	\$859	\$1,039	\$0
	Hispanic	\$1,094	\$1,172	\$0
	White	\$1,611	\$1,688	\$0
Share with reported student loan payment of zero	Black	9.9%	N/A	N/A
	Hispanic	4.5%	N/A	N/A
	White	2.6%	N/A	N/A

Source: JPMorgan Chase Institute

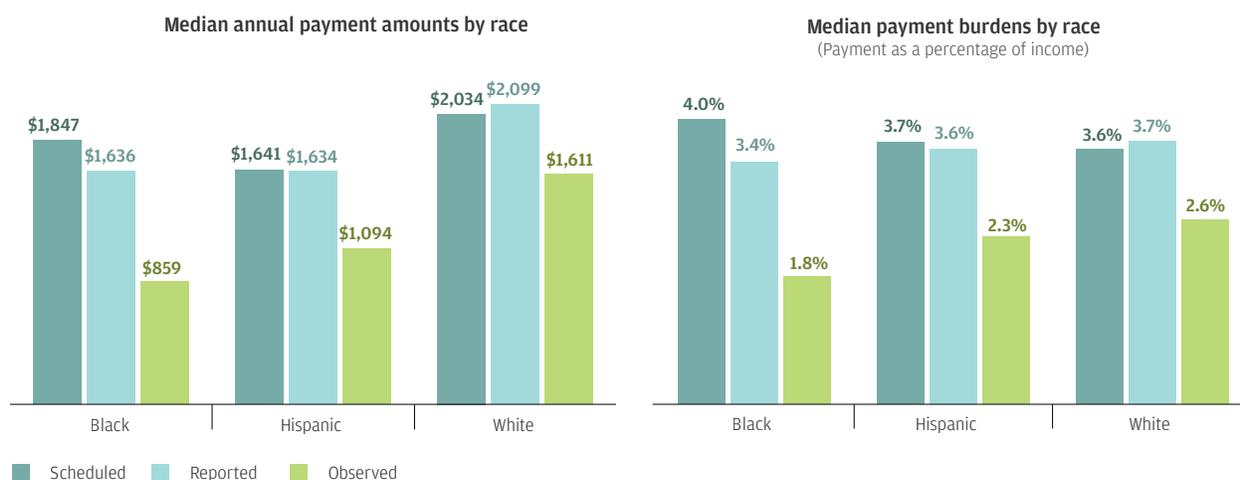
Figure 12 presents annual payment levels and burdens by race and ethnicity. Although Black borrowers have the highest loan balances, the median scheduled payment is highest for White borrowers, just over \$2,000, followed by Black borrowers (\$1,850) and Hispanic borrowers (\$1,650). Notably, the median reported payment among White borrowers is higher than the scheduled payment, suggesting that not only do White borrowers have a more aggressive repayment schedule but, in aggregate, White borrowers are actually prepaying their student loan

debt. In contrast, Hispanic borrowers' median reported payment is roughly on par with their scheduled payment, and Black borrowers' median reported payment is a full \$212 lower than their scheduled payment, implying that in aggregate Black borrowers may be experiencing financial circumstances that inhibit their means to make full scheduled payments. All three groups have observed payments lower than reported payments, with Black borrowers experiencing the largest gap between observed and reported payments. These last two

facts raise the possibility of large differences in payment shortfalls and help received across race groups, which we explore below.

In terms of payment burdens, Black borrowers are faced with the most substantial scheduled burden. Even if Black and White borrowers had similar scheduled payments, the fact that Black borrowers earn 78 cents for every dollar earned by White borrowers (see Table 3) contributes to this disparity in respective payment burdens.

Figure 12: Payment annual levels and burdens by race



Note: Scheduled payment is the sum of required minimum monthly payments for the twelve-month sample period November 2015 through December 2016. Reported payment is the sum of all payments made against the borrower's student loans during the sample period. Observed payment is the sum of all payments made out of the borrower's Chase accounts during the sample period. Income refers to take-home income.

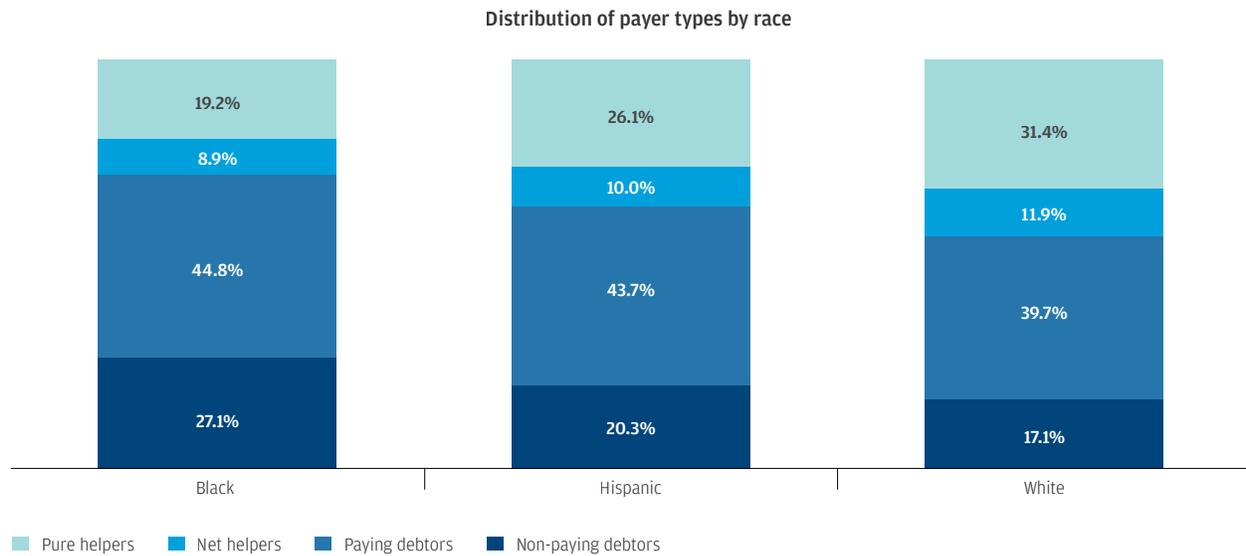
Source: JPMorgan Chase Institute

Figure 13 shows the distribution of payer types (pure helper, net helper, paying debtor, and non-paying debtor) by race. Compared to White and Hispanic individuals involved in student debt repayment, Black individuals are least likely to face the circumstances that enable them to help other people repay their student loans either as pure helpers (19.2 percent) or net helpers (8.9 percent) and they are most likely to have made no

payments during our sample window (27.1 percent). Though we cannot determine who is receiving the help given by pure helpers and net helpers, this finding is consistent with prior research documenting that Black parents are less likely to provide help to their adult children for education than White parents (Nam et al. 2015). The smaller pool of Black helpers may contribute to the conditions that make it more difficult for Black borrowers to

make progress on their loan. Helpers could play a role in allowing borrowers to remain current on their student loans when they experience financial shocks, and past research has found that Black households have both lower income and smaller asset buffers than White and Hispanic households (Farrell et al. 2020). We further explore the relationship between debt repayment and help received below.

Figure 13: Share of helpers and debtors by race



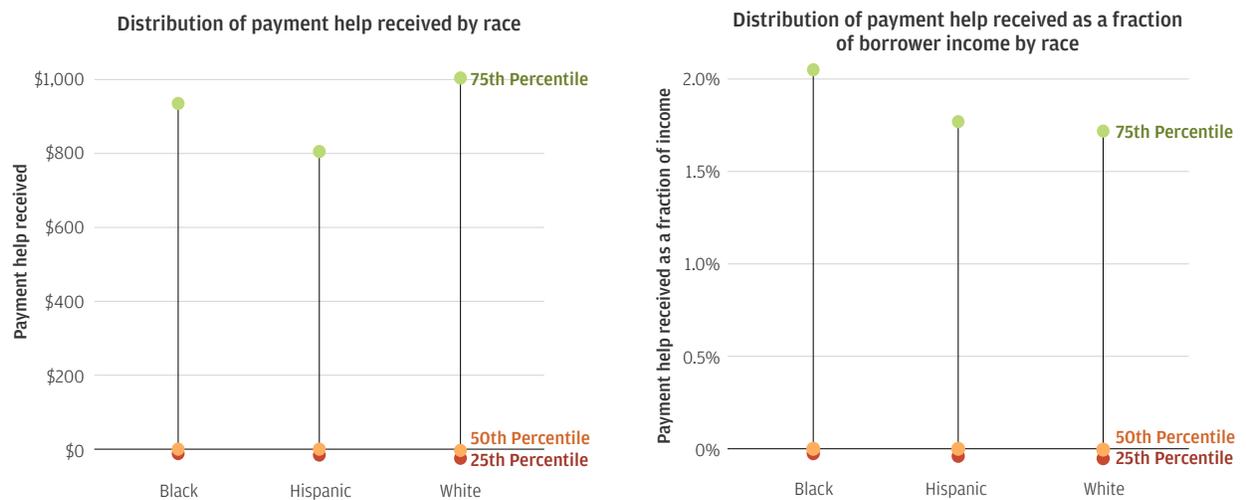
Note: A pure helper is a Chase account holder who made payments toward a student loan out of their Chase accounts during the sample period but did not hold a loan themselves. A net helper is a student debt holder whose observed payments exceed their reported payments by at least one month's worth of reported payments; that is, they pay more towards student debt that is credit to their own loans. A paying debtor is a student debt holder who makes student loan payments out of their own account and is not a net helper. A non-paying debtor is a student debt holder who made no student loan payments out of their Chase accounts.

Source: JPMorgan Chase Institute

Figure 14 shows the distribution of help received for each racial group in both levels and as a fraction of take-home income. The distributions are similar across all three groups, with the 25th and 50th percentiles at or near zero. At the high end of the distribution, White borrowers receive the most help in pure dollar terms (\$1,004), but Black

and Hispanic borrowers are close behind (\$935 and \$805 respectively). However, this help represents a slightly larger fraction of income for Black borrowers (2 percent) than for Hispanic (1.8 percent) and White (1.7 percent) borrowers, given racial gaps in take-home income observed in Table 3.

Figure 14: Payment levels and burdens by race



Note: Payment help is the difference between reported and observed payments; that is, the difference between the total paid against a borrower's loans and the total payments made toward student debt from the borrower's Chase accounts. Negative payment help represents help provided by the borrower to other student debt holders. Income refers to take-home income.

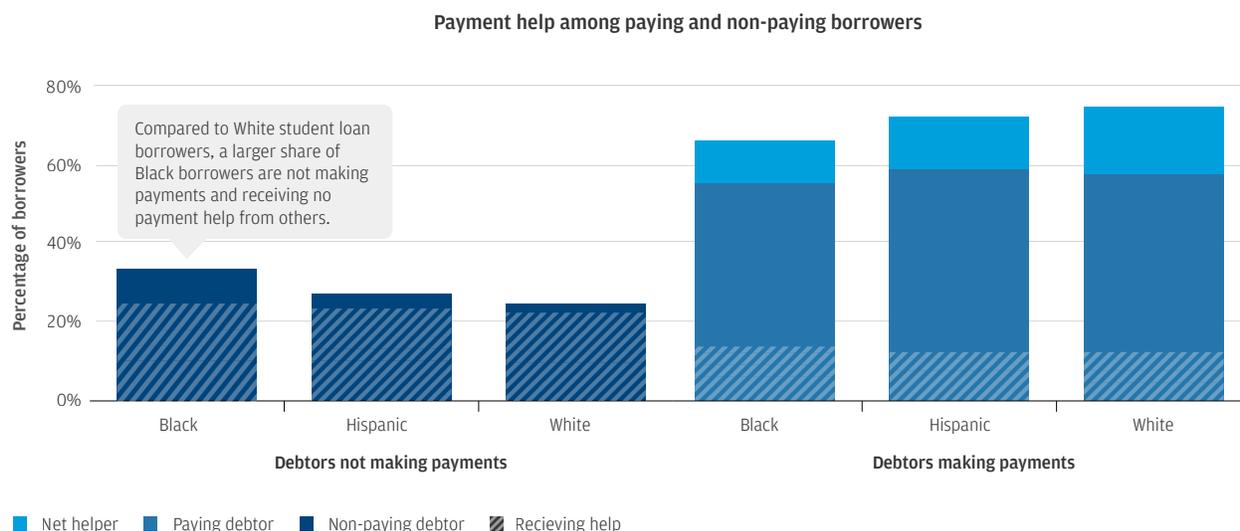
Source: JPMorgan Chase Institute

Figure 13 showed that a smaller fraction of Black individuals involved in student debt repayment provide help on others' loans, but Figure 14 suggests that Black borrowers receive comparable amounts of repayment help. We attempt to reconcile these two sets of facts in Figure 15 by examining how many borrowers in each race group receive help. We also split each group by whether borrowers are themselves making payments, as in Figure 13. For example, the far left bar shows that 33.6 percent of Black borrowers make no payments out of their own accounts, of whom 71.7 percent (comprising 24.1 percent of all Black borrowers) receive help with payments.¹⁸ The key takeaway of Figure 15 is that although similar portions of all three racial groups receive help, regardless of whether they are making payments or not, a much larger portion of Black borrowers are making no payments and receiving no payment help. This

trend is consistent with evidence from Figure 13 that a significantly smaller portion Black individuals involved in student loan repayment tend to be pure or net helpers. Put simply, our findings suggest that systemic conditions make it such that the Black community experiences less help with student loan repayment despite facing comparatively more strain from student loan repayment. This issue is likely a major contributor to the different rates in loan repayment progress across race groups that we find below. We begin to look at loan progress by race in Figure 16, which shows the distribution of payment shortfalls by race. The majority of all three groups have no shortfall, with a few people who may be pre-paying. The 75th percentile shortfall for Hispanic and White borrowers is also zero, while for Black borrowers it is slightly above one month. Extreme shortfalls are significantly more common among Black borrowers, however. While

the 90th percentile for Hispanic and White borrowers is 3.4 months and 2 months respectively, it is 10.4 months for Black borrowers, indicating that at least 10 percent of Black borrowers made less than two months' worth of payments towards their loan during our twelve-month sample window. Prior research has found significant disparities in the financial resources available to Black, Hispanic, and White households (Farrell et al. 2020). Most importantly, Black families have significantly fewer liquid assets—just 32 cents in liquid assets for every dollar held by White families—mechanically creating more vulnerability to financial shocks like job loss. Similarly, the incomes of Black households tend to be systemically lower as well, as seen in our sample of student debt holders as shown in Table 3. Both conditions could help explain the larger shortfalls seen among Black student debt holders, and we explore this possibility in Figure 17.

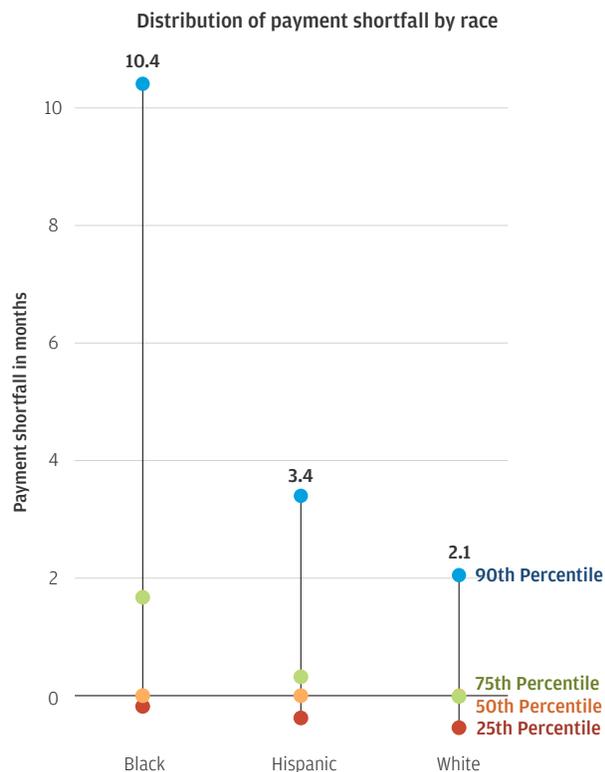
Figure 15: Help coverage among paying and non-paying borrowers



Note: Payment help is the difference between reported and observed payments; that is, the difference between the total paid against a borrower's loans and the total payments made toward student debt from the borrower's Chase accounts. A net helper is a student debt holder whose observed payments exceed their reported payments by at least one month's worth of reported payments; that is, they pay more towards student debt that is credit to their own loans. In this figure, we classify a borrower as "receiving help" if their total help received is at least one twelfth of their observed payments, or one month's worth.

Source: JPMorgan Chase Institute

Figure 16: Payment shortfall by race



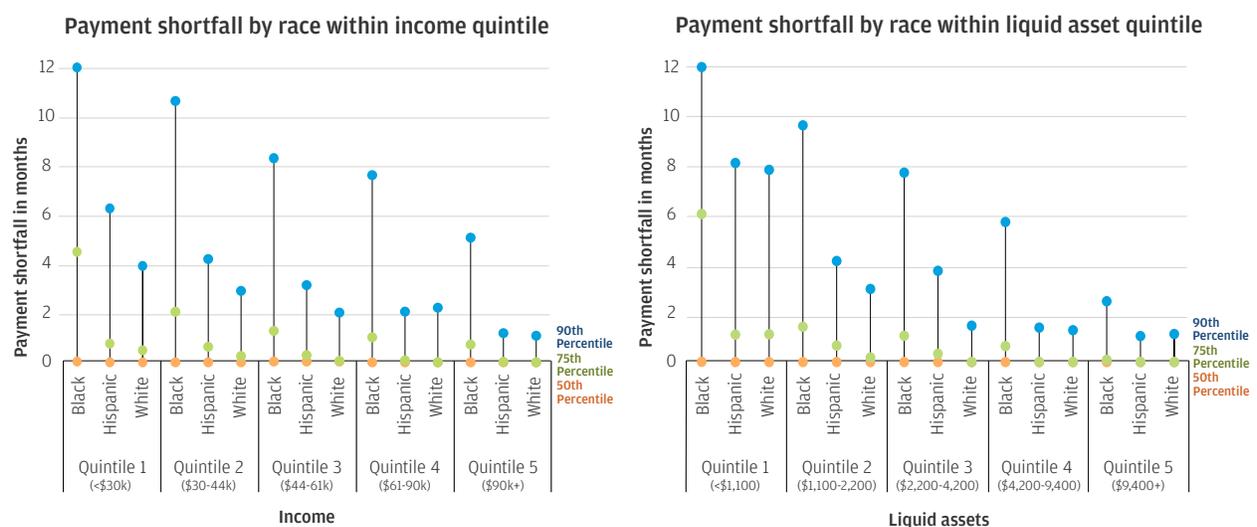
Note: Payment shortfall is the difference between all scheduled and reported payments during the twelve-month sample period December 2015 through November 2016, divided by average monthly scheduled payment. Negative values of shortfall constitute pre-payment.

Source: JPMorgan Chase Institute

Figure 17 shows payment shortfall across race groups within income quintiles and liquid asset quintiles, with Black borrowers on the left, Hispanic borrowers in the middle, and White borrowers on the right. Across all income and liquid asset quintiles, the median debtor in each racial group has no more than one month of shortfall. However, across all income and liquid asset quintiles, Black borrowers experience the largest shortfalls and White borrowers experience the smallest. Black-White differences in payment shortfall shrink when comparing families with similar levels of income or liquid assets, but they do not disappear. Even in the highest income bin, 10 percent of Black borrowers have a shortfall of five months or more, while the equivalent metric for Hispanic and White borrowers is approximately one month. Among families with liquid assets between \$2,200 and \$4,200 (the middle of the liquid asset distribution) 10 percent of Black borrowers had missed eight or more months' worth of payments, while 10 percent of White borrowers had missed just one month.

Figure 18 shows our second metric of payment progress by race: the share of borrowers with at least one tradeline in deferral. Nearly 20 percent of Black borrowers have a tradeline in deferral, at least double the rate of Hispanic borrowers (10 percent) and White borrowers (8 percent). The deferral rate of Black borrowers is also higher than that of any individual age or income group; the lowest income group in Figure 8, less than \$25,000, has a deferral rate of about 13 percent.

Figure 17: Payment shortfall by race, income and liquid assets

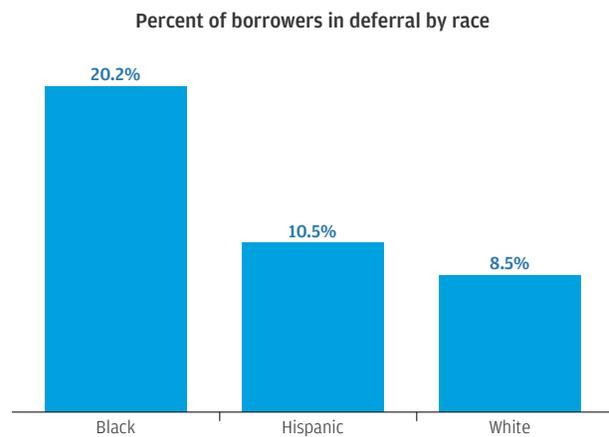


Note: Income and liquid asset quintiles are calculated before splitting the sample by race. Each borrower's liquid assets is the average of monthly balances for the sample period. Income refers to take-home income.

Source: JPMorgan Chase Institute

Figure 19 explores projected time to pay off by race. As above, we exclude borrowers with loans in deferment from these calculations. Similar to the overall population, the modal borrower in each group falls in either the 5-or-less or 6-10 year pay off bin. However, Black borrowers are relatively more likely to fall in all the longer pay off term bins, especially “20+ years” and “Never,” where Black borrowers are twice as likely to appear as White borrowers. Approximately 13 percent of Black borrowers fall in the never-pay-off group, consistent with the evidence in Figure 15 that showed that at least 10 percent made no reported payments in our sample year. As with shortfall, this could be a joint story of differential conditions in income, assets, and limited outside help, and we explore this in Figure 19. However, even when we focus on subsamples of borrowers with similar incomes levels, Black borrowers are more likely to be projected not to pay off their student loan debt. Thus, Black borrowers are significantly more likely to find themselves in a debt trap regardless of income.

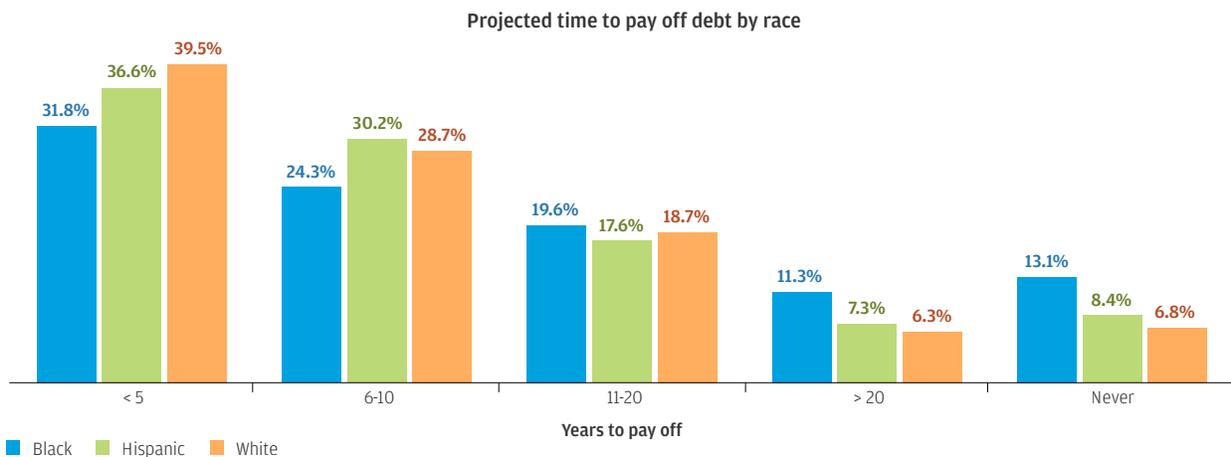
Figure 18: Deferral rates by race



Note: A borrower is flagged as in deferral if any of the borrower's student loans is in deferral or forbearance at any point during the twelve-month sample period December 2015 through November 2016.

Source: JPMorgan Chase Institute

Figure 19: Projected time to pay off by race



Note: We project a borrower's time to pay off debt by imputing the interest rates on their loans and then calculating how many months it will take to reach a zero balance assuming the borrower continues to make the same payments as in our sample period. A borrower is flagged as in deferral if any of the borrower's student loans is in deferral or forbearance at any point during the twelve-month sample period December 2015 through November 2016. Borrowers projected to never pay off debt have increasing balances over the twelve-month sample period; that is, interest charges over the course of the year are larger than total payments made.

Source: JPMorgan Chase Institute

In summary, we find large racial differences in the attributes of student loan borrowers and their payment progress. Among the three groups we examined, Black borrowers have the largest current student loan balances, while experiencing the highest payment to income burdens. They are

also the most likely to have made no payments toward their loans during our sample year. As a result, Black borrowers exhibit the largest payment shortfalls and the greatest likelihood of having a student loan that is actually increasing over time (negatively amortized). These racial disparities

in the outcomes of student loan debt are extensive, and reflect underlying systemic conditions impacting Black borrowers' means of timely repayment, such as income, assets, and access to financial help from others.

Implications

Student debt can open the door to higher education and higher incomes for students who otherwise would not have been able to attend college. At the same time, other dynamics in higher education have arguably made a college diploma a higher-risk investment for some. Tuition costs have risen dramatically, increasing the amount of debt needed to get a diploma, such that the prevalence of student debt has risen dramatically in the United States in recent years. For-profit colleges have grown, often targeting low-income students of color while offering lower financial benefits than traditional institutions (Looney and Yannelis 2015). This combination of high debt and increasingly uncertain financial benefits constitutes a risk that could be financially ruinous for families without the buffer of financial wealth needed to weather bad outcomes. Moreover, the burden of student loans disproportionately impacts Black families, who are more likely to have less financial wealth due to decades of barriers to high-paying jobs and wealth accumulation (Center for Responsible Lending, 2019; Aliprantis and Carroll 2019).

This report finds that, on the one hand, most borrowers are not unreasonably burdened by student loan payments and are making payments on time. At least 75 percent of borrowers in every age, income, and racial group are keeping up with their payments. However, that still leaves a **large number of borrowers who are experiencing difficulty keeping up with their payments, and that segment of the student borrower population is already economically vulnerable:**

low-income households, the elderly, and, in particular, Black borrowers. While the median borrower is current in their payments, at least 10 percent of borrowers making less than \$40,000 or over 45 years old are at least three months behind on payments. Additionally, 10 percent of Black borrowers are at least 10.5 months behind.

Many borrowers keep up with their student loan payments because they receive substantial financial help from someone else not legally tied to the debt, underscoring that student loan repayment is a “family affair.” Help is especially impactful for lower-income and older borrowers. This means that the economic effects of student debt (on saving, spending, income, etc.) may affect a broader portion of the population than previously thought, and the costs of human capital investment may be borne by many more people than those who directly benefit from it. It also means that the current de facto system of family-borne debt likely disadvantages those families who were prevented from accumulating wealth by discriminatory practices and policies. More work is needed to better understand the impacts of student loan debt on borrowers and their families and help manage the financial burden.

Indeed we find that, consistent with other research (Scott-Clayton 2018; Center for Responsible Lending 2019), **significant disparities exist across racial groups in managing student debt.** Given large racial gaps in income and wealth attributable to a myriad of structural forces, it is no surprise that Black individuals are more likely to hold student loan debt and have higher

debt balances than White individuals. Others have documented discriminatory and predatory practices that have contributed to greater student loan balances among Black families (Center for Responsible Lending 2019). Black borrowers appear to experience more challenging circumstances related to student loan debt relative to White borrowers, according to every metric we explored: payment burden, payment help received, payment shortfall, deferral rates, and time to pay off. Roughly 10 percent of Black student loan borrowers had no payments made toward their loans during our twelve-month sample, many of whom are in deferral. Compared to White borrowers, Black borrowers are much more likely to be significantly behind on their repayments and twice as likely to be experiencing an increase in their loan balances. That is, Black borrowers are more likely to face a student debt “trap,” due in part to the fact that they have lower incomes and asset holdings and likely fewer people in their network who may be able to assist with repayment when they need help. Thus, as currently constituted, student loan credit markets threaten to amplify rather than mitigate racial wealth gaps across generations.



Student loan credit markets threaten to amplify rather than mitigate racial wealth gaps across generations.

The economic impacts of COVID-19 are likely to exacerbate the burden of student loan debt, particularly for those already most burdened.

The COVID-19 pandemic could lower the return on student loan investment in several ways. Most importantly, students may face a historically weak labor market after graduating. For those not ready to graduate, their classes may continue in person or online. For colleges returning to in-person classes, the possibility of infection raises the effective cost of attending college, and students that drop out as a result bear any debt they've incurred without the wage premium they expected to earn from their degree. At the same time students may be less likely to finish school, they may also need to take on more debt in order to finish because they and their families may have lost income. Moreover, those who are most economically affected by COVID-19 are also those who are most burdened by student loan debt: Black, Hispanic, and lower-income workers have seen the largest job losses (Bureau of Labor Statistics 2020; Cajner et al. 2020). The administrative relief (forbearance) offered as part of the CARES Act will be important to help people smooth consumption but will likely result in families shouldering the debt burden for a longer period.

What should be done to address the disparate patterns we find in student loan borrower outcomes? It goes without saying that **curbing the rise in tuition costs** and student loan debt borne by students and their families would address the problem at its root. In addition, **reducing racial gaps in income and wealth** would boost families' ability to pay for tuition and repay student loan debt among segments of the population most burdened by student loan debt.

Setting aside these structural issues that contribute to the patterns of student loan repayment that we observe, below we explore a few possibilities for how **targeted debt assistance programs could be expanded** to alleviate the burden of existing student loan borrowers. As a general principle, because the majority of borrowers are managing their debt without being excessively burdened, efforts to alleviate undue burdens from student loan debt can and should be targeted at those who are experiencing truly difficult conditions. This is true for payment assistance efforts like income-driven repayment (IDR) programs as well as more aggressive actions like debt forgiveness.

A relatively easy first step in expanding targeted assistance would be to **help additional borrowers benefit from improved access to existing payment assistance programs, including income-driven repayment programs.**

One way to do this is to reduce the paperwork burden required to participate in IDR, such as making annual income recertification easier. Another is to increase efforts to make sure borrowers are aware of their IDR options. We observe that at least 10 percent of people are making payments that represent more than 10 percent of take-home income, a common threshold for IDR programs.¹⁹ We also observe high rates of deferment among low-income borrowers who might be eligible for IDR and eventual loan forgiveness.

However, it is important to note that current IDR programs do have drawbacks, and new programs may be warranted. IDR provides debt forgiveness only after twenty years of successful program participation. This extended time horizon makes debt forgiveness uncertain. Enrolling in an IDR program is also not without risk. If the borrower's reduced payment is less

than their monthly interest, the unpaid interest will continue to accumulate while the debt principal does not go down. Additionally, if the borrower leaves their IDR program, or fails to recertify their annual income on time, they will not only be responsible for all the unpaid interest but also for the unpaid interest that may be added to the debt principal and which can begin to accrue additional interest. This is a risk that has already been realized for many: in 2015, 57 percent of borrowers in IDR programs failed to recertify their income on time (Department of Education 2015).

Our findings highlight that **current student loan debt policies and assistance programs may not adequately consider the network of people the borrower may rely on to make their payments.** This means that a borrower's income statement may understate both her ability to pay and her vulnerability to job losses and financial disruptions among her financial support network. This issue has the potential to perpetuate intergenerational wealth inequalities and place undue burdens on parents. For wealthy parents, financing education through tuition or student loan repayment is a way to transfer wealth to the next generation. For less wealthy parents, student loan debt repayment is an added financial burden to face if they do not benefit from their children's income premium.

Student loan policies should take these family dynamics into account. First, **loan origination programs may need to rebalance eligibility of loans between students and parents.** Loan origination programs currently make a clear distinction between borrowers and their parents. For example, federal Parent PLUS loans, which are taken out by parents of dependent undergraduates on behalf of their

children, have higher interest rates and limits than those provided directly to undergraduate students. We observe younger borrowers making payments on loans that are not in their name and older borrowers receiving help with their loans, most of which are Parent PLUS loans. This suggests that many students are repaying their parents' loans. What are the redistributive implications if these loans are ultimately paid by the students themselves? Should loan limits be increased in order to enable students to officially take on more of the debt, giving them access to lower interest rates and current payment assistance programs?

Second, perhaps **there should be more avenues for payment assistance designed for parents.**

Borrowers on instruments like Parent PLUS loans are not eligible for programs like IDR. This creates a potential pitfall for parents who borrow on behalf of their children. If the student completes college and earns an income premium, they can help their parents with parent-borne loans. Our observations of the large amount of help received by senior

borrowers suggests this may be a common practice. However, if the student cannot sufficiently earn a premium, they have access to some assistance, like IDR, but probably won't be able to help their parents who do not have any avenue for assistance. And with a meaningful share of older Americans involved in student loan repayment making progress at a very slow rate, their debt burdens may very well stretch into retirement.

A possible complement to repayment relief programs is to **allow for restructuring or forgiveness of student debt through a bankruptcy-like process.**²⁰

Enabling student debt to be discharged might ultimately increase the cost of borrowing to the extent that the existence of the policy changes default rates. Targeting discharge—for example to those with limited assets and have been in default for several years—could mitigate these price effects.

A further step to address undue payment burdens would be to **expand efforts to provide targeted debt forgiveness to those most burdened.**

Although debt relief is available for

graduates entering certain careers and for those who remain in an IDR program for twenty years, our evidence suggests there is an opportunity to expand avenues for targeted debt relief. We find that a higher share of lower-income and Black borrowers face extreme payment burdens (over 10 percent of take-home income) and are projected to never finish paying off their loans if current repayment trends continue. Given the disproportionate structural challenges Black and Hispanic families face within the labor market, there is strong evidence of racial gaps in income (Farrell et al. 2020). Thus, returns to education could be lower for Black and Hispanic graduates than White graduates, making it mechanically more challenging for Black and Hispanic borrowers to effectively repay their student loans. Targeted student loan debt forgiveness could be a means of rebalancing our investments in public goods like education across communities and insuring against the risk that borrowers, Black and Hispanic borrowers disproportionately, find themselves in a debt trap.

Data Asset

For this study, we assembled a novel dataset of 301,583 de-identified Chase checking account customers who had outstanding student debt or were making payments towards student debt. To these individuals' bank data, we linked Experian credit bureau data for December of 2015 through November of 2016. This joint data asset allows us to observe income, student loan payments, and key attributes of the student loan tradeline (e.g.,

origination date) and the account holder (e.g., age). For three states in our sample, this also includes self-reported race and ethnicity data taken from public voter registration records.

We constructed our sample of 301,583 from a larger match of 4.75 million Chase customers to Experian records covering December 2015 through November 2016. This sample was constructed so that roughly a quarter

of the matched customers had made a student loan payment at some point during 2013. This would guarantee a large sample of student loan borrowers during the sampling process. However, it also skews our sample in certain predictable ways, which we explore further in this section. From our overall Chase-Experian sample of 4.75 million customers, we impose account activity filters to eliminate customers who do not use Chase as their primary bank.

Box 1: JPMC Institute—Public Data Privacy Notice

The JPMorgan Chase Institute has adopted rigorous security protocols and checks and balances to ensure all customer data are kept confidential and secure. Our strict protocols are informed by statistical standards employed by government agencies and our work with technology, data privacy, and security experts who are helping us maintain industry-leading standards.

There are several key steps the Institute takes to ensure customer data are safe, secure, and anonymous:

- Before the Institute receives the data, all unique identifiable information—including names, account numbers, addresses, dates of birth, Social Security numbers, and Employer Identification Numbers (EIN)—is removed.
- The Institute has put in place privacy protocols for its researchers, including requiring them to undergo rigorous background checks and enter into strict confidentiality agreements. Researchers are contractually obligated to use the data solely for approved research and are contractually obligated not to re-identify any individual represented in the data.
- The Institute does not allow the publication of any information about an individual consumer or business. Any data point included in any publication based on the Institute's data may only reflect aggregate information.
- The data are stored on a secure server and can be accessed only under strict security procedures. The data cannot be exported outside of JPMorgan Chase's systems. The data are stored on systems that prevent them from being exported to other drives or sent to outside email addresses. These systems comply with all JPMorgan Chase Information Technology Risk Management requirements for the monitoring and security of data.

The Institute provides valuable insights to policymakers, businesses, and nonprofit leaders. But these insights cannot come at the expense of customer privacy. We take precautions to ensure the confidence and security of our account holders' private information.

First, customers in our sample must have been Chase customers for the entire period of study. They must also actively use their Chase accounts; we consider an account in active use if it has at least five transactions in every month of our sample period and at least \$12,000 in deposits over the course of the sample period. This gives us a base sample of 1.8 million customers. From these, we select all individuals who either (a) have an open student loan in the Experian records or (b) make payments out of their Chase account to a student loan servicer, leaving us with our final sample of 301,583 customers involved in student debt repayment.

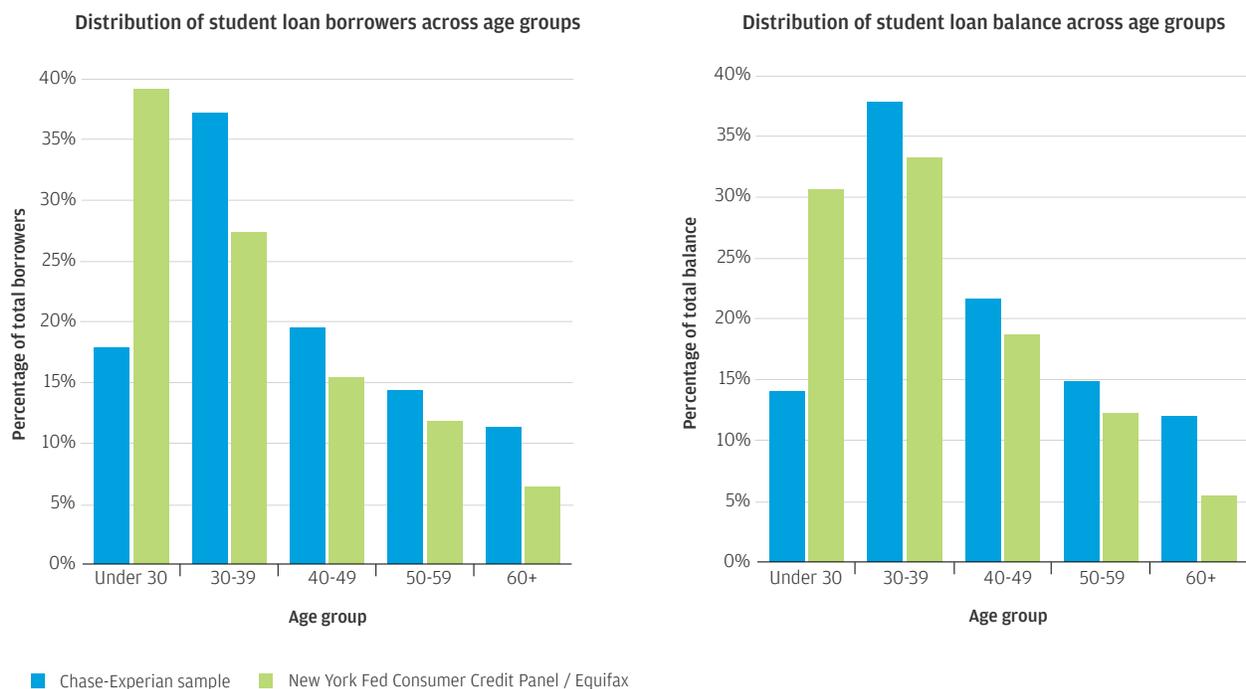
To assess how our sample might be skewed relative to the true

population of student debt borrowers, we compare the Chase-Experian sample to the Consumer Credit Panel used by the Federal Reserve Bank of New York, which constitutes a representative sample of borrowers.

We begin our comparison in Figure 20. The left panel plots the distribution student loan borrowers by age in the two samples. The right panel plots how the total balance of student loan debt is distributed by the age of the debt holder. In both cases, we see that the Chase-Experian sample underrepresents the youngest borrowers. While borrowers under 30 make up 39 percent of the Fed Credit Panel, they only make up 18 percent of the Chase-Experian sample. Similarly, 30 percent of student debt

balances are held by those under 30 in the Fed sample, while the under-30 borrowers only hold 14 percent of balances. This under-sampling of the youngest borrowers is likely due to the way the Chase-Experian sample was constructed, specifically its over-sampling of customers who had made a student debt payment in 2013. This over-sampling should lead to an under-sampling of people who entered repayment after 2013, i.e., most borrowers who graduated after July 2013. This is borne out by the similarity of the rest of the age distribution across the two samples. Once under-30 borrowers are excluded, 46 percent of both samples fall in the 30-39 age range, with other groups more closely aligning as well.

Figure 20: Distribution of student loan borrowers and balances by age in the Chase-Experian sample versus the NY Fed Consumer Credit Panel benchmark



Source: JPMorgan Chase Institute using data from New York Fed Consumer Credit Panel / Equifax

Figure 21 conducts a similar exercise as Figure 20, this time looking at all debt (e.g., mortgages, car loans, credit card balances, etc.) rather than just student debt. Again, the left panel shows the distribution of borrowers by age while the right panel shows the distribution of balances by age of the debt holder. The left panel shows that the Chase-Experian sample has fewer 18 to 29-year-old borrowers, while the right panel shows that this youngest group holds more debt in the Chase-Experian sample relative to those in

the Consumer Credit Panel. This may be due to the over-sampling of people who made a student loan payment in 2013. Because of this, the Chase-Experian sample is more likely to be missing recent graduates, as we saw in Figure 21. But it also skews the sample toward student debt holders overall, meaning there are fewer 18 to 29-year-olds in the Chase-Experian sample who are small debt holders, e.g., those whose only debt is a monthly credit card balance. This simultaneously keeps balances large and the number

of borrowers small. A similar explanation could be behind the patterns in the over-70 age bin; we over-sample student debt payers, which skew young, thus excluding older customers. At the same time, those 70-year-olds we do sample are more likely to be student debt holders, increasing their average balance relative to the average 70-year-olds in the population. Figure 22 plots the distributions of student debt borrowers across the total amount of student debt they hold. Here, the two samples are very similar.

Figure 21: Distribution of all credit bureau record holders and balances by age in the Chase-Experian sample versus the NY Fed Consumer Credit Panel

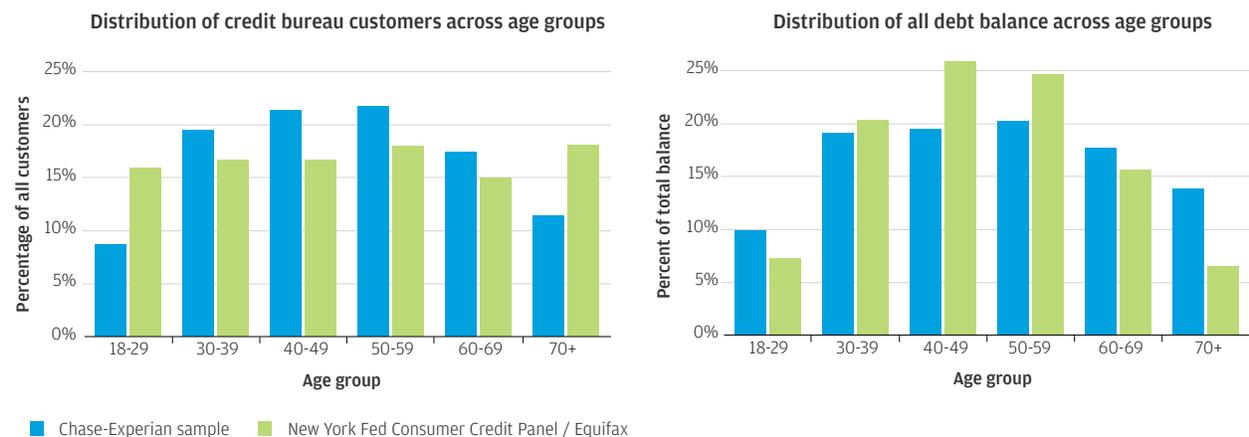
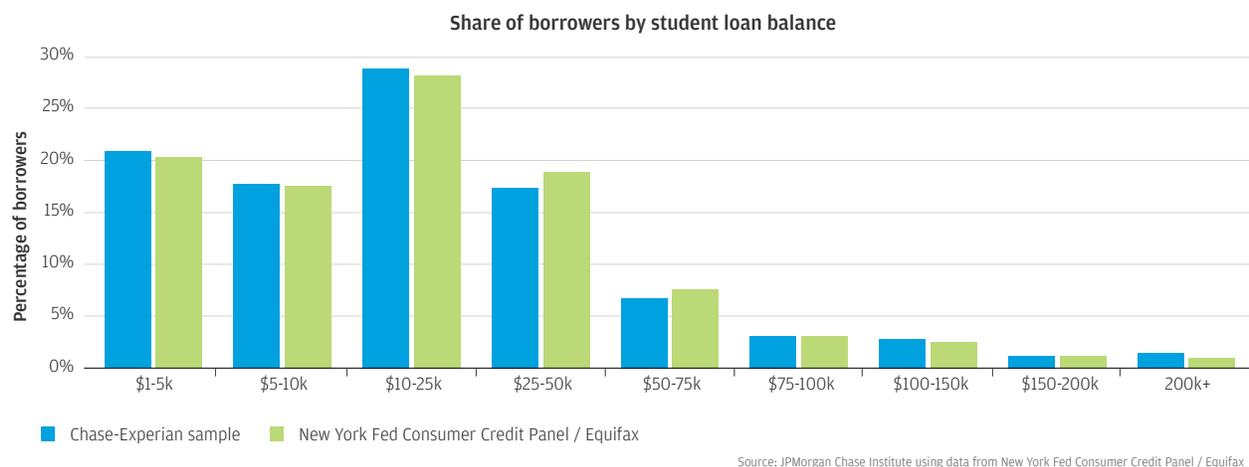
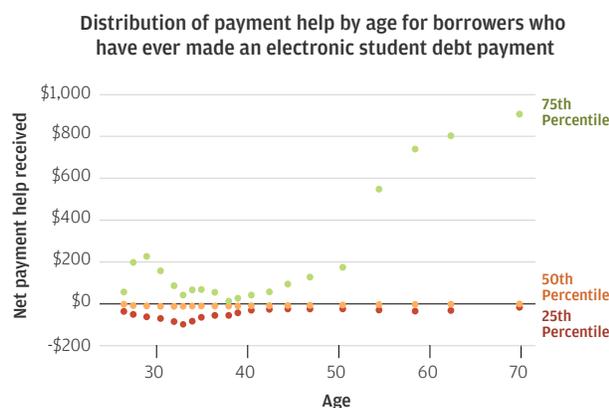


Figure 22: Distribution of all credit bureau record holders and balances by age in the Chase-Experian sample versus the NY Fed Consumer Credit Panel



Appendix

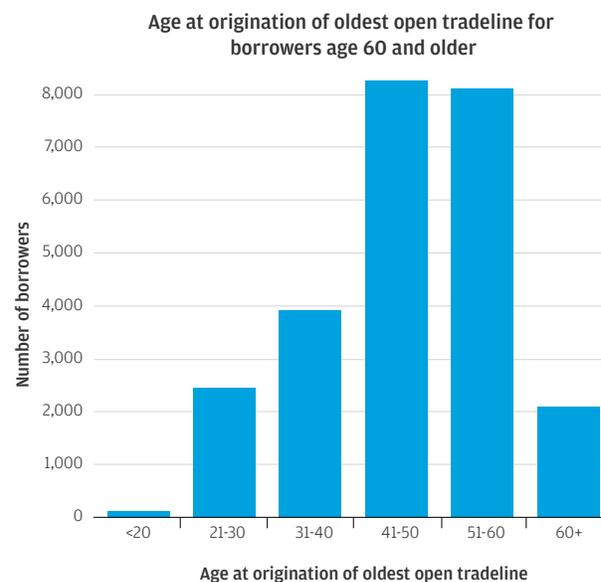
Figure A1: Distribution of help given (negative values) and received (positive values) by age, restricting to people who have ever made an electronic student loan payment



Note: Sample is restricted to borrowers who have made at least one student loan payment from their Chase accounts since 2013. Percentiles are calculated within twenty age quantiles. Each bin is represented along the x-axis by its average value. Payment help is the difference between reported and observed payments; that is, the difference between the total paid against a borrower's loans and the total payments made toward student debt from the borrower's Chase accounts. Negative payment help represents help provided by the borrower to other student debt holders.

Source: JPMorgan Chase Institute

Figure A2: Age at origination of oldest open loan for borrowers 60 and older



Source: JPMorgan Chase Institute

Table A1: Summary statistics by number of student loan tradelines

Tradeline count	Fraction of sample	Average balance per tradeline	Average balance per person
1	44%	\$19,783.26	\$19,179.60
2	20%	\$12,477.39	\$24,037.54
3	9%	\$9,910.82	\$28,805.41
4	8%	\$7,377.18	\$28,571.89
5	5%	\$7,145.00	\$34,756.53
6-9	10%	\$6,169.72	\$42,827.08
10+	5%	\$6,649.03	\$83,750.85

Source: JPMorgan Chase Institute

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Endnotes

- 1 Currently, student debt is only dischargeable under Chapter 13 (debt restructuring) when a debtor can convince a judge that they have extreme economic hardship and if the debtor completes a rigorous five-year repayment program. In practice, this happens very rarely.
- 2 This builds on our previous student debt report (Farrell et al. 2019), in which we only observed student debt payments made out of checking accounts. We now observe whether the account holder has a student debt tradeline in the credit bureau, and the sum of payments made monthly towards that tradeline in the credit bureau (regardless of who makes the payment).
- 3 See Addo et al. (2016) for a recent summary of the literature. For example, the analysis of loan repayment using the 1993–2003 Baccalaureate and Beyond Longitudinal Study in Lochner et al. (2015) found that among “individual and family background characteristics, only race is consistently important for all measures of repayment/nonpayment.”
- 4 Certain papers have leveraged credit bureau data to study trends in student debt repayment (e.g., Gibbs 2017; Chakrabarti et al. 2020), but taken alone these data provide very limited information on important borrower attributes like income. Survey data, such as the Survey of Consumer Finances or the National Postsecondary Student Aid Study, provides a cross-sectional snapshot of debt balances and typical monthly payments but with limited sample sizes and time frame. Even large administrative datasets, such as the National Student Loan Data System, are unable to link verified information on debt to borrowers’ income and assets over time.
- 5 While the impact of student debt on individual finances has been well-documented (Mezza et al. 2020), the burden it places on the collective household balance sheet is less clear (Jerphanion 2020).
- 6 When we quantify the dollar amount of help given (received) we do not apply the threshold that reported payments have to be greater (less) than observed payments by at least one month’s worth of scheduled payment. The difference between reported and observed payments is quantified as help given (positive values) or received (negative values).
- 7 We focus on this normalized measure because we frequently observe lags in reported payments month to month. For example, if a borrower has automatic payments scheduled for the 25th of every month, some of the payments are shift to the next month in Experian’s data, so instead of \$100 in November and \$100 in December, \$200 is reported for December. Because any data sample will necessarily have a last month (November 2016 in our case), some months will have erroneous zero values because payments were not registered before the monthly reporting deadline. Thus, a fraction of borrowers will be artificially show a shortfall of one month, even if they are making their full scheduled payments. Thus, any shortfall of one month or less may be due to a delay in the reporting the final month’s payment rather than an actual failure to pay, and we will remember this point in interpreting the results. Note that pre-payment may also suffer from this same measurement error because some portion of borrower’s first months will include the prior month’s payment, which is out of our sample.
- 8 Federal loans are eligible for deferment under a number circumstances including, returning to school, military service, cancer treatment, unemployment, and various economic hardships (such as receiving means-tested government benefits). During deferment interest generally does not accrue on the subsidized portion of federal loans. Generally forbearance is granted by loan servicers for up to a year at a time (with a cumulative limit of three years) under a variety of circumstances such as financial difficulties, medical expenses, and changes in employment, and interest accrues during periods of forbearance.
- 9 Note that all of these measures are net of any help received—even if a borrower makes zero payments themselves, they can be making progress on their loans if someone else is paying.
- 10 Each plot groups the x-axis variable (e.g., age) into twenty quantiles and then shows the median value of the y-axis variable (e.g., reported payments). For example, Figure 3 shows that the median scheduled burden for people around 50 years old is 3.5 percent.
- 11 Given that we over-sampled account holders who made a student loan payment in 2012–2013, our sample may over-represent student loan payers and under-represent those with a student loan but not making payments. Therefore we may overstate the amount of help in aggregate, but

- pure helpers and student loan payers will be oversampled at equal rates.
- 12 For all borrowers over 60, we calculate how old the borrower was at the origination of the borrower's oldest loan that is open during our sample period. The distribution of these ages is plotted in Appendix Figure A2.
 - 13 Other research has found that older individuals are more likely to use paper checks (Kumar and O'Brien 2019).
 - 14 Longer repayment terms can occur when a borrower consolidates their loans; current Department of Education policy gives a thirty-year repayment for the largest consolidated balances (Department of Education 2020).
 - 15 This could be because they are currently enrolled in Income-Based Repayment (IBR) programs, which cap the scheduled payments based on income, sometimes yielding a scheduled payment of \$0. IBR programs can lower scheduled payments to below interest charges or even to zero, with the promise of forgiveness of qualifying loans if the borrower successfully follows their IBR-determined repayment schedule for the full term of twenty years. Because of the recent beginnings of IBR programs, the first year that IBR forgiveness can occur is 2034.
 - 16 Note that our other analyses do include deferred borrowers, most notably the calculation of short-fall in Figure 6. We felt this was appropriate because a person in deferment with a scheduled payment near zero is still allowed to make payments, which would constitute pre-payment. They are also allowed to make zero payments which would constitute a full payment.
 - 17 The Black-White and Hispanic-White ratios in take-home income among student loan borrowers (0.78) are slightly larger than those reported among a larger sample of Chase customers, among whom the Black-White ratio was 0.71 and the Hispanic-White ratio was 0.74 (Farrell et al. 2020).
 - 18 For the purposes of Figure 15, we say a borrower has received help if at least one month's worth of the year's reported payments came from outside the borrower's account. Specifically, if the difference in a borrower's reported and observed payments is greater than reported payments divided by twelve.
 - 19 Discretionary income, as it relates to IDR programs, is the difference between the borrower's income and 150 percent of the federal poverty guideline for the borrower's state of residence and family size. In contrast, we observe take-home pay in our data, which does not include any tax withholding or other paycheck deductions.
 - 20 Currently, student debt is only dischargeable under Chapter 13 (debt restructuring) when a debtor can convince a judge that they have extreme economic hardship and if the debtor completes a rigorous five-year repayment program. In practice, this happens very rarely.

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