

ASSESSING THE RELATIVE PROGRESSIVITY OF THE BIDEN ADMINISTRATION'S FEDERAL STUDENT LOAN FORGIVENESS PROPOSAL

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Abstract

We quantify the total stock of balances eligible for the Biden administration's 2022 student loan forgiveness proposal and examine which groups would have benefited most. Up to \$442 billion in loans were eligible. Those who would have benefited most were younger, had lower credit scores, and lived in lower- and middle-income neighborhoods. We also find that Black and Hispanic borrowers would have disproportionately benefited from the proposal. We then compare the distribution of beneficiaries for the proposed policy to several alternative hypothetical forgiveness proposals and three existing tax credits. The additional forgiveness for Pell Grant recipients increased the progressivity of the policy at a cost of \$129 billion. Reducing the income eligibility criterion in half from the proposal would have reduced the cost by nearly \$100 billion and made the policy more progressive. Compared with existing tax credits, the announced forgiveness policy is less progressive than the Earned Income Tax Credit but more progressive than the 2019 Child Tax Credit and higher education tax credits. We conclude with a discussion of how each policy lever affects the progressivity of loan cancellation to help inform future policy.

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INTRODUCTION

On 24 August 2022, the Biden administration announced a federal student loan forgiveness proposal to be coupled with the resumption of federal student loan payments. The announced policy allowed for up to \$20,000 in forgiven loans for borrowers who ever received a Pell Grant and up to \$10,000 otherwise. Borrowers would qualify if their income was less than \$125,000 for individuals or less than \$250,000 for households. Borrowers whose income information was not already on file with the Department of Education were required to complete a short online application to qualify. Although the policy was later overturned by the Supreme Court in June 2023, 23.6 million borrowers submitted the application prior to the portal being suspended (POLITICO 2023).

The White House (WH) and the Department of Education released a limited set of headline statistics summarizing who would benefit from the proposal, but no official comprehensive analysis was published. Due to this vacuum of information, debate quickly emerged across media, academics, and policy makers as to who the policy most benefits and whether the policy is regressive (more benefits go to those of higher means) or progressive (more benefits go to those of lower means) (Chen et al. 2022; Catherine and Yannelis 2020; Looney 2022; Eaton et al. 2021; Daniels Jr. et al. 2022; Sullivan and Wheat 2022; Bennett et al. 2022). Several studies have analyzed who benefits from general student loan cancellation and a few studied the specific proposal from the WH, however no other study incorporates all parameters of the WH proposal using a nationally representative sample of federal student loan borrowers. Our analysis helps provide both the public and policy makers with a better understanding of the costs and who would have benefited from the proposal, including an understanding of which policy levers make for a more or less progressive policy.

We use data from a nationally representative sample of anonymized credit reports to analyze the proposal. We separate balances that are potentially eligible for forgiveness (loans owned by the federal government) from ineligible balances (loans owned by commercial banks). For each borrower, we estimate a probability that they are income-eligible and a probability that they ever received a Pell Grant by matching each borrower's neighborhood identifier (Census Block Group) to data on the distribution of their neighborhood income. Our estimates of income eligibility and Pell Grant receipt are broadly consistent with national- and state-level statistics from the Department of Education. We then combine our estimated probabilities with observed eligible balances to calculate the estimated forgiveness amount for the 1.9 million borrowers in our sample.

We find that roughly \$440 billion of federal student loans would have been eligible for forgiveness under the proposal, which would have forgiven over 30 percent of the outstanding federal portfolio across 38 million borrowers. The plan disproportionately benefited younger borrowers and those with below-median credit scores. Borrowers living in below-median income neighborhoods would have received a larger share of total forgiveness than their share of outstanding balances. We find that Black borrowers had the largest average forgiveness amount and Hispanic borrowers were the most likely to have their balance entirely forgiven. The South and Midwest would have benefited the most as regions, and Mississippi, South Carolina, and Georgia the most by state.

We compare the distribution of forgiven debt by zip code median household income under the proposed policy to several alternative hypothetical forgiveness policies to test

how various policy levers affect the distribution of beneficiaries. Under the proposed policy, half of forgiven debt would have gone to the bottom half of zip code population (by income), three quarters to the bottom 75 percent, and 8.5 percent to the top 10 percent. Had the threshold for income eligibility been cut in half (to \$75,000 for individuals and \$125,000 for households), the overall cost of forgiveness declines by 23 percent, or almost \$100 billion, but removing the means-test only increases the cost by \$25 billion. We also find that targeting additional forgiveness to former Pell Grant recipients increased the share of benefit to the lower end of the zip income distribution. We then compare the proposed policy to several existing tax credits and find that the proposal distributes less benefit to lower income neighborhoods than the Earned Income Tax Credit (EITC), but is more progressive than the Child Tax Credit (CTC) and two existing tax credits for higher education.

The Supreme Court struck down the WH proposal on 30 June 2023, leaving open the question of how struggling borrowers would weather the resumption of payments on 1 September 2023. Our analysis provides a framework and empirical analysis to inform future legislative and executive action by identifying which policy parameters lead to a more or less progressive policy.

BACKGROUND

We begin by summarizing several existing analyses of the student loan forgiveness proposals. Two analyses use similar data and thus are prone to similar data limitations. The first is an analysis from the Penn Wharton Budget Model and the second is the analysis from the JP Morgan Chase Institute (Chen et al. 2022; Sullivan and Wheat 2022). Both studies rely on the Survey of Consumer Finances (SCF) from the Federal Reserve Board of Governors, which is a nationally representative sample of household heads that contains rich details about debts and assets at the household level. The SCF provides many advantages, particularly with regard to unique depth of information on household income and wealth. However, because of its structure, many student loan borrowers' debts are allocated to the household heads or simply excluded from the sampling universe, causing the sample to not be representative of the universe of student loans and borrowers (Dettling and Hsu 2014; Brown et al. 2015; Bricker et al. 2015; Bruenig 2019, 2022). In Appendix A.1, available in a separate online appendix that can be accessed on *Education Finance and Policy's* website at https://doi.org/10.1162/edfp_a_00429, we compare the SCF to our primary data, which is a random sample of credit reports, to show that the SCF under-counts outstanding student loan balances by almost 25 percent in 2019. Additionally, the SCF does not allow for the separation of federal loans (loans owned by the federal government) from loans (federal or private) owned by commercial banks. This contributes to bias primarily relevant to this research question, because only the former is eligible for forgiveness whereas the latter tends to be held by the more affluent and have a lower delinquency rate across all credit products. Thus, including these loans skews analyses to appear more regressive. While the SCF allows researchers to directly observe the income and wealth of the households sampled, the potential sampling bias and inclusion of non-federal loans necessitates analysis using data that is nationally representative sample of eligible federal student loans.

These studies, along with Bennett et al. (2022), are also not able to track previous Pell Grant receipt status. Because Pell Grant receipt doubles the maximum amount of

cancelled debt, this is a key input to estimating total forgiveness. However, the SCF, as used in Chen et al. (2022) and Sullivan and Wheat (2022), and the Survey of Program Participation, as used in Bennett et al. (2022), are both cross-sectional surveys and information on Pell status or income during college (to proxy for Pell Grant status) are not available, so these studies cannot reliably determine the likelihood a borrower is eligible for \$10,000 or \$20,000 in forgiveness, which has drastic consequences for measuring the progressivity of the proposal.

This brief focuses narrowly on the announced student loan forgiveness proposal by the Biden administration and the associated policy levers used. However, there exists a broader literature on student loan forgiveness that we also build and rely upon. While there are several papers that study the effects of cancelling student loans for a relatively small set of borrowers (Di Maggio et al., forthcoming), there are fewer papers discussing the distributional benefits of broad forgiveness policies. Catherine and Yannelis (2020) make several important conceptual and methodological contributions to the calculation of distributional benefits of loan forgiveness. Most importantly, the authors make the case that calculating forgiveness based on outstanding balances will overstate the benefits derived by low-income borrowers since these borrowers can enroll in an income-driven repayment (IDR) plan, make low (or no) monthly payments for 20 to 25 years, and be forgiven under current law. Hence, they argue that the true benefit of forgiveness today is the net present value (NPV) of the stream of monthly payments that are cancelled. This argument has many compelling features, but the baseline analysis omits several benefits of loan cancellation beyond the monthly payments. First, after 2025, the total amount of forgiven debt through IDR will be considered taxable income while balances cancelled prior to 2025 are not taxable. In this case, the focus on the NPV of cancelled monthly payments will understate the benefits by ignoring the federal and state income tax owed on cancelled debts. While the authors explore the implications of taxation of forgiveness in their online appendix, they do not include it in their baseline analysis. Additionally, outstanding balances elevate borrowers' debt-to-income ratios, resulting in higher borrowing costs and reduced home-ownership during the 20 to 25 years before IDR forgiveness. Additionally, Di Maggio et al. (forthcoming) show improvements in labor market outcomes for borrowers after debt cancellation even when monthly payments were unaffected, suggesting that broad debt cancellation can result in increased earnings even when cash flow does not change. Lastly, the analysis in Catherine and Yannelis (2020) does not account for the additional debt cancellation for borrowers who had received a Pell Grant while in school. Our analysis shows this added parameter directs a significant additional cancellation for borrowers who are more likely to be lower-income, minorities, and less likely to have earned a degree (Cook and Tilsley 2022).

In contrast, Eaton et al. (2021) argues against several assumptions and modeling decisions in Catherine and Yannelis (2020). They note (as we do in the next section) that Catherine and Yannelis (2020) include ineligible private student loans in their distributional analysis. Since private student loans are disproportionately held by higher-income and more credit-worthy borrowers, this inclusion skews the results to appear more regressive. Additionally, Eaton et al. (2021) argue that the distribution of beneficiaries should be analyzed across the full population and not conditional on only student loan borrowers. They make the point that conditioning on benefit receipt would cause

programs like the EITC to be considered regressive since those who receive the largest benefits are the highest earners *among those receiving the benefit*. This is clearly not the case since the EITC has strict income limits ensuring that only relatively low-income workers receive the credit. They argue a similar logic should hold for student loan cancellation. Because the highest income (or wealth in their analysis) individuals are less likely to hold loans, they are less likely to receive cancellation, thus excluded from the analysis population. Lastly, they argue that since debt cancellation is a wealth transfer, the progressivity of the policy should focus on benefits received by the distribution of wealth, and not income.

Our analysis falls more closely in line methodologically with Eaton et al. (2021) than Catherine and Yannelis (2020), partially due to data limitations and partly due to what we believe are the appropriate modeling choices. For instance, we are able to limit the sample of student loans to only those owned by the federal government and thus potentially eligible for cancellation, so our analysis is not prone to this particular critique from Eaton et al. (2021). However, we ascribe the benefits to forgiveness based on the dollar amount of cancelled balances and not the reduction in the NPV stream of monthly payments as in Catherine and Yannelis (2020). We do this in part because only considering monthly payments understates the full benefit to borrowers. Outstanding balances more accurately capture the total impact of student loans: on credit access (through debt-to-income ratios), eventual taxable liabilities for forgiveness under IDR, and the mental and psychological burden of holding student loans. Since we do not observe income or wealth, we cannot directly match either methodology above. Instead, we observe the Census Block Group (CBG) associated with a borrower's address. We use this as a proxy for their socioeconomic status and sort them based on the rank of their neighborhood's median household income. We believe a borrower's neighborhood is more likely to proxy permanent income than current wealth (which does not factor in human capital) or current income (which can be artificially low for recent graduates).

Our analysis has several features not present in other works. First, we use administrative data from a nationally representative sample from the universe of credit reports. Hence, our data is not subject to the sampling issues present in the SCF because it is reported by lenders at the individual borrower level. Also, we observe a panel of student loan borrowers merged with data on the distribution of neighborhood household income from when they first borrowed federal student loans, allowing us to estimate the probability of Pell receipt for each borrower. These data and methods, described in the next section and more completely in online appendix A, allow us to better analyze the federal student loan forgiveness proposal.

DATA AND METHODS

Our primary data is the New York Fed Consumer Credit Panel (CCP) (Federal Reserve Bank of New York/Equifax 2023) which is a 5 percent random sample of Equifax credit reports that includes attributes like age, current and past balances, credit scores, and other person and balance attributes. Credit scores are Equifax Risk Score 3.0, which are highly correlated with FICO. We do not observe a person's income or demographics, so we rely on CBG identifiers for each observation merged to CBG-level income and demographic information from the American Community Survey (ACS) and the 2010 Decennial Census (Manson et al. 2022). We also use the Internal Revenue Service (IRS)

Table 1. Consumer Credit Panel Summary Statistics

	Full Sample	Any Student Loan	Eligible Student Loan
Borrowers (millions)	14.0	2.1	1.9
Median age (years)	52	35	33
Median credit score (2019Q4)	730	660	653
Median credit score (2022Q2)	741	685	678
Percent with any delinquency	7.7%	11.8%	12.5%
Percent with auto loan	31.2%	46.3%	45.8%
Median auto balance	\$12.6k	\$13.2k	\$13.2k
Percent with auto delinquency	7.5%	7.8%	8.5%
Percent with credit card	67.7%	78.2%	76.9%
Median credit card balance	\$2.1k	\$2.7k	\$2.5k
Percent with credit card delinquency	8.7%	11.9%	12.8%
Percent with mortgage	25.3%	26.9%	23.8%
Median mortgage balance	\$114.2k	\$128.8k	\$130.1k
Percent with mortgage delinquency	0.7%	0.7%	0.8%

Notes: The table above details summary statistics from the Consumer Credit Panel data, which is a 5 percent nationally representative dataset from based on Equifax credit reports. The first column includes the full primary sample. The second column restricts the sample to any individual with a student loan on their credit profile in the second quarter of 2022. The last column further restricts to those with a student loan potentially eligible for cancellation under the Biden administration proposal. For median balances and the percent with a delinquency (any debt payment that is reported as 30 or more days past due), we report values conditional on having an account.

Source: New York Fed Consumer Credit Panel/Equifax.

Statistics of Income (SOI) (Internal Revenue Service 2019) data for zip code–aggregated tax credit outlays.

Table 1 reports summary statistics for three populations from the CCP. The first column shows the full sample, the second restricts to observations with a student loan (in the second quarter of 2022), and the last restricts to observations with a student loan owned by the federal government and thus potentially eligible for cancellation. Aggregate totals come from multiplying the 5 percent CCP population by 20. Student loan borrowers with eligible loans are younger, have lower credit scores, and are less likely to hold a mortgage than the broader population and those with ineligible loans. Conditional on having an account, they are also more likely to be delinquent on their debts.

To estimate the expected forgiveness for each student loan borrower in the CCP we first identify federally owned balances by identifying loans contained in servicer sub-portfolios that were paused after the administrative forbearance went into effect. (This includes Direct loans, Grad PLUS, Parent PLUS, and any other federal loans owned by the federal government. A more comprehensive discussion of different types of federal loans and eligibility can be found in online appendix A.2.) Next, we estimate the probability each borrower is income-eligible for the proposal by using information about the income distribution of their CBG from the ACS and by using the income distribution of student loan borrowers from the New York Fed Survey of Consumer Expectations conditional on age and credit score. Last, we estimate a probability for having ever received a Pell Grant using the income distribution of each borrower's CBG at the time they first borrowed federal student loans matched with data from the Department of



Notes: The three panels above plot statistics for the distribution of balances held and estimated forgiveness for the population by age group. The first panel plots the share of the adult population, the share of balances held, and the share of estimated forgiveness dollars by groups. The second panel plots the average balance by group and the average estimated forgiveness amount per eligible borrower by group. Within each blue box, we report the fraction of each group's eligible balance that the average forgiveness amount comprises. Panel c reports the share of the adult population with student loans before (in purple) and after forgiveness (in blue). In each blue box, we report the fraction of borrowers in each group that either has a remaining balance or a balance that is entirely forgiven by the proposed policy. Population counts come from the ACS. Precise statistics are available in table 2. Source: New York Fed Consumer Credit Panel/Equifax; American Community Survey (ACS).

Figure 1. Federal Student Loan Balance and Forgiveness Statistics by Age Group

Education on the probability of receiving a Pell Grant in each year conditional on income and dependency status. Our estimates for the share of borrowers income-eligible and for the share of student loan borrowers having ever received a Pell Grant align closely with estimates published by the White House and Department of Education. We document our methods more completely in online appendix A.3.

FINDINGS

National Forgiveness Estimates

We estimate that the Biden administration's proposal would have forgiven a total of \$442 billion across 36 million income-eligible borrowers, 23 million of whom ever received a Pell Grant and thus are eligible for an additional \$10,000 in forgiveness. The plan would have forgiven 30.1 percent of the total outstanding federal student debt, and 14.7 million borrowers, 38.6 percent of the total, would have seen their federal balances completely erased. The \$53.4 billion of debt that was delinquent or in default prior to the pandemic would have been forgiven, and 2.5 million delinquent borrowers would have seen their federal balances completely forgiven.

Who Benefits by Age?

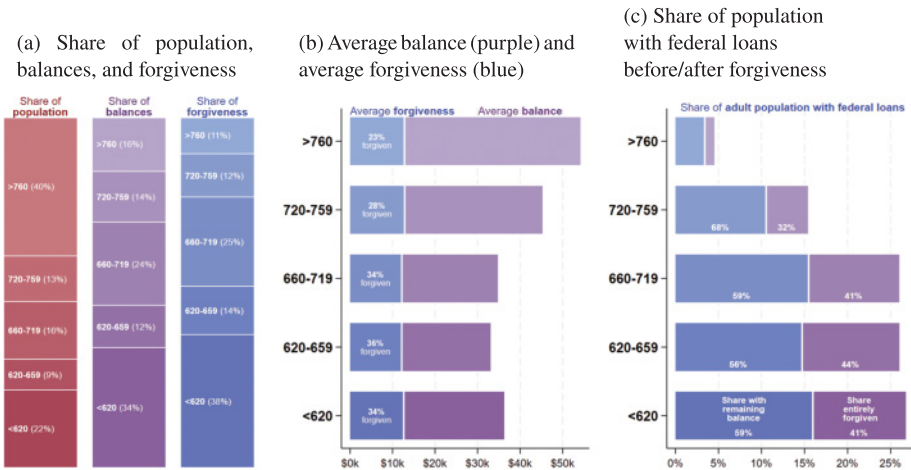
Figure 1 reports several statistics for the distribution of balances and forgiveness by age (full details from figures 1 to 4 can be found in table 2). First, student borrowing is strongly correlated with age: Over 25 percent of borrowers aged 18–39 have student loans, and they hold over 50 percent of the outstanding balance despite being less than 40 percent of the adult population. The average student loan balance increases sharply

Table 2. Student Loan Statistics Before and After Biden Forgiveness Plan by Group

A. Age	18–29	30–39	40–49	50–59	60+
Group's share of ACS adult population	21.4%	17.1%	16.2%	17.1%	28.2%
Percent with any loans	24.8%	27.3%	16.1%	9.6%	3.1%
Percent with any loans after forgiveness	12.2%	17.8%	11.4%	6.9%	2.1%
Total balances held	\$306b	\$516b	\$319b	\$210b	\$113b
Total balances forgiven	\$143b	\$145b	\$79b	\$48b	\$25b
Average balance	\$22.9k	\$43.8k	\$48.7k	\$50.9k	\$51.2k
Average forgiven balance	\$11.4k	\$13.0k	\$12.9k	\$12.4k	\$12.0k
Percent of total balance	20.9%	35.2%	21.8%	14.4%	7.7%
Percent of total forgiven	32.3%*	32.9%†	18.0%†	10.9%†	5.8%†
B. Credit Score	<620	620–659	660–719	720–759	760+
Group's share of CCP population	22.1%	8.7%	16.4%	12.9%	39.9%
Percent with any loans	26.8%	26.0%	26.0%	15.4%	4.5%
Percent with any loans after forgiveness	15.9%	14.6%	15.4%	10.4%	3.3%
Total balances held	\$502b	\$175b	\$347b	\$211b	\$229b
Total balances forgiven	\$168b	\$60b	\$113b	\$54b	\$47b
Average balance	\$36.2k	\$33.1k	\$34.8k	\$45.3k	\$54.2k
Average forgiven balance	\$12.4k	\$11.9k	\$12.0k	\$12.7k	\$12.6k
Percent of total balance	34.3%	12.0%	23.7%	14.4%	15.6%
Percent of total forgiven	38.0%*	13.7%*	25.5%*	12.3%†	10.6%†
C. Neighborhood Income (Census Block Groups)	1st Quintile	2nd Quintile	3rd Quintile	4th Quintile	5th Quintile
Group's share of ACS adult population	19.8%	19.4%	19.5%	19.6%	19.6%
Percent with any loans	10.7%	11.3%	12.0%	12.6%	11.3%
Percent with any loans after forgiveness	5.6%	6.5%	7.3%	8.1%	8.0%
Total balances held	\$226b	\$253b	\$288b	\$330b	\$335b
Total balances forgiven	\$84b	\$87b	\$91b	\$93b	\$76b
Average balance	\$32.6k	\$35.2k	\$37.5k	\$41.0k	\$45.9k
Average forgiven balance	\$12.3k	\$12.4k	\$12.4k	\$12.3k	\$12.0k
Percent of total balance	15.8%	17.7%	20.1%	23.1%	23.4%
Percent of total forgiven	19.0%*	19.6%*	20.7%*	21.1%†	17.2%†
D. Race/Ethnicity	White (non-Hispanic)	Black (non-Hispanic)	Hispanic (any race)	Asian (non-Hispanic)	Other (non-Hispanic)
Group's share of 2010 Census population	66.4%	11.6%	14.9%	4.9%	2.2%
Percent with any loans	13.2%	24.9%	20.5%	11.6%	31.2%
Percent with any loans after forgiveness	8.4%	15.2%	11.4%	7.2%	19.3%
Total balances held	\$818.3b	\$273.6b	\$249.4b	\$52.8b	\$62.5b
Total balances forgiven	\$240.4b	\$82.8b	\$82.8b	\$14.7b	\$18.6b
Average balance	\$39.3k	\$40.2k	\$34.5k	\$39.3k	\$38.8k
Average forgiven balance	\$12.3k	\$12.6k	\$12.0k	\$11.9k	\$12.3k
Percent of total balance	56.2%	18.8%	17.1%	3.6%	4.3%
Percent of total forgiven	54.7%†	18.8%	18.8%*	3.3%	4.2%

Notes: Each column denotes a segmentation of the population into various partitions of the variable denoted in the Panel title. The first row of each panel reports the share of the population within each group. The second set of variables compares the share of the group with loans before and after forgiveness. The third set shows the total balances held and the total balances forgiven within each group. The fourth set reports the average balance before forgiveness and the average forgiveness amount for that group. The last set of variables within each panel shows the percent of total outstanding balance held by each group and the percent of total forgiveness dollars received by each group. For the last variable, we denote a value with * if the group receives at least 0.5 percentage points larger a share of forgiveness than the group's share of holdings of federal student loans. Similarly, we denote with † if the group receives at least 0.5 percentage points smaller a share of forgiveness than the group's share of holdings of federal student loans. Approximately 7.9% of the U.S. adult population does not have a credit score and is excluded from panel B.

Source: New York Fed Consumer Credit Panel/Equifax; American Community Survey (ACS); 2010 Decennial Census.



Notes: The three panels above plot statistics for the distribution of balances held and estimated forgiveness for the population by credit score group. Credit score is from the last quarter of 2019 (when available) to avoid the credit score inflation as a direct result of the administrative forbearance. The first panel plots the share of the adult population, the share of balances held, and the share of estimated forgiveness dollars by groups. The second panel plots the average balance by group and the average estimated forgiveness amount per eligible borrower by group. Within each blue box, we report the fraction of each group's eligible balance that the average forgiveness amount comprises. Panel c reports the share of the adult population with student loans before (in purple) and after forgiveness (in blue). In each blue box, we report the fraction of borrowers in each group that either has a remaining balance or a balance that is entirely forgiven by the proposed policy. Population counts come from the ACS. Precise statistics are available in table 2.

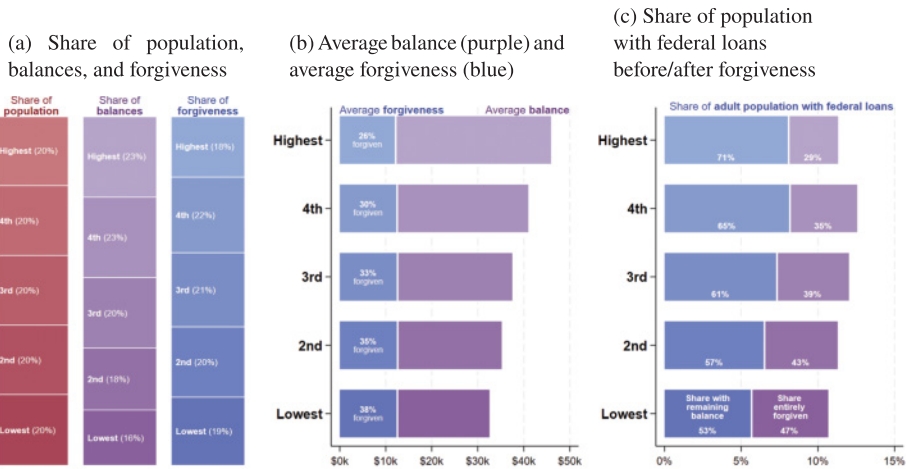
Source: New York Fed Consumer Credit Panel/Equifax; American Community Survey (ACS).

Figure 2. Federal Student Loan Balance and Forgiveness Statistics by Credit Score Group

with age, likely due to older borrowers having taken out loans for graduate degrees and those under 30 still actively borrowing. Borrowers aged 18–29 would receive a far greater share of forgiveness than their share of the outstanding balance, holding 21 percent of the outstanding balance but receiving 32 percent of the forgiven debt. Every other age group would receive less in cancelled debt than their share of held balances. Federal student loan prevalence is also significantly changed by the policy. The share of borrowers aged 18–29 with any federal loans would have been more than halved due to forgiveness, from 25 percent to 12 percent, but many of these borrowers would likely take out new loans as they continue their college education.

Who Benefits by Credit Score?

Figure 2 shows the distribution of forgiveness by credit score bins, which approximates financial stability. We use credit scores from just before the pandemic (when available) since the administrative forbearance event mechanically increased credit scores for many student loan borrowers, specifically delinquent borrowers (Mangrum et al. 2022). Student loan borrowers have lower credit scores than the rest of the population (as shown in table 1) and nearly one quarter of borrowers have a credit score less than 620. For borrowers with credit scores below 720 (roughly the median score), average balances are flat around \$35,000, but balances skyrocket for higher scores, with those over 760 holding an average balance of nearly \$55,000. Student loans are more prevalent among individuals with lower credit scores: About 26 percent of individuals with



Notes: The three panels above plot statistics for the distribution of balances held and estimated forgiveness for the population by quintiles of median household income for each borrower's Census Block Group from the ACS. The first panel plots the share of the adult population, the share of balances held, and the share of estimated forgiveness dollars by groups. The second panel plots the average balance by group and the average estimated forgiveness amount per eligible borrower by group. Within each blue box, we report the fraction of each group's eligible balance that the average forgiveness amount comprises. Panel c reports the share of the adult population with student loans before (in purple) and after forgiveness (in blue). In each blue box, we report the fraction of borrowers in each group that either has a remaining balance or a balance that is entirely forgiven by the proposed policy. Population counts come from the ACS. Precise statistics are available in table 2.

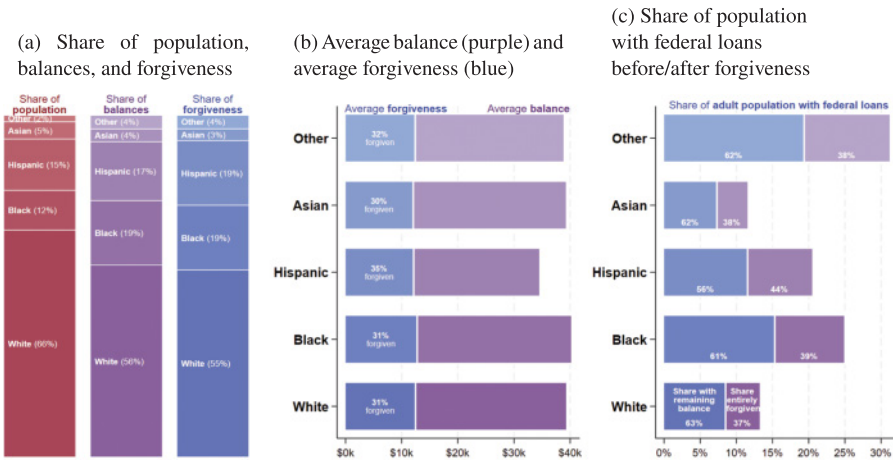
Source: New York Fed Consumer Credit Panel/Equifax; American Community Survey (ACS).

Figure 3. Federal Student Loan Balance and Forgiveness Statistics by Quintiles of Median Neighborhood Income

scores under 720 hold any student loans, but only 5 percent of individuals with scores over 760 hold federal student loans. Each group under 720 would receive a larger share of dollars forgiven than the share of balances they hold, while those over 720 would receive less. Due to their high balances, few borrowers with scores over 720 would see their federal student debts completely forgiven, while over 40 percent of the borrowers with scores below 720 would see their federal student debts completely wiped out.

Who Benefits by Neighborhood Income?

Figure 3 splits borrowers into quintiles of the population according to median neighborhood (CBG) income from the ACS. The share of the population with any student loans generally rises with income, from 10.7 percent in the first quintile to 12.6 percent in the fourth, before falling back to 11.3 percent in the top quintile. The average student loan balance strictly rises with income, from nearly \$33,000 in the bottom quintile to nearly \$46,000 in the top. Each group makes up roughly 20 percent of the population by construction, but the bottom two groups each hold less than 20 percent of the outstanding debt, while the top two groups each hold more. On the other hand, the bottom three quintiles each would have received a larger share of the balance forgiven than their share of the outstanding balance, while the top two would have received a smaller share. The bottom quintiles also would have seen more of their borrowers completely forgiven due to their smaller average balances and higher odds of having received a Pell Grant—nearly half of the borrowers in the bottom two quintiles would have seen their debts completely wiped out.



Notes: The three panels above plot statistics for the distribution of balances held and estimated forgiveness for the population by Race/Ethnicity using Census categories. Race/ethnicity is not directly reported in our data so we estimate these shares leveraging variation over space. Our methodology is detailed in online appendix A. The first panel plots the share of the adult population, the share of balances held, and the share of estimated forgiveness by groups. The second panel plots the average balance by group and the average estimated forgiveness amount per eligible borrower by group. Within each blue box, we report the fraction of each group's eligible balance that the average forgiveness amount comprises. Panel c reports the share of the adult population with student loans before (in purple) and after forgiveness (in blue). In each blue box, we report the fraction of borrowers in each group that either has a remaining balance or a balance that is entirely forgiven by the proposed policy. Population counts come from the ACS. Precise statistics are available in table 2.

Source: New York Fed Consumer Credit Panel/Equifax; American Community Survey (ACS).

Figure 4. Federal Student Loan Balance and Forgiveness Statistics by Race/Ethnicity

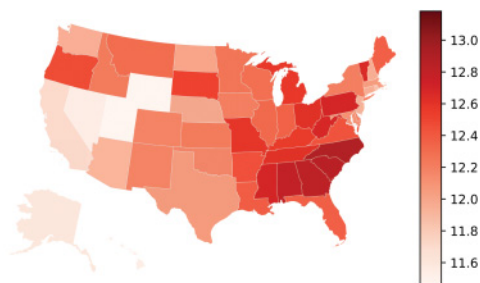
Who Benefits by Race/Ethnicity?

Figure 4 reports the distribution of potentially forgiven debt by racial and ethnic groups. Since we do not directly observe borrower race or ethnicity in the CCP data, we exploit variation in the demographic composition of CBGs by race/ethnicity and age to compute weighted average student debt statistics. We describe our novel methods more completely in online appendix A.4. We estimate that Black non-Hispanic student loan borrowers have the largest outstanding balance at \$40,200, and Hispanics (of any race) have the smallest at \$34,500. Black non-Hispanic borrowers and Hispanic borrowers were the groups most likely to benefit most from the forgiveness proposal. Black non-Hispanic borrowers have the largest average potential forgiven debt, while Hispanic borrowers would have seen the largest share of their average balance forgiven at one-third. These groups were also the most likely to have their entire balance forgiven. The prevalence of federal student loans would have been cut by 10 percentage points for Black non-Hispanic borrowers, from 25 percent to 15 percent, and the prevalence for Hispanic borrowers would have been cut roughly in half, from 20.5 percent to 11.4 percent. The larger estimated impact on Black non-Hispanic and Hispanic borrowers is because these borrowers tend to have lower incomes, which translates to a higher likelihood of qualifying based on the means-test, and they are more likely to have received a Pell Grant while in school (Cook and Tilsley 2022).

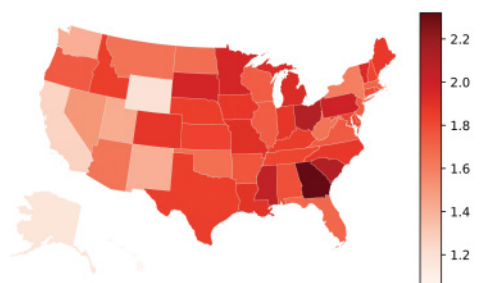
Who Benefits by State?

In figure 5 we compare the distribution of forgiven debt by state along three measures: (a) the average forgiven amount per eligible borrower, (b) the average forgiveness per

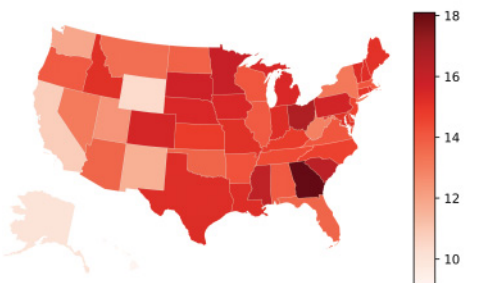
(a) Average forgiven balance per eligible borrower (in thousands)



(b) Average forgiven balance per adult population (in thousands)



(c) Percent of adult population receiving any forgiveness



Notes: Each map above presents a statistic representing the distribution of forgiven debt by U.S. state. The top panel denotes the average amount of forgiveness per income-eligible borrower eligible. The second map shows the average forgiven balance per adult population with the state (from the ACS). The bottom map shows the share of the adult population (from the ACS) within each state that receives any federal student loan forgiveness. Precise statistics are available in online appendix table B.1. Source: New York Fed Consumer Credit Panel/Equifax; American Community Survey (ACS).

Figure 5. Forgiveness Statistics for Biden Administration Forgiveness Proposal, by State

adult population, and (c) the percent of the state’s adult population receiving any forgiveness (values for each statistic by state are detailed in online appendix table B.1). The distribution of average forgiveness per eligible borrowers is tight—ranging by only \$1,600, from just under \$11,500 in Utah to over \$13,100 in Washington, DC. The six with the highest averages are all in the Southern Census region: Washington, DC, North

Carolina, Georgia, South Carolina, Alabama, and Mississippi. The six lowest averages are all in the West: Utah, Wyoming, Hawaii, Nevada, Alaska, and California. The rank order for the average forgiveness per capita is similar, but the relative range is wider, from just over \$1,000 in Hawaii to over \$2,300 in Georgia. In the last panel, similar regional trends emerge for the share of the adult population with any forgiveness. Across all three categories, Southern states consistently rank near the top of benefits received and Western states in the bottom. Only three states (not including Washington, DC) rank in the top 10 across all three measures and all three are Southern: Mississippi, South Carolina, and Georgia. Similarly, the only states to rank in the bottom ten in all three measures are Western: Alaska, California, Hawaii, Nevada, Utah, Washington, and Wyoming. Differences across states are largely driven by differences in income, delinquency, and student loan borrowing rates. Southern states tend to be lower-income which increases a borrower's odds of being income-eligible and also increases Pell Grant receipt. Online appendix figure A.2 shows higher rates of Pell Grant receipt for Southern states. Mangrum et al. (2022) show higher average balances and higher delinquency rates for Southern states, suggesting that students living in Southern states borrow larger balances and are more likely to struggle with repayment (leading to even larger balances through penalties, fees, and interest). Southern states like Georgia and South Carolina are also in the top five for the share of the adult population with federal student loans. Combined, this results in larger balances eligible for forgiveness and a higher probability of being income eligible in Southern states.

FORGIVENESS POLICY ALTERNATIVES AND COMPARISONS TO TAX CREDITS

In this section, we explore the share of forgiven debt that would have been distributed to zip codes, ranked from lowest to highest median household income (from the ACS). We compare the distribution of benefits from the announced policy to other hypothetical student loan forgiveness policies. Then we compare the proposed policy to the distribution of benefits from three tax policies in the 2019 tax year using aggregated tax return data from the IRS SOI.

Comparison to Alternate Hypothetical Forgiveness Policies

Table 3 reports our comparison of policies. First, we find that the original forgiveness proposal would have distributed 23.6 percent of forgiveness dollars to the bottom 25 percent of zip codes, 48.8 percent to the bottom 50 percent of zip codes, 75.6 percent to the bottom 75 percent of zip codes, and 8.5 percent to the top 10 percent of zip codes. These results suggest that the proposal was broadly proportional across zip median household income, distributing a similar share of benefit across zip codes by income, up until the top 10 percent which receives less benefit.

Next, we compare the White House proposal to several hypothetical alternative forgiveness policies. We start by cutting the income criteria in half, to \$75,000 for an individual and \$125,000 for a household. In this case, the total stock of eligible loans would have been cut by roughly \$100 billion and a higher share of forgiveness dollars would have been distributed to lower-income zip codes and a lower share to higher points in the distribution. For each point in the bottom of the distribution we present, the share of benefit distributed is larger than the population share, trivially revealing that a more binding income limit produces a more progressive policy.

Table 3. Comparing the Distribution of Beneficiaries of the White House Forgiveness Proposal to Alternatives and Other Fiscal Policies

Policy	Cost	Share of Benefit Distributed to:			
		Bottom 25%	Bottom 50%	Bottom 75%	Top 10%
White House Forgiveness Proposal	\$442b	23.6%	48.8%	75.6%	8.5%
Alternative forgiveness policies					
WH plan with \$75k/\$125k income limit	\$343b	26.0%	52.2%	78.4%	7.2%
WH plan with no income limit	\$467b	22.9%	47.5%	74.2%	9.4%
\$10k forgiveness with \$125k/\$250k income limit	\$313b	22.9%	47.6%	74.6%	9.1%
\$20k forgiveness with \$125k/\$250k income limit	\$531b	22.4%	47.0%	74.1%	9.3%
Total loan forgiveness	\$1,465b	19.9%	42.6%	69.7%	11.9%
Other fiscal policies					
Earned Income Tax Credit [2019]	\$63b annually	39.2%	67.7%	88.6%	3.2%
Child Tax Credit [2019]	\$116b annually	21.8%	46.1%	72.2%	11.1%
Education Tax Credits [2019]	\$14b annually	19.3%	42.9%	70.7%	11.1%

Notes: The table above summarizes the cost and distribution of beneficiaries for the Biden administration student loan forgiveness compared to (a) alternative hypothetical student loan forgiveness policies and (b) other recent salient fiscal policies. We rank each zip code from lowest income to highest income using the median household income from the American Community Survey. We then compute the bottom 25 percent, bottom 50 percent, bottom 75 percent and top 10 percent of zip codes using adult population counts from the American Community Survey. For student loan forgiveness policies, we aggregate the total estimated canceled debt within each zip code from the Consumer Credit Panel to compute the total cost and the share of benefits. For the Earned Income Tax Credit and the Child Tax Credit, we compute the total cost and the distribution of benefits by aggregating the value of tax credits to the zip code level. Education Tax Credits is shorthand for the combination of the American Opportunity Tax credit and the Lifetime Learning Credit.

Source: New York Fed Consumer Credit Panel/Equifax; Internal Revenue Service Statistics of Income 2019; American Community Survey.

On the other hand, the income limit of the announced policy does not substantially affect the distribution of forgiven debt. As discussed above, only 5.3 percent of borrowers are estimated to be excluded from the policy by income. Entirely removing the income threshold increases the share going to the top 10 percent of zip codes by less than a percentage point and has a minimally regressive effect throughout the distribution. However, the income requirement does come at a cost of added bureaucracy in verification, administration, and delivery of benefits.

Next, we remove the Pell Grant condition to examine the impact of the additional forgiveness for Pell Grant recipients. We study both a \$10,000 and \$20,000 forgiveness policy, coupled with the same income criteria from the Biden administration proposal. We find that the additional relief to recipients of a Pell Grant shifts a larger share of benefits to lower-income borrowers largely because these borrowers were lower-income to begin with and because these borrowers were less likely to complete college (Cook and Tilsley 2022). The Pell Grant consideration in the announced policy would have distributed an additional \$129 billion to Pell Grant recipients, but providing \$20,000 cancellation to all income-eligible borrowers would have distributed an additional \$90 billion to borrowers who never received a Pell Grant.

The cost of cancelling all federal student loans with no means-testing is extraordinarily high (\$1.465 trillion) and rather regressive. As presented in table 2, older and higher income borrowers have significantly larger federal student loan balances, so universal loan forgiveness disproportionately benefits high-income individuals. Only 69.7 percent of benefits would be directed to the bottom 75 percent of zip codes while almost 12 percent of benefit would go to the top 10 percent, representing the most regressive and most expensive of the forgiveness policies we study.

Comparison to Tax Credits

The last portion of table 3 compares the distribution of benefits of the announced student loan forgiveness proposal to three policies that direct tax credits to households. The first row shows the distribution of the EITC, a tax-based cash assistance program that provides support to low- and middle-income households, particularly those with children. EITC is a progressive program by design, and specifically uses tax filing income to determine eligibility. Thus, if this analysis were conducted with tax-filer level data, it would necessarily show that 100 percent of 2019 funds went to tax-filers below the \$55,952 income limit for that year. However, some lower income households live in higher income zip codes and receive EITC. Using our methodology and grouping at the zip code level, we find that 39.2 percent of the EITC benefit goes to households living in the bottom quartile of income areas, and 67.7 percent goes to the bottom half. By this measure, the student loan forgiveness proposal is less progressive than the EITC, as we would expect.

We next compare to the CTC, which was originally intended to provide relief to lower-income families with children, but has since been revised to be more inclusive of higher-income households. In the 2019 filing year, households were eligible with up to \$200,000 adjusted gross income filing individually and \$400,000 filing jointly. However, only some of this credit was refundable in 2019, meaning that lower-income families who did not owe income tax received a smaller credit. By our measure, the CTC for the 2019 tax year was more regressive than the announced student loan forgiveness proposal, with the top decile of zip codes reaping 11.5 percent of benefits, and the top quartile taking 27.8 percent.

The last row shows the results for the Education Tax Credits (ETC) from the IRS SOI, which combine the American Opportunity Tax Credit (AOTC) and the Lifetime Learning Credit into one total. These credits can be used to offset various tuition and fee related expenses associated with higher education and were available for up to \$2,500 per eligible student for the AOTC and up to \$2,000 per eligible return for the Lifetime Learning Credit during the 2019 tax year. Both have maximum eligibility thresholds based on taxable income and the AOTC is partially refundable. We focus on these credits because they are similar in scope (expenses for higher education) and magnitude to the forgiveness proposal. Both policies provide relief meant for college education expenses, but the ETC provides relief while the student is in college while the forgiveness proposal provides relief ex post. As for magnitude, the ETC totaled \$14 billion in 2019, whereas the Congressional Budget Office estimated that the Biden administration's forgiveness plan would cost \$21 billion in 2023 and would average \$13.3 billion over 30 years (Congressional Budget Office 2022). As for the distribution of beneficiaries, we found the combination of these two education tax credits directs only 19.3 percent of benefits to the bottom quartile, 42.9 percent to the bottom half, and 70.7 percent to the bottom 75 percent of residents by zip median household income. These credits distribute the same share of benefits to the top 10 percent as the CTC, at 11.1 percent, which is more than the forgiveness proposal at 8.5 percent.

A natural question after “who benefits” is “who pays for the proposal?” Because the reduction in government revenues is not offset by additional tax revenue, taxpayers could expect higher future taxes. If we hold the distribution of taxes paid by median zip income fixed at 2019 levels as above for the tax credits, we find that 6.7 percent of

federal income taxes are paid by the bottom 25 percent of median zip income neighborhoods, 19.6 percent by the bottom 50 percent, 44 percent by the bottom 75 percent, 70.6 percent by the bottom 90 percent, 29.4 percent of federal income taxes are paid by the top 10 percent. Hence, if taxes were increased evenly across all taxpayers to offset the reduction in revenue from the proposal, the top 50 percent of median zip income neighborhoods would pay 80.4 percent of the additional burden, while the top 50 percent would receive only 51.2 percent of benefits. On the other hand, the bottom 50 percent of median zip income neighborhoods would pay 19.6 percent of the additional tax burden while receiving 48.8 percent of cancelled loans, suggesting a transfer from higher income neighborhoods to lower income neighborhoods. Alternatively, if we consider transfers across time, future taxpayers would pay for the proposal, which aligns with younger borrowers benefiting more from the proposal. More obviously, this is a transfer from those without federal student loans to those who hold student loans.

CONCLUSION

In this brief, we study the 2022 proposal from the Biden administration that would have cancelled more than \$440 billion in federal student loans. We explore who would have benefited most from the policy and compare the policy's distribution of beneficiaries to several alternative forgiveness schemes and other existing tax policies. From our analysis, we find that the policy levers available to craft a student loan forgiveness proposal can help to produce a policy that is better targeted toward struggling borrowers. First, the most direct signal of a struggling borrower is their previous delinquency or default status. Cancelling loans of those who were previously delinquent or in default is likely the most direct way to target forgiveness to struggling borrowers. Additionally, borrowers who were delinquent or in default prior to the pandemic had smaller loan balances on average at \$29,707 (median of \$15,091) compared with \$34,309 (median of \$17,562) for all student loan borrowers (Mangrum et al. 2022). Forgiving some or all of these loans would forgive smaller balances and those held by borrowers with demonstrated struggles, although this approach may heighten public concerns with fairness for ineligible taxpayers and moral hazard for future borrowers.

Next, targeting loan forgiveness toward Pell Grant recipients leans toward a more progressive policy. For students entering college in 2012, Pell Grant recipients were half as likely to have earned their degrees than non-Pell Grant recipients, likely because Pell Grant borrowers were lower income before college (Cook and Tilsley 2022). If it is not possible to directly target borrowers by degree status, targeting by Pell Grant status can operate as a proxy. We also have shown (trivially) that reducing the income limit for eligibility makes for a more progressive policy. Cutting the income limit from the original proposal in half would have increased the progressivity of the proposal and reduced costs by roughly \$100 billion.

Outside of our analysis, there are other policy levers that the literature suggests would create a more progressive policy. Our data do not allow us to separate graduate student borrowing from the broader pool, so we are unable to test the effects of excluding these loans from eligibility. Those with graduate student loans have larger balances, but are more likely to have higher earning power and have earned (at least) an

undergraduate degree. These facts combined suggest that excluding graduate loans would also increase the progressivity of the policy.

On 30 June 2023, the Supreme Court voted in favor of the plaintiffs in *Biden vs Nebraska*, thus striking down the Biden administration's federal student loan forgiveness proposal. On the same day, the administration announced they would introduce an alternative federal student loan forgiveness plan, which would originate through the rule-making process of the Higher Education Act of 1965. They have since announced plans to provide targeted forgiveness to troubled borrowers and increased access to income driven repayment, which are planned for July 2024. The results from this brief can help policy makers design more progressive legislative or executive policies to help struggling borrowers.

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