Student Loans and Retirement Preparedness

By Craig Copeland, Michael Conrath, Sharon Carson, and Alex Nobile

AT A GLANCE

Student loan debt can be a burden on individuals' finances and can impact the level of contributions a 401(k) participant may make. Having a better understanding of this impact and how participants respond to a change in this debt payment status can provide better information for plan sponsors on benefit decisions. Consequently, this study aims to provide better information on how student loan debt payments affect the 401(k) contributions of those who are contributing and what participants do with their contributions when their student loan payment status changes (payments end or start) by looking directly at 401(k) plan recordkeeper data on balances and contributions of active participants linked with banking data from these same participants to see if they are making student loan payments.

- One-fifth of the study sample's participants had student loan payments in at least one of the three years of this study, while 12.1 percent had them in all three years. However, the likelihood of these participants having student loan payments decreased as the age of the participant increased. The likelihood also decreased as tenure decreased, while it increased with income.

- Among those with incomes less than $55,000, the average employee contribution rate of those making a student loan payment over the three-year period was 5.3 percent compared with 5.7 percent for those not making student loan payments. The difference was larger among those with incomes of $55,000 or more: 6.1 percent with payments vs. 7.3 percent without payments.

- When looking at the resulting balances at the end of the study period by tenure, the average account balances at the end of the study were lower for those who made student loan debt payments than for those who did not make these payments. The differences were particularly pronounced among the participants with incomes of $55,000 or more. For example, among those with tenures of more than five years to 12 years, the average balance for those who made payments was $86,109 vs. $107,687 for those who did not make payments.

- Of the participants who were making student loan debt payments at the beginning of the study period and had stopped by the end of the study, 31.6 percent increased their contribution rate by at least 1 percentage point after the payments had stopped. This share that increased was slightly higher for those with incomes less than $55,000, at 33.3 percent, compared with 30.5 percent for those with incomes of $55,000 or more.

- Making student loan debt payments was found to have a statistically significant negative impact on both the average employee contribution rate and account balance at the end of the study.

The paying of student loan payments had a significant impact on the level of contributions of those contributing. However, some of the impact of the student loan payments appeared to be muted by the existence of employer contributions and default contribution rates of automatic enrollment plans, as the median employee contribution rate for all participants was near the level of the maximum amount matched and/or common default rates. Furthermore, a sizable share of participants adjusted their contributions as their student loan debt obligations outside of the plan changed. Consequently, financial wellness programs can help with contribution and debt payment decisions by considering the total finances of the participant. The change in payment status can also be an important touchpoint in helping to improve the financial wellbeing of participants, as many appear to be making important financial decisions at this time, and better information could improve outcomes.

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Introduction

Student loan debt can be a tremendous burden on individuals' finances and can impact the level of contributions a 401(k) participant may make. Having a better understanding of this impact and how participants respond to a change in this debt payment status can provide better information for plan sponsors on benefit decisions. SECURE 2.0 allows for many potential changes to 401(k) plans and financial wellbeing programs, including matching contributions to 401(k) plans from student loan debt payments. However, many benefit changes can result in additional expenses, and in some cases, these additional expenses might not result in the impact that was expected.

Consequently, this study aims to provide better information on how student loan debt payments affect the 401(k) contributions of those who are contributing and what participants do with their contributions when their student loan payment status changes (payments end or start). It will accomplish this by looking directly at 401(k) plan recordkeeper data on balances and contributions of active participants linked with banking data from these same participants to see if they are making student loan payments. A three-year period will be examined to determine if contribution changes result after stopping and starting payments and if student loan payments were made in prior years instead of just a one-year snapshot, which could miss participants who were making payments in the year(s) prior to an analysis year.

The Employee Benefit Research Institute (EBRI) and J.P. Morgan Asset Management are conducting this study as part of an ongoing joint effort to deliver data-driven research to better understand how the financial factors faced by 401(k) plan participants outside of their 401(k) plan impact their retirement preparations. Thus, the goal is to provide unique fact-based insights to help build a stronger retirement system by policymakers, plan sponsors, and plan providers.

The study starts by examining the share of the participants who have student loan payments across age, tenure, and income. The contribution rates and account balances are then correlated with student debt payment status by tenure. Furthermore, the changes in contribution rates after payments are either stopped or started are investigated. Lastly, regression analyses on the contribution rates and account balances are conducted.

Data Sources

EBRI/ICI 401(k) Plan Database — This is a participant-level database constructed from the administrative records of 401(k) plans at the end of each year, representing a large cross section of 401(k) plans. The database represents a broad range of participants — including those who are young or old and those who are new to their jobs or have been with their current employers for many years.[1]

Chase Data — JPMorgan Chase Bank, N.A. (Chase) serves nearly half of America's households with a broad range of financial services including checking, savings, investments, credit cards, and loans. Chase's scale and wide reach allows for a comprehensive view of household finances. In this analysis, the Chase data sample is restricted to the households in 2016–2020 who use Chase as their primary banking institution, and their total household spending through all payment mechanisms (select credit and debit card transactions, electronic payment transactions, check and cash payments) and sources of income including wage income, Social Security, annuity, pensions, etc. can be linked to the EBRI/ICI Database. For more information about Chase, visit the following website: https://www.chase.com/digital/resources/about-chase.

Data privacy is fully protected. No personally identifiable information is contained within the data, and all spending and saving attributes analyzed in this research are kept completely anonymous.[2]

Household Demographics

The single-customer-household participants in this sample are widely distributed across ages, incomes, and tenures with their current employer. For example, 11.6 percent were younger than age 30 in 2017, 28.1 percent were ages 40–49, and 7.8 percent were ages 60–65 (Figure 1).[4] For the average incomes over the three-year period (2017–2019), 28.4 percent had incomes of less than $40,000 and 26.4 percent had incomes of 75,000 or more. Nearly one-third (29.5 percent) of the participants had tenure of five years or less, 31.8 percent had tenures of more than five to 12 years, and 15.7 percent had more than 20 years of tenure.[5]

Student Loan Payment Incidence

One-fifth of these participants had student loan payments in at least one of the three years of this study, while 12.1 percent had them in all three years (Figure 1). However, the likelihood of these participants having student loan payments decreased as the age of the participant increased (Figure 2). Specifically, 33.2 percent of those younger than age 30 had student loan debt payments in at least one of the three years of the study, while 18.2 percent of those ages 40–49 and 10.0 percent of those ages 60 or older had these payments. In contrast, the likelihood of having student loan debt payments increased with income (Figure 3), as 6.9 percent of those with incomes of less than $40,000 had payments in each of the three years vs. 16.5 percent of those with incomes of $75,000 or more. Lower tenure was correlated with a higher likelihood of having student loan payments, as 26.1 percent of those with five years or less of tenure had student loan debt payments in at least one of the three years of the study compared with 13.3 percent of those with more than 20 years of tenure (Figure 4).

Figure 1
Distribution of the Single-Customer-Household Participants, by Key Characteristics

Age (2017)	
Younger than 30	11.6%
30–39	26.6%
40–49	28.1%
50–59	25.9%
60 or older	7.8%
Income (Average 2017–2019)	
Less than $40,000	28.4%
$40,000–$54,999	24.0%
$55,000–$74,999	21.2%
$75,000 or more	26.4%
Years of Tenure (2019)	
5 or less	29.5%
>5–12	31.8%
>12–20	23.1%
>20	15.7%
Student Loan Payments Some Years	20.4%
Student Loan Payments Each Year	12.1%

Source: Estimates from the EBRI/ICI 401(k) Plan Database and select Chase data. For more information, see the Data Sources box in the text.

Figure 2
Percentage of Households With Student Loan Debt Payments, by Age
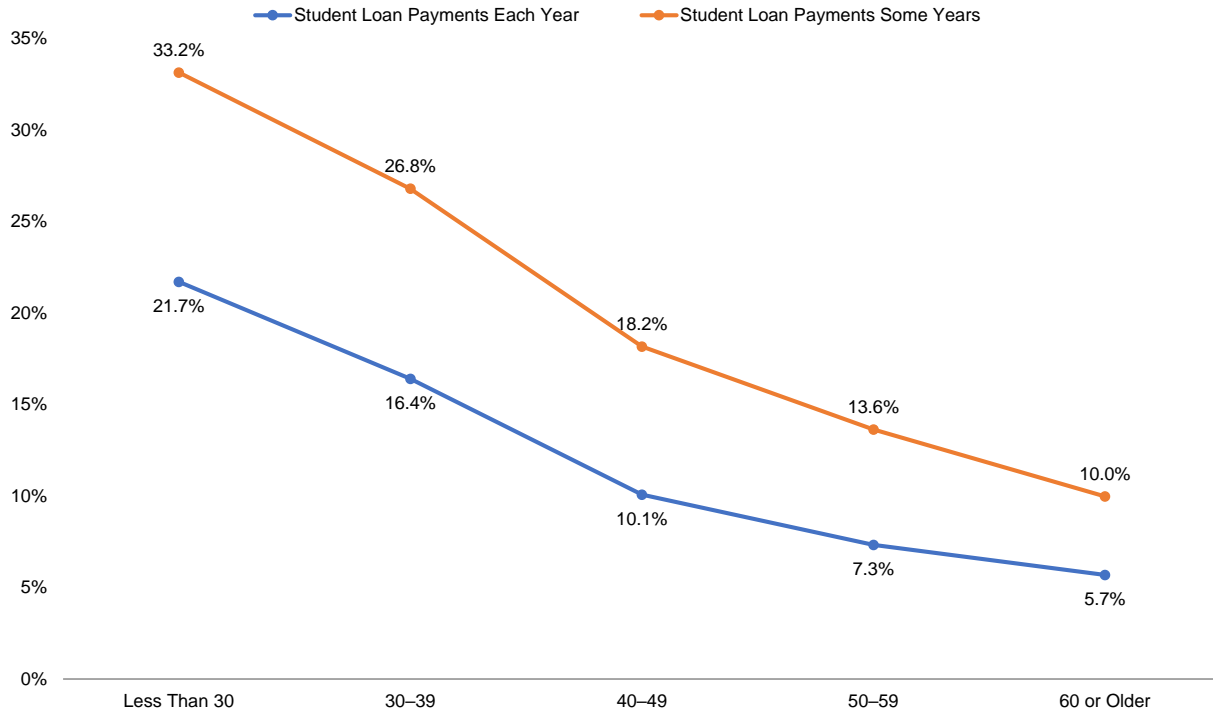
Student Loan Payments Each Year ——●—— Student Loan Payments Some Years ——●——

33.2%

26.8%

21.7%

18.2%

16.4%

13.6%

10.1%

10.0%

7.3%

5.7%

| Less Than 30 | 30–39 | 40–49 | 50–59 | 60 or Older |

Source: Estimates from the EBRI/ICI 401(k) Plan Database and select Chase data. For more information, see the Data Sources box in the text.

Figure 3
Percentage of Households With Student Loan Debt Payments, by Income

Student Loan Payments Each Year ——●—— Student Loan Payments Some Years ——●——

26.9%

23.1%

18.8%

16.5%

13.7%

14.3%

11.3%

6.9%

| Less Than $40,000 | $40,000–$54,999 | $55,000–$74,999 | $75,000 or More |

Source: Estimates from the EBRI/ICI 401(k) Plan Database and select Chase data. For more information, see the Data Sources box in the text.

Figure 4
Percentage of Households With Student Loan Debt Payments,
by Tenure With Current Employer
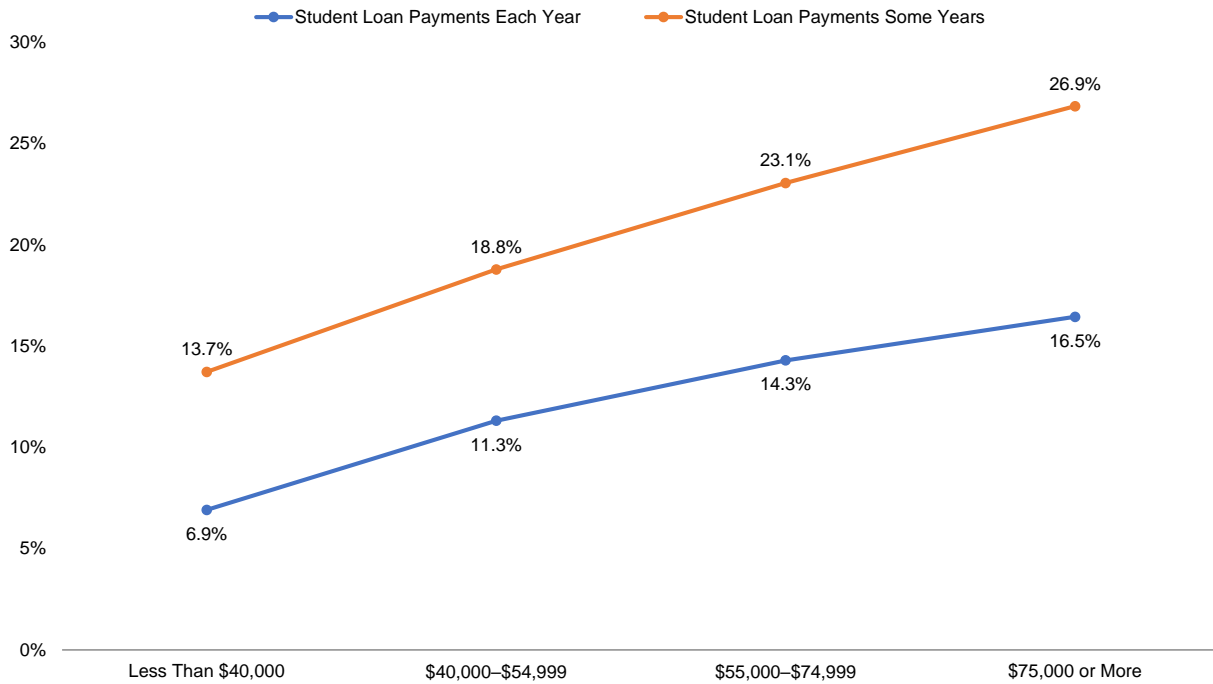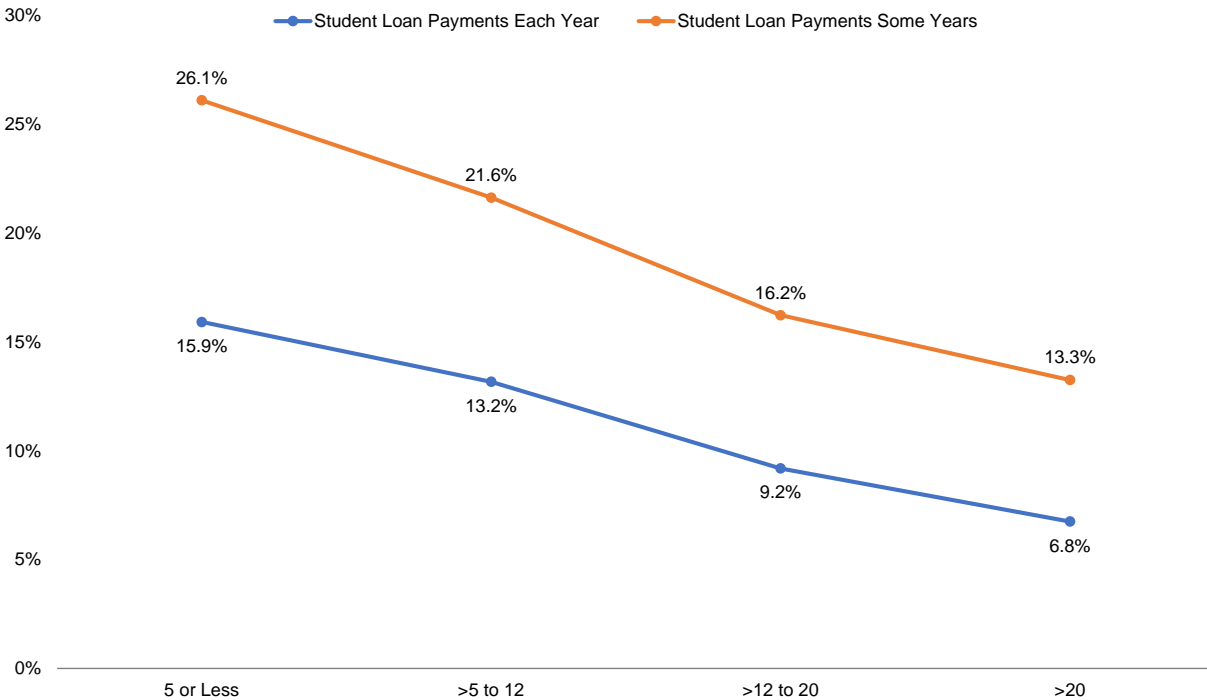

Source: Estimates from the EBRI/ICI 401(k) Plan Database and select Chase data. For more information, see the Data Sources box in the text.
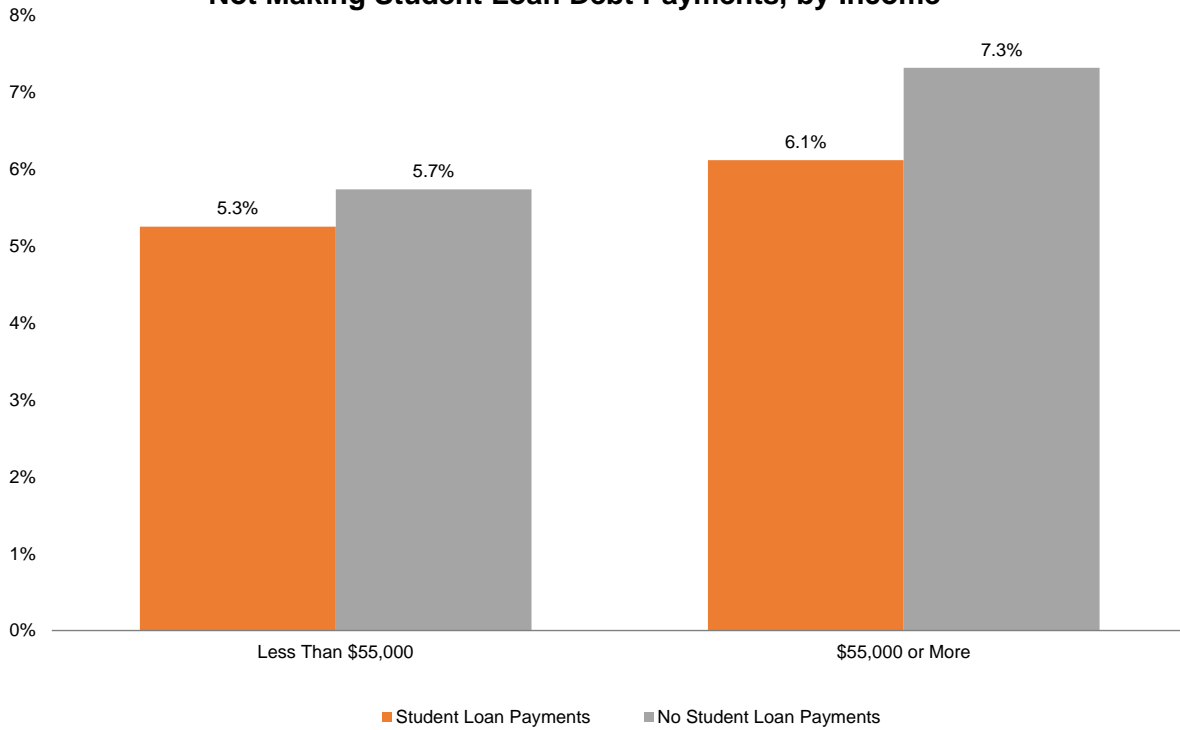
Contribution Rates and Student Loan Payments

Having to make a student loan payment would be expected to reduce the contribution rate of a 401(k) plan participant. In fact, for the participants having to make a student loan payment in at least one of the three years of the study, the average contribution rate over the three-year study period was lower than for those not making any of these payments. Among those with incomes less than $55,000, the average employee contribution rate of those making a student loan payment over the three-year period was 5.3 percent, compared with 5.7 percent for those not making student loan payments (Figure 5). The difference was larger among those with incomes of $55,000 or more: 6.1 percent with payments vs. 7.3 percent without payments. These differences also resulted for the total (employee and employer) contribution rates, with similar differences between those making and not making payments by income (Figure 6).

Lower employee contribution rates for those making student loan payments resulted across each tenure group for both income categories (Figure 7). For example, among the participants with incomes of less than $55,000 and tenures of more than five years to 12 years, those making student loan payments had an average employee contribution rate of 5.4 percent compared with 5.8 percent for those not making payments. Again, the differences were larger among those with higher incomes, as those with the same tenures but incomes of $55,000 or more had average contribution rates of 6.0 percent and 7.4 percent, respectively.

The participants with incomes of $55,000 or more also had lower average total contribution rates across each tenure group among those who made student loan payments than those who did not make these payments (Figure 8). Except for those with the longest tenures and less than $55,000 in income, the average total contribution rates were lower for those who made student loan payments vs. those who did not make the payments.

Figure 5
**Average Employee Contributions for Those Making and
Not Making Student Loan Debt Payments, by Income**

Figure 6
**Average Total Contributions for Those Making and
Not Making Student Loan Debt Payments, by Income**
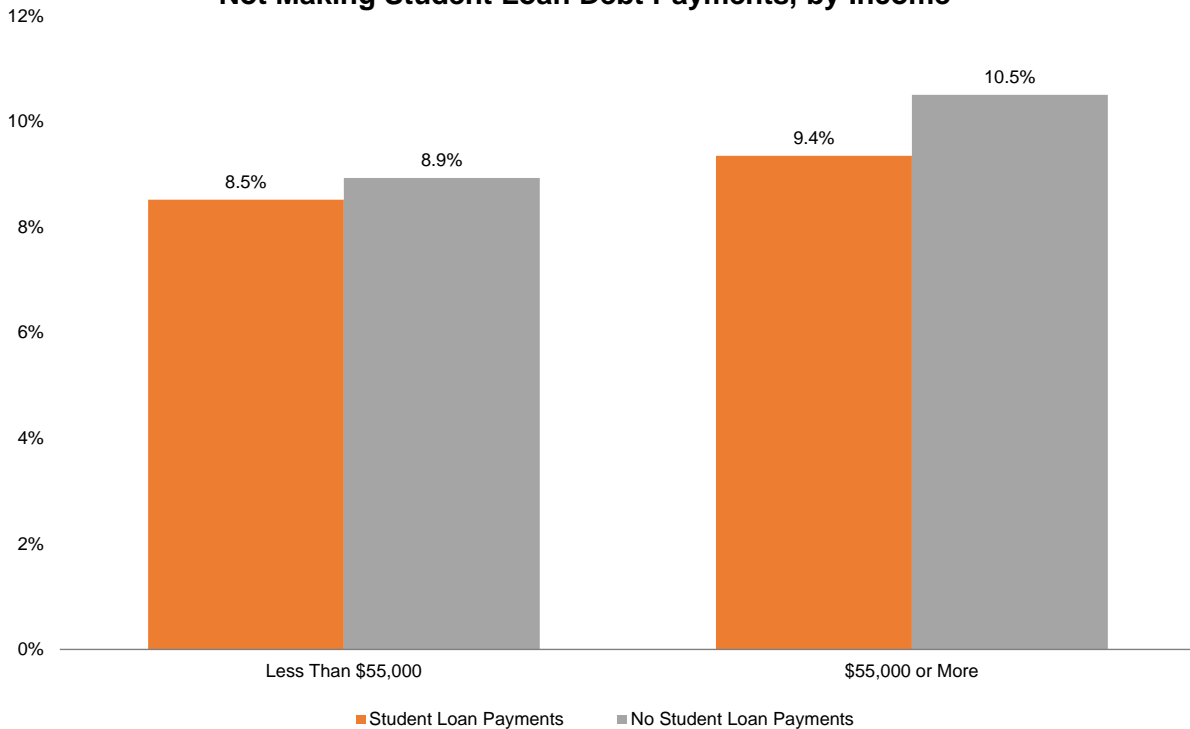
Figure 7
Average Employee Contributions for Those Making and Not Making Student Loan Debt Payments, by Years of Tenure and Income

Less Than $55,000:
- 5 or less: Student Loan Payments 5.1%, No Student Loan Payments 5.3%
- >5 to 12: Student Loan Payments 5.4%, No Student Loan Payments 5.8%
- >12 to 20: Student Loan Payments 5.2%, No Student Loan Payments 5.9%
- >20: Student Loan Payments 6.0%, No Student Loan Payments 6.2%

$55,000 or More:
- 5 or less: Student Loan Payments 6.4%, No Student Loan Payments 7.7%
- >5 to 12: Student Loan Payments 6.0%, No Student Loan Payments 7.4%
- >12 to 20: Student Loan Payments 5.8%, No Student Loan Payments 6.8%
- >20: Student Loan Payments 6.0%, No Student Loan Payments 7.4%

■ Student Loan Payments   ■ No Student Loan Payments

Source: Estimates from the EBRI/ICI 401(k) Plan Database and select Chase data. For more information, see the Data Sources box in the text.
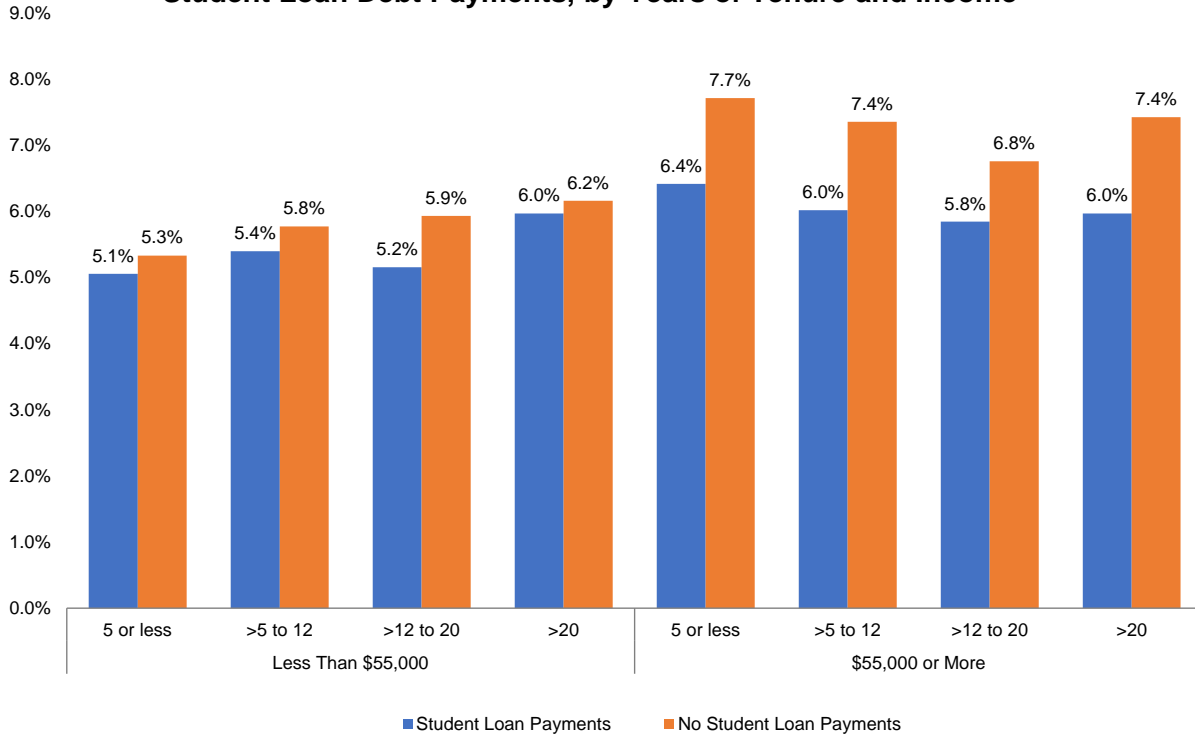
Figure 8
Average Total Contributions for Those Making and Not Making Student Loan Debt Payments, by Years of Tenure and Income

Less Than $55,000:
- 5 or less: Student Loan Payments 8.1%, No Student Loan Payments 8.2%
- >5 to 12: Student Loan Payments 8.7%, No Student Loan Payments 9.0%
- >12 to 20: Student Loan Payments 8.5%, No Student Loan Payments 9.3%
- >20: Student Loan Payments 9.7%, No Student Loan Payments 9.6%

$55,000 or More:
- 5 or less: Student Loan Payments 9.7%, No Student Loan Payments 11.3%
- >5 to 12: Student Loan Payments 9.4%, No Student Loan Payments 10.7%
- >12 to 20: Student Loan Payments 9.0%, No Student Loan Payments 9.7%
- >20: Student Loan Payments 8.8%, No Student Loan Payments 10.1%
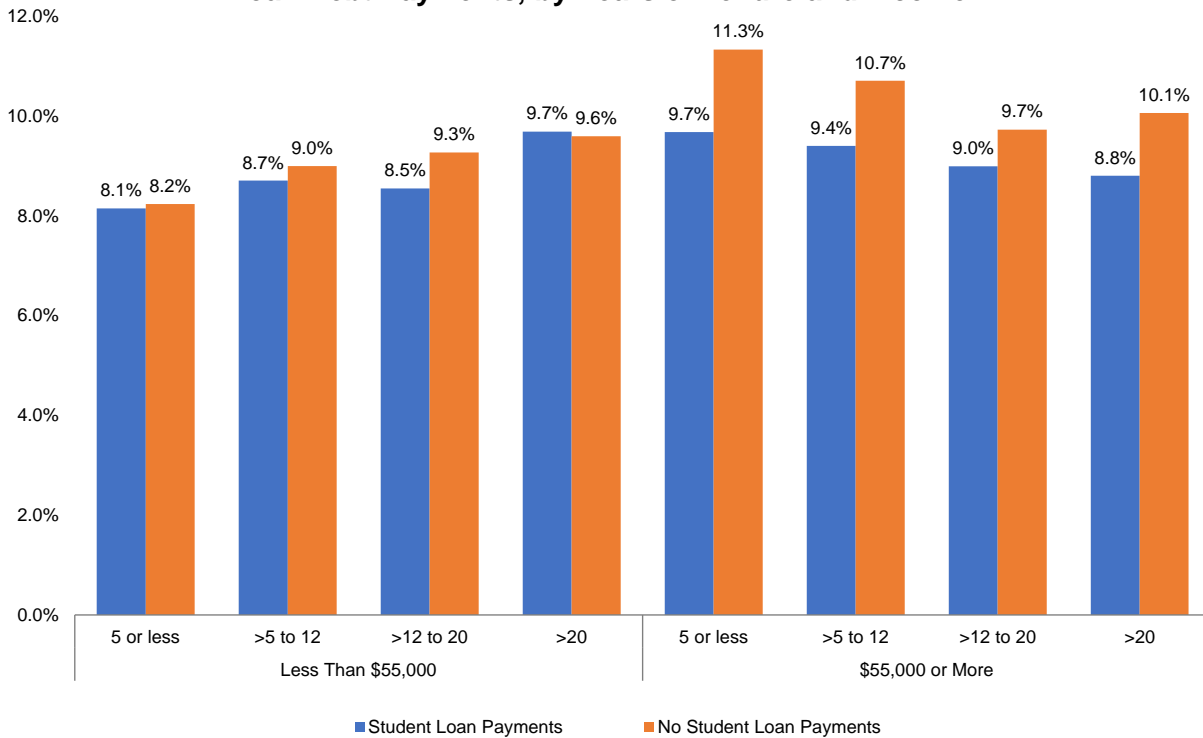
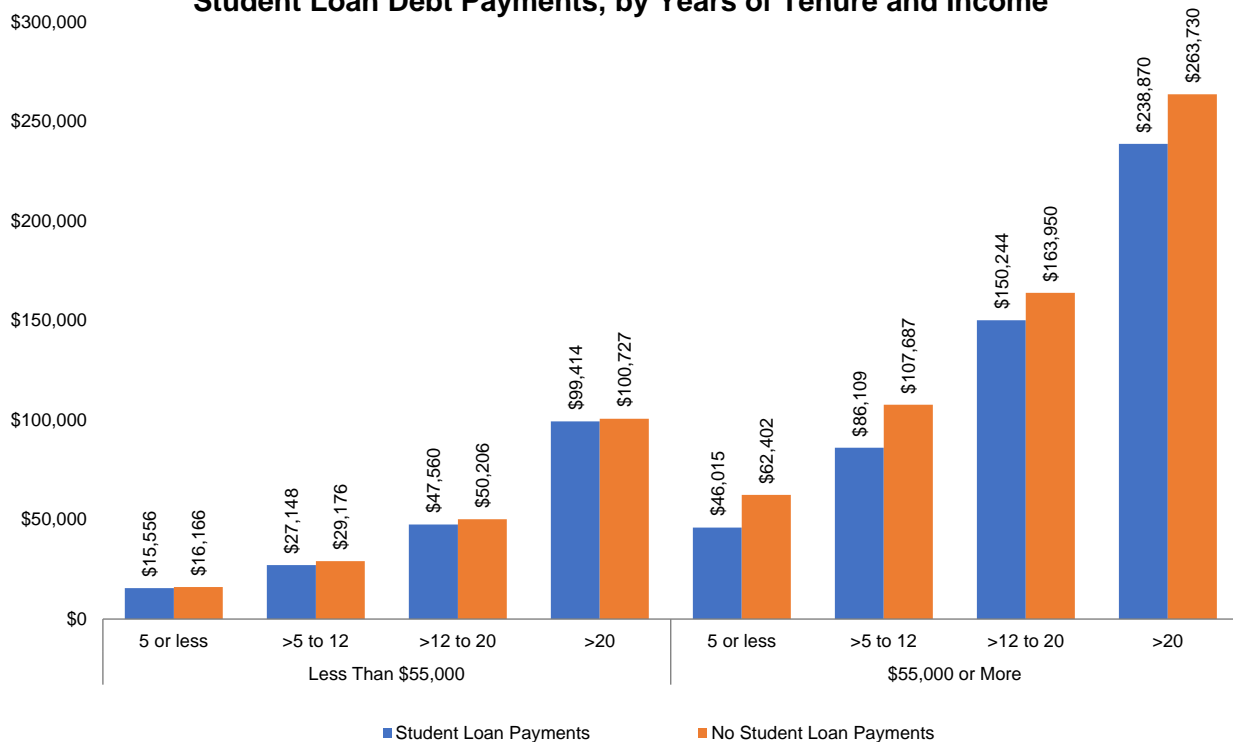■ Student Loan Payments   ■ No Student Loan Payments

Source: Estimates from the EBRI/ICI 401(k) Plan Database and select Chase data. For more information, see the Data Sources box in the text.

Account Balances and Student Loan Payments

Ultimately, the amount that a participant accumulates in their 401(k) account will be a major factor in retirement preparedness, as the 401(k) plan has become a primary source of retirement income for private-sector workers. Since this study focuses on the balances individuals have in their current employer's plan, the length of time that the participant has been with their current employer will be a critical factor in the account balance, so account balances of these participants will be presented by tenure level to control for the impact of having had a longer time to accumulate assets.[6] When looking at the resulting balances by tenure, the average account balances at the end of the study were lower for those who made student loan debt payments than for those who did not make these payments (Figure 9). The differences were particularly pronounced among the participants with incomes of $55,000 or more. For example, among those with tenures of more than five years to 12 years, the average balance for those who made payments was $86,109 vs. $107,687 for those who did not make payments. This was 20 percent less than for those who did not make payments. However, this percentage declined as the tenure increases, as the balances were 26 percent lower among those with five years or less of tenure, declining to 9 percent for those with tenures of more than 20 years.

Among the participants in the lower income group, the balances were lower but by a smaller margin. For instance, among those with tenures of greater than five years to 12 years, the average balance for those who made a student loan payment was $27,148 compared with $29,176 for those who did not make a payment. This is a 7 percent lower balance.

Figure 9
**Average 401(k) Plan Balance for Those Making and Not Making
Student Loan Debt Payments, by Years of Tenure and Income**

Source: Estimates from the EBRI/ICI 401(k) Plan Database and select Chase data. For more information, see the Data Sources box in the text.

Impact of Starting and Stopping Student Loan Payments

One way to see how responsive 401(k) participants' contribution rates are to making student loan payments is to see how contribution rates change when student loan payments start or stop. Of the participants who were making student loan debt payments at the beginning of the study period and had stopped by the end of the study, 31.6 percent

increased their contribution rate by at least 1 percentage point after the payments had stopped (Figure 10). This share that increased was slightly higher for those with incomes less than $55,000, at 33.3 percent compared with 30.5 percent for those with incomes of $55,000 or more. For those who had payments start after the beginning of the study, 25.3 percent reduced their contribution rates by more than 1 percentage point — 20.9 percent of those with incomes below $55,000 and 29.2 percent of those with incomes of $55,000 or more.[7]

Figure 10
Percentage of Those Who Had Student Loan Debt Payments Stop or Start That Changed Their Contribution Rate by 1 Percentage Point or More, by Income
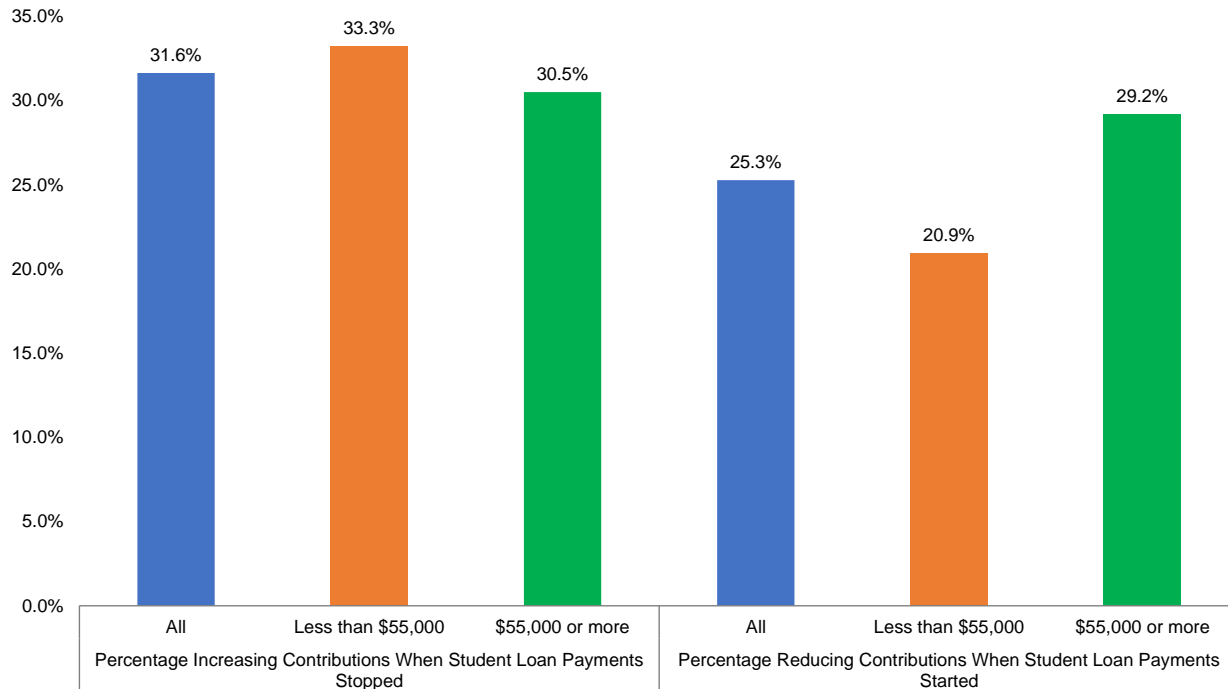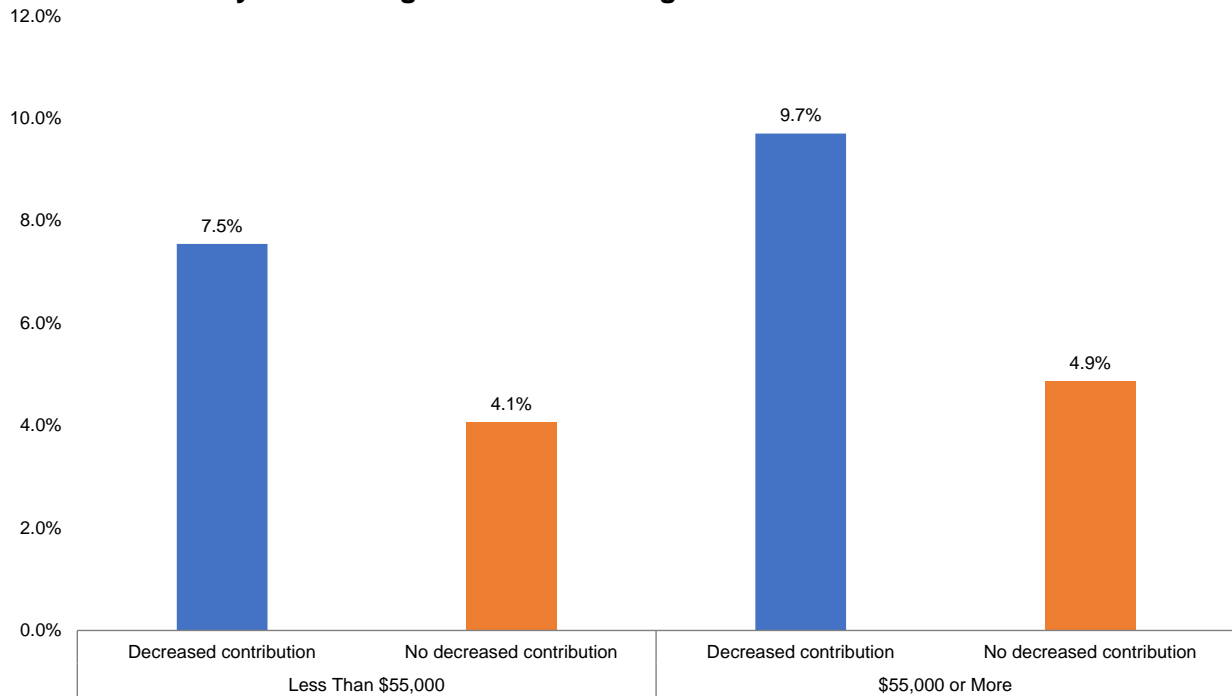

Source: Estimates from the EBRI/ICI 401(k) Plan Database and select Chase data. For more information, see the Data Sources box in the text.

The level of the contribution rate before payments start appears to have an impact on the likelihood of the contribution rate decreasing once payments start. In fact, the average contribution rate of those who reduced their contributions was roughly twice that of those who didn't reduce their contributions (Figure 11). More precisely, 78.7 percent of those who did not decrease their contributions had a contribution rate of 6 percent or less of income before the payments commenced (Figure 12). In contrast, 42.2 percent of those who did reduce their contributions had contributions of this level, including just 4.9 percent who had rates of 2 percent or less. Thus, it appears that inertia is playing a role of keeping participants at default rates and/or maximum match rates, which are typically in the range of 4—6 percent of income.

For those who had payments stop before the end of the study period, the initial contribution rate did not appear to have an impact on those who increased their contribution after the payments stopped. Among those with incomes below $55,000, the share with contribution rates of 6 percent or less was 65.9 percent for those who increased their contribution rate by at least 1 percentage point compared with 72.2 percent for those who did not increase their contribution rate (Figure 13). A similarly small difference resulted among those with incomes of $55,000 or more.

Figure 11
Average Contribution Rate Before Student Loan Debt Payments Started, by Decreasing or Not Decreasing Contributions and Income

Source: Estimates from the EBRI/ICI 401(k) Plan Database and select Chase data. For more information, see the Data Sources box in the text.

Figure 12
Distribution of Contribution Rates Before Student Loan Debt Payments Started, by Decreasing or Not Decreasing Contributions and Income
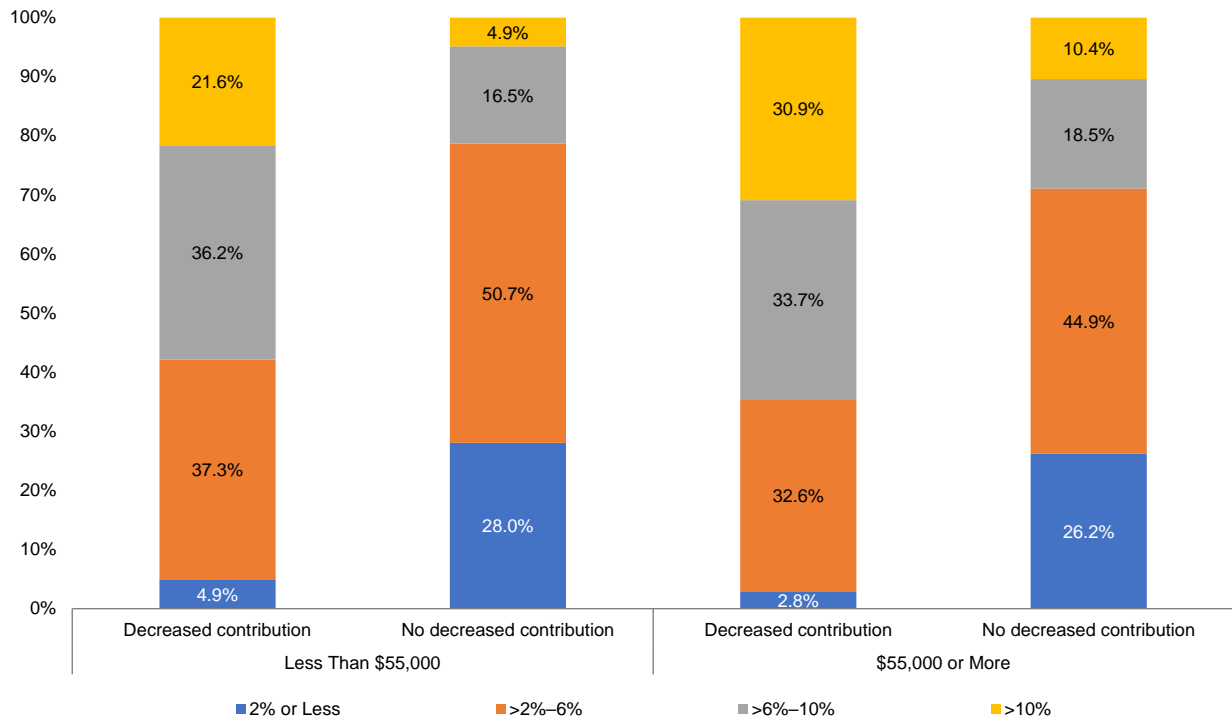
Source: Estimates from the EBRI/ICI 401(k) Plan Database and select Chase data. For more information, see the Data Sources box in the text.

Figure 13
Distribution of Contribution Rates Before Student Loan Debt Payments Stopped, by Increasing or Not Increasing Contributions and Income
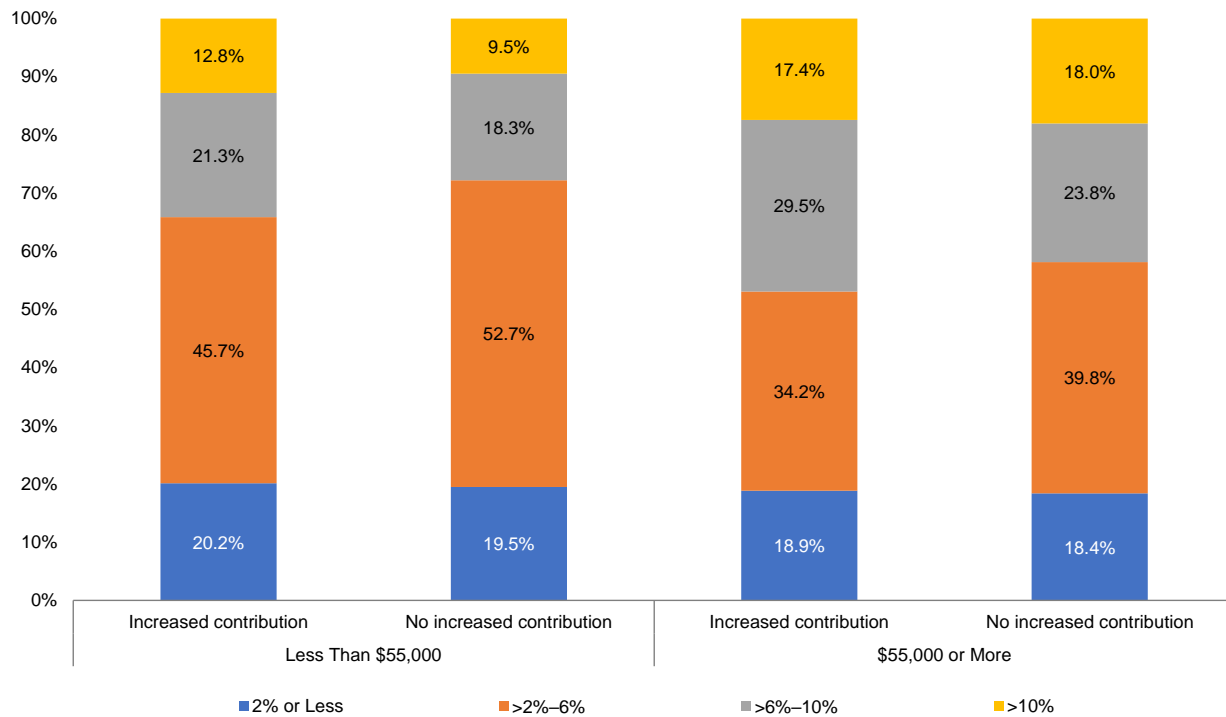

Source: Estimates from the EBRI/ICI 401(k) Plan Database and select Chase data. For more information, see the Data Sources box in the text.

Regression Analysis of Contribution Rates and Account Balances

In addition to a cross-sectional examination, regression analysis can be used to see the impact of various factors on the contribution rates and account balances, when the hypothesized factors are examined simultaneously to see which ones have a statistically significant result. Since both the average contribution rates and account balances can be considered continuous variables, ordinary least squares (OLS) is used for the analysis. Separate equations are estimated for the contribution rates and the account balances.

First, the average employee contribution rate over the three-year study period for each participant is regressed on the independent variables of age, a series of dummy variables for tenure, average income over the study period, the average employer contribution rate, and a dummy variable (=1) if the participant made any student loan payments during the study. The average employer contribution rate is a proxy for the employer match rate, as the employer contribution would be higher for a more generous match when the employee contribution rate is held constant. The average employee contribution rate was positively associated with age, income, and employer contribution rates. Higher tenure levels were associated with lower employee contribution rates. For participants making student loan debt payments, the average employee contribution rate was one-half of a percentage point less than those who did not make student loan payments. (See Appendix Figures 1 and 2 for summary statistics and the complete regression results.)

Second, the account balance at the end of the study is analyzed against age, tenure, average income, average employee contribution rates, average employer contributions rates, and dummy variables for the existence of an outstanding 401(k) plan loan (=1 if a plan loan was outstanding) and student loan debt payments (=1 if student loan debt payments were made during the study period). The account balance at the end of the study was positively associated with age, tenure, average income, average employee contribution rates, and employer contribution rates. The account balance was negatively associated with the existence of a plan loan. Participants with student loan

payments had account balances, on average, $6,284 less than those who did not make these payments. All these factors were highly statistically significant. (See Appendix Figure 3 for the complete regression results.)

Conclusion

Student loan debt was a growing and significant issue for many families prior to the COVID-19 pandemic.[8] While many student loan payments were suspended during the pandemic and an increase of student loan forgiveness has occurred since, with the resumption of payments in October 2023, their impact on 401(k) plan contributions will resume. Thus, examining how student loan debt payments impacted 401(k) contributions and participant balances in the past provides important information on what could happen after the resumption of payments.

Making student loan payments had a significant impact on the level of contributions of those contributing, but the impact appeared to be relatively small — about 0.5 percent. However, this can add up over the career of the participant, as shown in this study by the differences in average balances between those making student loan vs. those not making payments. Some of the impact of the student loan payments appeared to be muted by the existence of employer contributions and default contribution rates of automatic enrollment plans, as the median employee contribution rate for all participants was near the level of the maximum amount matched and/or common default rates. These levels have historically been common anchor points for contributions to 401(k) plans.[9] Furthermore, when the student loan payment status of the plan participants changed, one-quarter to one-third made changes to their contribution levels. Therefore, a sizable share of participants responded as their student loan debt obligations outside of the plan changed.

Under SECURE 2.0, matching contributions to 401(k) plans for those making student loan payments without making direct contributions to a plan will be allowed starting in 2024, if the plan adopts this option. This would help participants who aren't contributing at the full match level or at all to their 401(k) plans to at least receive the matching contributions to allow them to build up assets for retirement while they are addressing the expenses of student loan payments, which can have a considerable impact on participants' day-to-day expenses. However, this feature could have an unintended consequence of lowering the contributions of some who are already contributing, as they would now not be missing out on the matching contribution by not contributing. Consequently, employers who implement such a change should be aware of what could result, which is an area in which financial wellness programs can help by considering the total finances of the participant in the contribution and debt payment decisions. The change in payment status can also be an important touchpoint in helping to improve the financial wellbeing of participants, as many appear to be making important financial decisions at this time, and better information could improve outcomes.

While this paper focused exclusively on active participants and student loan payments, the existence of student loan payments could prevent those eligible to contribute from contributing. Further research is needed to better quantify the impact of student loan payments on not contributing for those who are eligible to do so.

for the monitoring and security of data. (5) JPMAM provides valuable insights to policymakers, businesses, and financial professionals, but these insights cannot come at the expense of consumer privacy. We take every precaution to ensure the confidence and security of our account holders' private information.

This research paper was produced through a collaboration between the Employee Benefit Research Institute and J.P. Morgan Asset Management. J.P. Morgan Asset Management is the brand for the asset management business of JPMorgan Chase & Co. and its affiliates worldwide.

EBRI is not affiliated with JPMorgan Chase & Co. or any of its affiliates or subsidiaries.

Appendix

Appendix Figure 1		
Summary Statistics		
	Mean	Median
Avgcont	0.063	0.050
Avgcontr	0.032	0.025
Age_HH19	45.7	46.0
Ten19_1	11.7	9.0
Avginc	$66,164	$53,213
tbal19	$83,274	$32,467
tenc1	29.5%	
tenc2	31.8%	
tenc3	23.1%	
tenc4	15.7%	
stla	20.4%	
loana	25.7%	
Variable Defintions		
Avgcont — (in decimal) the three-year average of employee contributions= employee contributions/(contributions+gross income) for each year		
Avgcontr — (in decimal) the three-year average of employer contributions= employer contributions/(contributions+gross income) for each year		
Age_HH19 — the age of the single customer household participant in 2019		
Ten19_1 — the length of time the single customer household participant has been with their current employer as of 2019		
tenc1 — participant has tenure of 5 years or less =1 (if not =0) (omitted)		
tenc2 — participant has tenure of more than 5–12 years or less =1 (if not =0)		
tenc3 — participant has tenure of more than 12–20 years or less =1 (if not =0)		
tenc4 — participant has tenure of more than 20 years =1 (if not =0)		
Avginc — the three-year average of the participant's gross income		
tbal19 — the 401(k) plan account at the end of year in 2019 (less of any outstanding plan loans)		
stla — the participant made student loan payments at some point during the study period =1 (if not =0)		
loana — the participant had an outstanding 401(k) plan loan balance at year end in at least one of the three years of the study =1 (if not =0)		
Source: Estimates from the EBRI/ICI 401(k) Plan Database and select Chase data. For more information, see the Data Sources box in the text.		

Appendix Figure 2

Average employee contributions=f(age, tenure, average income, average employer contributions, incidence of student loan payments)

Dependent Variable: Avgcont

Number of Observations Used: 51,567

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	7	19.95149	2.85021	1170.39	<.0001
Error	51559	125.55942	0.00244		
Corrected Total	51566	145.51091			

Root MSE		0.04935	R-Square	0.1371	
Dependent Mean		0.06308	Adj R-Sq	0.1370	
Coeff Var		78.23530			

Parameter Estimates

Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept	1	0.01635	0.00104	15.67	<.0001
stla		1	-0.00497	0.00055150	-9.01	<.0001
Age_HH19	Age for HH	1	0.00069856	0.00002177	32.09	<.0001
tenc4		1	-0.00368	0.00072963	-5.04	<.0001
tenc3		1	-0.00517	0.00062060	-8.33	<.0001
tenc2		1	-0.00124	0.00055847	-2.22	0.0266
Avginc		1	7.026613E-8	4.022713E-9	17.47	<.0001
Avgcontr		1	0.41645	0.00522	79.79	<.0001

Note: See Appendix 1 for variable defintions.

Source: Estimates from the EBRI/ICI 401(k) Plan Database and select Chase data. For more information, see the Data Sources box in the text.

Appendix 3

Account balance end of year 2019=f(age, tenure, average income, average employee contributions, average employer contributions, incidence of student loan payments, outstanding loan balance)

Dependent Variable: tbal19

Number of Observations Used   51,567

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	7	5.230232E14	7.47176E13	5699.38	<.0001
Error	51559	6.75927E14	13109778007		
Corrected Total	51566	1.19895E15			

Root MSE	114498	R-Square	0.4362	
Dependent Mean	83274	Adj R-Sq	0.4362	
Coeff Var	137.49475			

Parameter Estimates

Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept	1	-137762	2344.25578	-58.77	<.0001
stla		1	-6284.24769	1279.13139	-4.91	<.0001
Age_HH19	Age for HH	1	565.39345	50.90463	11.11	<.0001
Ten19_1		1	4787.34341	58.95539	81.20	<.0001
Avginc		1	1.16583	0.00937	124.47	<.0001
Avgcont		1	819092	10259	79.84	<.0001
Avgcontr		1	519348	12833	40.47	<.0001
loana		1	-18505	1160.61005	-15.94	<.0001

Note: See Appendix 1 for variable defintions.

Source: Estimates from the EBRI/ICI 401(k) Plan Database and select Chase data. For more information, see the Data Sources box in the text.

Endnotes

[1] For more information on the EBRI/ICI 401(k) Plan Database and the findings from the database see Holden, Sarah, Steven Bass, and Craig Copeland, "401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2020," *EBRI Issue Brief* no. 576, and *ICI Research Perspective*, vol. 28, no. 11 (November 2022).

[2] See Lucas, Lori, Jack VanDerhei, Kelly Hahn, Je Oh, and Livia Salonen, "The 3% Difference: What Leads to Higher Retirement Spending?" Employee Benefit Research Institute & J.P. Morgan Asset Management Research Collaboration available at https://am.jpmorgan.com/us/en/asset-management/adv/insights/retirement-insights/the-3-difference-what-leads-to-higher-retirement-savings-rates/; VanDerhei, Jack, and Kelly Hahn, "In Data There Is Truth: Understanding How Households Actually Support Spending in Retirement," *EBRI Issue Brief*, no. 531 (Employee Benefit Research Institute, June 24, 2021); and Copeland, Craig, Michael Conrath, and Sharon Carson, "How Financial Factors Outside of a 401(k) Plan Can Impact Retirement Readiness," EBRI Issue Brief, no. 591 (Employee Benefit Research Institute, September 7, 2023) for more information about the EBRI/JPMorgan Asset Management research collaboration.

[3] Obviously, student loan payments could impact the decision to not contribute when eligible to do so. However, the dataset is limited to active participants, so the decision to not contribute is not examined. Further research could look at participation rates of those with and without student loan payments.

[4] The average and median values of these characteristics are included in Appendix Figure 1.

[5] The minimum tenure of this sample would be three years in 2019, as each participant observation must have been an active 401(k) participant in each of the three years of the study. Thus, the median tenure of this sample was much higher than the overall tenure of American workers, since the participants had to reach three years of tenure before being included in this sample.

[6] Another way to control for having a longer time to accumulate assets in the 401(k) plan is to look at the balances by the age of the participants. When controlling for ages, the results are very similar to those for tenure.

[7] For those whose payments stopped, the median increase in the average contribution rates was 2.5 percentage points with a median contribution rate of 4.7 percent before the payments stopped and a median contribution rate of 8.0 percent after the payments stopped. These medians were virtually identical across income levels and number of years observed paying student loans. For those whose payments started, the median decrease in the average contribution rates was 2.7 percentage points with a median contribution rate of 6.9 percent before the payments started and a median contribution rate of 3.5 percent after they started. Again, the medians were virtually identical across income levels and number of years observed paying student loans.

[8] See Copeland, Craig, "Student Loan Debt: Who Has It and How Much?," *EBRI Issue Brief*, no. 524 (January 28, 2021) for a discussion of the growth of student loan incidence and level of debt held, and see the citations for more research on student loan debt.

[9] See Holden, Sarah, and Jack VanDerhei, "Contribution Behavior of 401(k) Plan Participants," *EBRI Issue Brief no. 238* (October 2001) for more detail on employee contribution behavior from the database.