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ORIGINAL ARTICLE

Pre-retirement use of 401(k) funds

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Abstract

Survey data from 2018 indicate that people accessing 401(k) funds prior to retirement through loans or hardship distributions tend to have other debts and poor credit ratings. The tendency for people with weak household balance sheets to tap 401(k) funds prior to retirement will increase the number of people entering retirement with inadequate financial resources. This problem was likely worsened by the increased pre-retirement use of funds during the COVID pandemic.

Keywords Retirement · 401(k) · Debt

1 Introduction

Current tax law encourages people to save for retirement by providing substantial incentives for workers to contribute to their 401(k) plans.[1] Contributions to a conventional 401(k) plan are not part of adjusted gross income in the year; they accumulate earnings and are not taxed until disbursed. Contributions to a Roth 401(k) plan are fully taxed during the contribution year, but are untaxed when disbursed after age 59 ½.

Tax law allows workers to use funds in a 401(k) plan prior to retirement. All plan participants are allowed to cash out their entire account at any time subject to payment of tax and penalty. Plan participants can also obtain funds through a 401(k) loan or a hardship distribution. Failure to repay 401(k) loans can lead to a tax and a 10% penalty on the unpaid balance. Hardship distributions are subject to tax as ordinary income, but are not subject to a penalty.

The IRS has, in response to natural disasters, loosened restrictions on pre-retirement use of 401(k) funds.[2] The recently enacted CARES Act made even larger changes for workers experiencing economic hardship from the pandemic. The CARES Act allows workers impacted by the pandemic to withdrawal of up to $100,000 without penalty and to avoid tax on the distribution if funds are repaid in three years.[3]

Intuitively, the pre-retirement use of 401(k) funds will be most pronounced for people with little or no financial slack. The use of 401(k) funds prior to retirement by households with weak balance sheets will likely increase the number of households entering retirement with inadequate financial resources.

This paper uses data from a 2018 survey to provide a benchmark, pre-COVID, description of the relationship between pre-retirement use of 401(k) funds and household finances. The findings provide insight on the likelihood many households that will retire with insufficient income and wealth and the need for changes to rules governing the pre-retirement use of 401(k) assets.

2 Background on pre-retirement use of 401(k) funds

Economists are increasingly concerned about whether many households are saving enough for retirement. A recent study by Biggs and coauthors found that 401(k) balances were substantially below their potential level if workers had regularly

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[1] *401(k) Plan Overview*, https://www.irs.gov/retirement-plans/plan-participant-employee/401k-resource-guide-plan-participants-401k-plan-overview.

[2] A 2108 change facilitated distributions for hurricanes Michael and Florence. https://www.irs.gov/newsroom/proposed-hardship-withdrawal-regulations-include-relief-for-disaster-victims-retirement-plans-can-now-make-loans-hardship-distributions-to-victims-of-hurricanes-michael-and-florence.

A 2019 change eliminated a rule requiring people making a hardship distribution to suspend new contributions for six months. https://www.natlawreview.com/article/new-hardship-distribution-rules-401k-plans.

[3] Mercardo, D., *Congress will let you take $100,000 from your 401(k). Should you?* https://www.cnbc.com/2020/03/23/congress-may-let-you-take-100000-from-your-401k.html.

contributed to a 401(k) account, kept funds fully invested, and earned market rates of return.[4] The study identified several reasons 401(k) plans were not fully living up to their potential including the fact that 401(k) plans are a relatively new innovation, coverage for 401(k) plans is not universal, fees for many plans are high, and many people tap funds from 401(k) plans prior to retirement.

Several studies indicate that the use of 401(k) funds prior to retirement is widespread and is a major factor impacting the number of households who might retire with inadequate financial resources in the future. Research from E-Trade financial, reported on CNBC in 2015, revealed that nearly 60% of millennials had already taken funds out of their 401(k) account. A study by the Employment Benefit Research Institute (EBRI) reveals that 40% of terminated participants elect to prematurely take out 15% of plan assets.[5] A poll of the Boston Research Group found 22% of people leaving their job cashed out their 401(k) plan intending to spend the funds.[6]

Intuitively, the people most likely to tap funds from their 401(k) plans prior to retirement are people who are struggling financially. Lu and coauthors (2014) found that nearly 40% of workers with access to a 401(k) plan borrow from their plan over a 5-year period with most loans taken out by people with little liquidity.[7] A frequently cited study by the Federal Reserve Bank of New York found 40% of people cannot cover a $400 emergency or would do so by borrowing or selling something.[8] The sheer magnitude of the number of people who are both lacking in liquidity and tapping retirement funds suggests leakages from 401(k) plans will weaken retirement security for many households.

Additional research on the number of people taking out 401(k) loans or pre-retirement distributions and the financial status of this group could help determine the long-term economic impact of rules allowing people to tap 401(k) plans prior to retirement and help shape changes to rules governing pre-retirement distributions from retirement accounts.

3 Empirical research

The empirical work presented here relies on data from the 2018 Financial Capability Study[9] to provide policy makers and financial planners more information on the financial status of people taping 401(k) funds prior to retirement. The survey, which has been conducted every three years since 2009, asks for information on the ability of households to make ends meet, to plan ahead, to manage financial products, and questions to assess household financial knowledge and decision making. The primary goal is to evaluate the impact of leverage and financial distress on the decision to tap 401(k) funds prior to retirement.

The sample consisted of 7910 people who responded yes to a question asking whether they had a retirement plan that allowed them to choose investment options. Retirement plans which allow owners to control investments tend to allow for owners to take 401(k) loans or hardship distributions. Whether loans or hardship distributions are actually allowed in a specific plan is a decision made by the administrator of each plan.

4 A simple test of the relationship between 401(k) leakages and consumer debt

The information on people tapping 401(k) funds prior to retirement was obtained from two questions, one asking whether a person or spouse had taken out a loan from a 401(k) plan in the last 12 months and the other asking about hardship loans over the same time period. The survey did not ask for information about people choosing to cash out their retirement plans when leaving their employer. Hence, answers to these questions may understate leakages from 401(k) plans. Also, the narrow time frame of both questions, transactions in the last 12 months, may lead to an understatement of total leakages from 401(k) plans.

The survey also included substantial information on debts and assets for respondents. Information on consumer debt was obtained from several questions asking whether respondents had unpaid credit card balances at the end of the month, student loans, medical debt and automobile loans.

[4] Biggs, A. and coauthors, *Why are 401(k)/IRA Balances Substantially Below Potential?* https://crr.bc.edu/working-papers/why-are-401k-ira-balances-substantially-below-potential/

[5] Vanderhei J., *The Impact of Auto Portability on Preserving Retirement Savings Currently Lost to 401(k) Cash Leakage*, EBRI, 2019 https://www.ebri.org/docs/default-source/ebri-issue-brief/ebri_ib_489_autoport-15aug19.pdf?sfvrsn=80723c2f_4

[6] Between Jobs? That's the Time to Safeguard Your 401(k), 401(k) Help Center, http://www.401khelpcenter.com/401k_education/between_jobs_safeguard_your_401k.html#.Xp3fjy-ZMcY.

[7] Lu, T.J., and coauthors, *Borrowing from the Future: 401(k) Plan Loans and Loan Defaults*, https://pensionresearchcouncil.wharton.upenn.edu/wp-content/uploads/2015/09/WP2014-01-Lu-OSM-Utkus-Young-2.12.20144.pdf.

[8] *Federal Reserve Board Issues Report on the Economic Well-Being of U.S. Households* https://www.federalreserve.gov/newsevents/pressreleases/other20180522a.htm.

[9] The National Financial Capability Study (NFCS) is a project of the FINRA Investor Education Foundation (FINRA Foundation) https://www.usfinancialcapability.org/downloads.php.

Table 1 A contingency table for consumer credit and pre-retirement use of 401(k) funds

	No consumer credit	Has some consumer credit	Total
Does not tap 401k	2028	4455	6483
Taps 401(k)	79	1348	1427
Total	2107	5803	7910

The information on leakages from 401(k) plans and consumer debt was used to create a 2x2 contingency table describing the relationship between tapping 401(k) plans and consumer credit (Table 1).

The data in this contingency table can be used to calculate the conditional probabilities. P(Taps 401k)/Has some consumer credit) = 1348/5803 or 0.2323 and P(Tap 401(k)/ no consumer credit) = 79/2107 or 0.0375.

These conditional likelihoods can be used to obtain the conditional odds: 0.3026 (0.2323/(1 − 0.2323)) and 0.0390 (0.0375/(1 − 0.0375)) for tapping 401(k) plans conditional on having and not having consumer debt. The ratio of these odds gives a statistic called the odds ratio, which is 7.76. The same odds ratio could be obtained from a simple linear logistic regression model where tapping 401(k) plan is the dependent variable and having some consumer credit is the independent variable.[10]

The odds of a person tapping 401(k) funds through a loan or hardship distribution is 7.76 times larger for a person with consumer credit than for a person without consumer credit.

Multivariate logistic regression models

The existence of consumer debt is of course not the only variable impacting the decision of whether a person takes out a 401(k) loan or a hardship distribution. The tendency to tap a 401(k) plan prior to retirement can be impacted by a variety of characteristics of the respondent including age, education, income, number of children, homeownership, as well as the financial situation of the borrower. The National Finance Capability Study has information on respondent characteristics and finances that allow us to create a more complete model of the decision to tap 401(k) plans through loans or hardship distributions. The multivariate model has the advantage of holding constant other factors that also influence the decision to take out a 401(k) loan or a hardship distribution.

[10] The statistical consulting group at UCLA Institute for Digital Research and Education has an excellent discussion of the calculation of odds ratios. https://stats.idre.ucla.edu/sas/faq/how-do-i-interpret-odds-ratios-in-logistic-regression/.

Table 2 Logistic regression results for 401(k) tap decision

Explanatory variable	Odds ratio	*t* statistic
Age 18 to age 24	1.815	2.340
Age 25 to age 34	1.869	2.750
Age 35 to age 44	1.270	1.050
Age 45 to age 54	1.171	0.700
Age 55 to Age 64	1.165	0.660
Married	0.643	− 5.250
Male	1.454	5.130
Some college	0.853	− 1.500
Associate degree	0.656	− 3.170
BA degree	0.647	− 4.010
Post-grad degree	0.595	− 4.040
Income less than $15,000	2.133	2.720
$15,000 ≤ income < $25,000	0.972	− 0.120
$25,000 ≤ income < $35,00	1.425	1.870
$35,000 ≤ income < $50,000	0.991	− 0.060
$50,000 ≤ income < $75,000	1.071	0.470
$75,000 < income < $100,000	1.506	2.950
$100,000 ≤ income < $150,000	1.054	0.370
One kid	2.102	7.930
Two kids	1.617	4.590
Three kids	2.104	5.390
Four kids	2.581	5.590
Homeowner	1.115	0.890
Mortgage	0.980	− 0.190
Some consumer credit	4.563	11.950
Bad or very bad credit rating	2.188	7.870
Mortgage > house value	13.062	22.640
Constant	0.022	− 12.850
n	7910	
Pseudo R^2	27.650	

The omitted groups in this logistic regression model are age group 65 and over, single, female, no college, income over $150,000, no kids, renter, no mortgage, no consumer credit (meaning no outstanding credit card debt, no student debt, no medical debt and no automobile debt), credit rating better than bad, and house value greater than mortgage. The results presented here are from an unweighted logistic regression model. The critical value for a one-tailed test at a 0.05 level of significance is 1.645

The odds ratios for a multivariate logistic regression model for 401(k) loans and hardship withdrawals are presented in Table 2.

The odds ratios for each explanatory variable in the logistic regression model are presented in the second column of the table. The odds ratio compares the odds of tapping a 401(k) for the included category to the odds for the omitted category. An odds ratio greater than/less than 1.0 indicates respondents with the included characteristic are more/less likely to take out a 401(k) loan or hardship distribution than respondents with a characteristic in the omitted group.

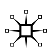


Table 3 Impact of debt and credit rating on likelihood of tapping a 401(k) loan

Person 1: no debt	0.039
Person 2: consumer debt and good credit rating	0.156
Person 3: consumer debt and poor credit rating	0.288

The analysis presented here holds all factors other than debt and credit rating constant. All three people in this table are between the age of 35 and 44, female, with a BA degree, with income between $50 and $75 k, unmarried, and with one kid

The odds ratios for the three financial distress variables in this model—some consumer credit, bad credit rating, and underwater mortgage—support the view that people in financial distress are highly likely to tap 401(k) funds prior to retirement.

- The odds of people with some credit tapping their 401(k) loan are 4.6 times higher than for people with no consumer credit.
- The odds of a person with bad credit tapping their 401(k) loans are 2.2 times higher than the odds for person with good credit.
- The odds of a person with home value less than their mortgage tapping their 401(k) plan are 13.1 time higher than for a person not in this situation.

The logistic regression model was used to generate the likelihood of tapping a 401(k) plan prior to retirement for three individuals one with no consumer credit,—one with consumer credit and a good credit rating and one with consumer credit and a poor credit rating.[11] The choice of the three types of individuals stems from the tendency for respondents with poor credit ratings tend to have some consumer loans (Table 3).

These figures indicate people with debt and a good credit rating are 4 times more likely to take out a 401(k) loan or hardship distribution than a person with no consumer debt in the last 12 months. People with debt and a poor credit rating are 7.4 times more likely to use a 401(k) loan or a hardship distribution in the last 12 months.

[11] The formula for the probability of the outcome studied in a logistic regression model is explained by the UCLA Institute for Digital Research and Education in this article: https://stats.idre.ucla.edu/other/mult-pkg/faq/general/faq-how-do-i-interpret-odds-ratios-in-logistic-regression/.

Table 4 Other debt statistics and pre-retirement use of 401(k) funds

	No reported 401(k) use	Has used 401(k) funds
Have outstanding credit card balance	38.53	40.15
Late on credit card	9.95	40.78
Late on student loan	5.48	36.09
Sample size	6483	1427

Denominator for these proportions is sample size

Table 5 Differences between age groups

	Odds ratio	*p* value for odds ratio	Proportion of group
25 to 34			
Some consumer debt	1.98	0.003	82.13
Bad credit rating	1.54	0.044	14.74
55 to 64			
Some consumer debt	7.9	0	62.98
Bad credit rating	2.91	0	5.09

5 Some specification issues

The model used here is a single-equation model with one dependent variable, the use of a 401(k) loan or a hardship distribution. The poor credit rating and use of consumer debt are also endogenous variables. However, it is likely that this system is recursive not simultaneous. Rating agencies do not use information on 401(k) loans when rating credit for individuals. Hence, the existence of a 401(k) loan is not a direct determinant of a bad credit rating.

There are of course multiple differences in financial characteristics and behavior between people who are and are not tapping 401(k) funds prior to retirement. Differences in three additional financial variables—sometimes keep an outstanding credit card balance, sometimes late on a credit card payment and sometimes late on a student loan—between people tapping their 401(k) plan through a hardship distribution or a 401(k) loan are displayed in Table 4.

Interestingly, the proportion of people with an outstanding credit card balance at the end of some months is reasonably similar for the two groups. However, the proportion of people sometimes late on credit cards is 4.1 times higher for people tapping 401(k) funds than for people not tapping 401(k) funds. The proportion late on student debt is 6.5 times higher for people tapping 401(k) funds than for people without 401(k) funds. These statistics suggest it would be interesting to study and model a broader range of debt decisions and outcomes.

The impact of consumer credit on 401(k) loans will likely vary with age. This issue was explored by considering different models for different age groups. Table 5 contains the odds ratios, and p values for the odds ratios, for the consumer credit variable and the bad credit variable for people of two age group—people between the age of 25 and 34 and people between the age of 55 and 64. The table also contains information on the proportions of each age group with consumer debt and the proportion of each age group with a bad credit rating.

The results indicate the existence of consumer debt or a bad credit rating has a larger impact on the likelihood a person takes a 401(k) loan or hardship distribution for the 55 to 64 age group than for the 25 to 34 age group. However, both the use of consumer credit and the proportion of people with bad credit are more prevalent in the younger age group.

These age-related differences indicate a need for more refined models tailored to circumstances that change with age.

6 Financial and policy implications

The rules governing 401(k) plans differ from rules governing traditional pension plans by allowing more access to funds prior to retirement. Some people, especially younger adults, are now routinely tapping funds in their 401(k) plans. The IRS and Congress have made it easier to tap 401(k) funds for hardships with the most notable changes associated with the use of 401(k) funds for pandemic-related expenses.

Many financial advisors strongly caution their clients against tapping 401(k) funds prior to retirement. The advice—invest early in life in equities and take advantage of compounding—is generally sound. The lost investment income of withdrawing funds from a 401(k) plan depends on nominal returns (inflation and real return), the fees charged by the 401(k) fund, and the time horizon of the investor. The lost investment income of withdrawing $10,000 in funds 30 years prior to retirement is calculated for two investment scenarios based on 8.5% and 4.5% annual returns, respectively. The lost investment earnings are $115,583 for the optimistic scenario and $37,453 for the pessimistic scenario.[12] The decision to withdraw funds from a 401(k) early in a person's career is likely to lead to a non-trivial loss of retirement wealth, even under conservative or pessimistic assumptions about the market.

The advice to keep funds inside a retirement account now appears to be routinely ignored by many people who close their 401(k) account when switching jobs. Some younger people are undoubtedly saving less than the optimal amount and consuming more than their lifetime income can maintain. These borrowers may be credit constrained and not have access to funds through banks or credit cards. Other people tapping 401(k) funds prior to retirement are weighing the costs of forgoing early returns from investment with the higher consumer costs and stress associated with slower payments of debt. The now routine pre-retirement use of 401(k) funds for younger cohorts may be strongly associated with and partially driven by student debt, a problem greatly impacting the new cohort of workers.

The expanded access to pre-retirement funds for people impacted by COVID was a profound change in public policy. The CARES Act essentially converted retirement accounts into a de facto pre-retirement safety net for many Americans. People who initially lost their jobs because of COVID in March of 2020 had little choice but to sell assets and distribute 401(k) funds when the stock market had fallen. A portion of the economy has yet to reopen because of the COVID pandemic and vulnerable households, some perhaps facing eviction, have had to rely on 401(k) funds. People who relied on 401(k) funds to survive the COVID recession will have to repurchase their shares at substantially higher prices.

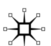
Not all household financial balance sheets were adversely impacted by the COVID recession, as documented by the St. Louis Federal Reserve Bank.[13] The lack of spending opportunities in an economy closed by the pandemic, the need for precautionary spending, loan forbearance programs, and large financial assistance from the government caused the personal saving rate to rise substantially in 2020. This increase in the personal saving rate may have tempered the extent to which households have raided their 401(k) plans. However, pre-retirement 401(k) distributions are always dominated by the most vulnerable households and news reports and Census data reveal that many households are exposed to possible eviction.[14] The increase in the personal saving rate is not inconsistent with a higher level or wealth inequality, which could have increased the number of people tapping 401(k) funds prior to retirement.

It would be useful to examine pre-retirement 401(k) distributions in 2020. The FINRA survey, conducted every

[12] The lost revenue from a $10,000 withdrawal, 30 years prior to retirement is $10,000*(1+r)^{30}$ The opportunity cost measured by lost wealth in the 401(k) plan at retirement depends on nominal or total returns, which include inflation, a real return and 401(k) fees.

[13] Vandebroucke, G., "Personal Savings During the COVID-19 Recession," https://research.stlouisfed.org/publications/economic-synopses/2021/02/12/personal-saving-during-the-covid-19-recession.

[14] Likelihood of eviction statistics were generate by the Census Department Household Pulse Survey and can be found here. https://www.census.gov/data-tools/demo/hhp/#/?measures=EVR.



three years, does not cover 2020. Some information about disparities in financial outcomes might be obtained by the 2020 Survey of Household Economics and Decision (SHED) making by the New York Federal Reserve Bank, which is an annual survey with a release in the late spring covering the prior fiscal year.[15] The SHED survey does not, however, contain information on use of 401(k) funds.

The tradeoffs associated with restricting 401(k) disbursements are complex. The current approach treats retirement plans as a piggy bank funding current consumption. An approach severely restricting or eliminating the use of 401(k) funds prior to retirement could discourage many workers with high debts from contributing to their 401(k) plans in the first place. A system that uses retirement funds as a safety net will lead to routine spikes in 401(k) disbursements during emergencies, which likely coincide with market downturns. Congress and the new Administration need to consider changes to this approach and ways to strengthen the safety net without reducing incentives to contribute to retirement accounts.

A recent policy paper in Tax Notes recommends allowing some use of 401(k) funds for emergencies and debt repayment, without penalty or tax, combined with a rule limiting total disbursements prior to age 59 ½.[16] This proposal would retain incentives for illiquid households to continue to contribute to 401(k) account, but would prevent households from depleting their entire account prior to retirement. The current system does not prevent people from using their entire 401(k) plan prior to retirement if they are willing to pay penalties. A policy or rule change mandating automatic rollovers to low-cost funds during job transitions would also be a useful innovation.

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David Bernstein is retired from U.S. Treasury and is now a self-employed consultant and author.

[15] https://www.federalreserve.gov/consumerscommunities/shed.htm.

[16] Bernstein, D. "Should Rules on Early Use 401(k) Funds be Modified?" https://www.taxnotes.com/tax-notes-federal/individual-income-taxation/should-rules-early-use-section-401k-funds-be-modified/2020/05/25/2chy7.