An Analysis of Borrowing From Defined Contribution Retirement Plans

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Summary

Americans are being given more responsibility for saving for their own retirements. Over the past 25 years, fewer households have been covered by traditional defined benefit (DB) retirement plans, in which retirees receive monthly checks based on a formula using some combination of earnings history and employment tenure. In place of DB plans, more and more employees are being covered by defined contribution (DC) plans, in which employees (and often their employers) place funds in individual employee accounts that are used as the basis for retirement incomes.

A feature of many DC plans is the ability to access the funds prior to retirement, either by making withdrawals or through borrowing from the account. If participants have the choice, borrowing is usually the better option. In fact, borrowing from a DC account is frequently less costly than other sources of credit, such as credit cards or installment credit. Although borrowing from DC plans has certain advantages, significant disadvantages exist. Most personal finance advice warns against borrowing from retirement plans as it may endanger individuals' long-term retirement income security.

This report examines the issue of accessing funds from DC plans, with a specific focus on borrowing from DC plans. The topics include a discussion of the relevant laws and regulations of making withdrawals and borrowing from retirement plans; a discussion of the advantages and disadvantages of borrowing from DC plans; a comparison of the characteristics of households that have outstanding loans with households that do not have outstanding DC plan loans; and a discussion of some relevant policy issues.

The data used in this report indicate that in 2001, 2004, and 2007, about 15.0% of households that could borrow had outstanding loans. Among those households that had outstanding loans, it appears that most households borrowed because of poor financial conditions or because of a lack of other sources of credit. Households that appear to make better informed financial decisions (such as greater shopping for credit and having an Individual Retirement Account, or IRA) are less likely to have outstanding DC plan loans.

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Introduction

The major trend in retirement plans for American workers over the past 25 years has been a shift from defined benefit (DB) to defined contribution (DC) pension plans. In DB plans, employees are guaranteed individual monthly retirement incomes based on a formula that uses their salaries and lengths of service. In DC plans, however, employees are provided with individual accounts that accumulate employees' (and often employers') contributions and investment returns. Employees use the funds in their accounts as a source of income in retirement. The most common DC plan is the 401(k) plan, named after the relevant section of the tax code.[1]

Participants in DC plans have more autonomy and greater responsibility for their plans than participants in DB plans. For example, employees in DC plans are often responsible for deciding whether to participate or not, how much to contribute, and the investment allocations in their accounts. A feature of many DC plans is the ability to access the funds prior to retirement. In many plans, participants can make withdrawals from or borrow against their accounts. Borrowing is usually the preferred option, as will be explained in the "Background on Borrowing" section.

This CRS report provides background on borrowing from DC plans; examines the incidence of loans from DC plans; analyzes the characteristics of households that had outstanding loans against their DC plans in 2001, 2004, and 2007; and discusses the public policy implications. In general, households that had outstanding loans against their retirement plans were less wealthy than households that did not have outstanding loans. On the other hand, households with outstanding loans had more retirement wealth than those without loans. It does not appear that households were taking loans from their DC plans because they were an attractive and low-cost source of credit but may have borrowed because they were facing financial hardship.

Background on Borrowing

Although workers generally cannot access funds in their DB plans while still employed, they often have access to their DC plan assets by either making withdrawals from or borrowing against the plan. DC plans are not required to offer participants access to their accounts prior to retirement. But, if they do, plan participants must comply with Treasury regulations on making withdrawals or taking out loans. Note that the discussion in this report on withdrawals and loans only applies to DC plans, such as 401(k) plans.[2]

[1] 401(k) plans are offered to private sector workers. Other DC plans include 403(b) plans, offered to employees of public schools and 501(c)(3) organizations; 457(b) plans, offered to employees of state and local governments and tax-exempt organizations; and the Thrift Savings Plan (TSP), offered to federal employees.

[2] Households can also save for retirement using traditional and Roth Individual Retirement Accounts (IRAs). The Internal Revenue Code treats IRAs differently than DC plans: no restrictions exist on the ability to make withdrawals from IRAs, although borrowing from IRAs is prohibited. Money in an IRA can, however, be "borrowed" for 60 days because the law states that any distribution from an IRA that is not deposited in the same or another IRA within 60 days is a taxable distribution. See 26 U.S.C. § 408(d). Amounts withdrawn from traditional IRAs must be reported as income and may be subject to an additional 10% penalty tax. Non-qualified distributions from Roth IRAs may be subject to income tax and additional penalty taxes. See CRS Report RL34397, *Traditional and Roth Individual Retirement Accounts (IRAs): A Primer*, by (name redacted).

Most conventional advice warns against making withdrawals or borrowing from a DC plan.[3] Funds withdrawn from DC accounts might not be replaced, while borrowed funds do not accrue investment returns. Workers might then potentially have lower account balances at retirement. In addition, DC plans can help individuals focus on the long-term goal of saving for retirement. Accessing the funds through withdrawals or loans can help undermine that long-term saving goal.[4]

Requirements for Withdrawals from DC Plans

The following are some of the conditions for participants to make withdrawals from their DC plans:[5]

- The plan documents must allow for hardship withdrawals.
- Participants must demonstrate that the withdrawals are for hardship reasons, which are defined as immediate and heavy financial needs of employees.[6]
- The amount withdrawn must be included in that year's gross income. In addition, a tax penalty of 10% of the amount of the distribution must be paid by account holders younger than 59½ and for whom the distributions are not for a reason specified in 26 U.S.C. § 72(t).[7] The penalty is imposed to discourage the use of retirement funds for purposes other than normal retirement.
- Regulations require that individuals who take hardship withdrawals are not permitted to make contributions to their plans for six months following the withdrawals. As a consequence, the accounts would not receive employer matches, if any. Automatic employer contributions that are not part of a matching contribution scheme could still be made.

Features of Loans from DC Plans

The following are some features of borrowing from DC plans:

- Borrowers can continue contributing to their accounts while making the loan payments. A potentially large break in contributions does not occur.
- Unlike hardship withdrawals, proof of financial hardship is not required.

[3] For example, see the CNN/Money article, *The Trouble With 401(k) Loans*, available at http://money.cnn.com/2008/12/23/pf/expert/401k_loans.moneymag/index.htm?postversion=2008122310.

[4] Additional background on borrowing and withdrawals from retirement accounts is available in CRS Report R40192, *Early Withdrawals and Required Minimum Distributions in Retirement Accounts: Issues for Congress*, by (name re dacted) and CRS Report RL31770, *Individual Retirement Accounts and 401(k) Plans: Early Withdrawals and Required Distributions*, by (name redacted).

[5] IRS regulations for hardship distributions are found in 26 C.F.R. §1.401(k)-1(d)(3).

[6] Under IRS regulations, certain distributions are deemed to be on account of an immediate and heavy financial need and, assuming the plan allows hardship distributions for a particular kind of distribution, plans need not require that the employee demonstrate hardship. These distributions include costs related to the purchase of a principal residence, tuition payments and related education fees, and payments for burial or funeral expenses.

[7] The tax penalty is not imposed on distributions for certain medical expenses or that are attributable to the employee being disabled.

- The loans usually have interest rates of one or two percentage points above the prime lending rate. These rates are most likely cheaper than other interest rates available to households.
- The interest payments are credited to the borrowers' accounts, rather than to the lending institutions. This reduces the cost of the loans to the difference between the loan interest rates and the return on the plans' assets.
- Outstanding loans can have serious financial consequences upon default of the loan or upon separation from employment. Upon default, Treasury regulations require that the outstanding loan balance be reported as a distribution from the account.[8] Upon separation from employment, most plans require repayment of outstanding loan balances. If not repaid, the loan balance is considered a distribution. In either case, the borrower must pay income tax on the amount reported as a distribution and the 10% tax penalty, if applicable.

U.S. Code and Treasury Regulations on DC Plan Loans

The U.S. Code and Department of Treasury regulations require that loans from qualified retirement plans be treated as distributions from DC plans (subject to income tax and the additional 10% penalty) unless they meet the following conditions:[9]

- the amount of the loans cannot be greater than the lesser of $50,000 or one-half of the individuals' nonforfeitable account balance;[10]
- the loans must be repayable within five years, unless the loans are used to acquire a principal residence;[11]
- the loans must be repaid in substantially equal payments (not less than quarterly); and
- the loan must bear a reasonable rate of interest.

Failure to meet any of the requirements results in the loan being declared a distribution.

Data on Borrowing

This section of the report examines survey data on households that were able to borrow against their DC plans and compares the characteristics of households that had outstanding DC plan loans with those households that did not have any outstanding loans. The data come from the Survey of Consumer Finances (SCF).[12] The SCF is a triennial survey conducted on behalf of the Board of Governors of the Federal Reserve and contains detailed information on U.S. household finances,

[8] See 26 U.S.C. § 72(p)(A-4)(b)(Example 4).

[9] See 26 U.S.C. § 72(p), 26 C.F.R. § 1.72(p)-1, and 29 U.S.C. § 1108(b)(1).

[10] An example of forfeitable funds is non-vested employer contributions.

[11] Loans for the purchase of a principal residence are repayable within 15 years.

[12] The SCF asks respondents about DC plan loans outstanding at the time of the survey. The percentages do not include households that previously had loans that had been repaid. The number of households that had ever borrowed from their DC plan would likely be higher than the number with a loan currently outstanding.

such as the amount and types of assets owned, the amount and types of debt owed, and detailed demographic information on the head of the household and spouse. Each survey interviews different households to provide separate cross-sections of data. Because early withdrawal penalties are not assessed after an individual reaches the age of 59½, which alters the incentives of the borrowing decision, this report considers only households in which the head of the household is younger than 60 years old. The data in this report are adjusted using the survey weights to be representative of the U.S. population.[13]

Pension Coverage and Access to Retirement Funds

Table 1 presents data from the 2007 SCF on DC plan coverage, the ability to make withdrawals, the ability to borrow, and the number of households with outstanding loans at the time of the survey. More than half of American households (56.6%) had at least one person who was covered by a pension plan at work. Among those with a pension plan, 82.6% participated in DC plans. Most households (85.0%) had access to their DC accounts either by making a withdrawal or by borrowing. More households were able to make withdrawals (80.1%) than were able to borrow (69.8%). Among households that were able to borrow from their DC plans, 14.6% had outstanding loans. Among households with loans, 90.3% continued to make contributions to the DC plan while repaying the loan. The SCF does not ask whether households have taken hardship withdrawals. A recent study by Vanguard found that less than 2% of participants in DC plans administered by Vanguard took a hardship withdrawal in 2008.[14]

Table 1. Access to Defined Contribution Plans in 2007

		Number of Households (thousands)	Percentage
Pension Plan Coverage	Pension Plan at Work	42,103	56.6
Defined Contribution Plan Coverage	Pension Plan is a DC Plan	34,789	82.6
Borrow or Make Withdrawals	Able to Borrow or Make Withdrawals from DC Plan	29,554	85.0
	Neither Able to Borrow nor Make Withdrawals from DC Plan	5,235	15.0
Withdrawals	Able to Make Withdrawals from DC Plan	27,857	80.1
	Not Able to Make Withdrawals from DC Plan	6,932	19.9
Borrowing	Able to Borrow from DC Plan	24,278	69.8
	Not Able to Borrow from DC Plan	10,511	30.2

[13] Further information on using the SCF is available in the codebook at http://www.federalreserve.gov/PUBS/oss/oss2/2007/codebk2007.txt.

[14] See Vanguard Center for Retirement Research, *Inertia and Retirement Savings: Participant Behavior in 2008*, available at https://institutional.vanguard.com/iam/pdf/CRRPB.pdf.

		Number of Households (thousands)	Percentage
Among Households Able to Borrow	No Outstanding DC Loans	20,735	85.4%
	Outstanding DC Loans	3,543	14.6%
Among Households With Outstanding Loans	Contribute to DC Plan	3,198	90.3%
	Not Contribute to DC Plan	345	9.7%

Source: CRS analysis of the 2007 Survey of Consumer Finances (SCF).

Table 2 presents data on DC loan balances in 2007. The median loan balance was $4,800, whereas the average loan balance was $6,734.[15] The median loan balance as a percentage of individual account balances was 11.1%. The average loan balance was 18.9% of individual account balances.

These findings indicate that while most loan balances were modest, a few households had large balances outstanding. Both the median balance and the loan balance as a percentage of account balances were well below the statutory maximum loan amount of the lesser of $50,000 or 50% of the account balance. The surveys indicate that the median loan balance increased from $3,509 to $4,393 from 2001 to 2004 and increased again to $4,800 in 2007. The low loan balance outstanding suggests that the loans were taken for liquidity purposes rather than as a source of low-cost credit. If households were using DC plan loans as sources of low-cost credit, then the loan balances likely would have been much closer to the statutory maximum amounts.

Table 2. Defined Contribution Plan Loans in 2007

	Amount
Median Loan Balance	$4,800
Average Loan Balance	$6,734
Loan Balance as Percentage of Account Balance (Median)	11.1%
Loan Balance as Percentage of Account Balance (Average)	18.9%

Source: CRS analysis of 2007 Survey of Consumer Finances.

Reasons for Borrowing

Households have various reasons for borrowing money. Sometimes households need quick access to funds for emergency or unanticipated expenses, whereas other times households purchase an item for which they cannot pay 100% of the cost, but for which they can afford regular installment payments. **Table 3** indicates that the largest category of loans from DC plans in 2007 was for unanticipated personal expenses.

[15] Many financial variables have a skewed distribution, which means that a few large values can greatly affect average values. For this reason, this report also includes the median values of financial variables. The median is the middle of a distribution, so that half the values are above and half the values are below the median value. The median is not affected by the presence of a few large values and is a better representative of variables that have a skewed distribution.

Table 3. Reasons for Borrowing from Defined Contribution Plans

Reason for Loan	Number of Loans (thousands)	Percentage
Immediate Personal Expenses (Taxes, Bills, Vehicle Repair, etc)	1,685	45.9
Home Repairs / Improvements	527	14.4
Personal Expenses (Divorce, Moving, Vacation, etc)	452	12.3
Medical or Education Expenses	404	11.0
Automobile Purchase	159	4.3
Investment	155	4.2
Residence Purchase	104	2.8
Recreational Vehicle	98	2.7
Appliances	83	2.3

Source: CRS Analysis of the 2007 Survey of Consumer Finances.

Note: Percentages do not total 100% due to rounding.

Immediate personal expenses, which include expenses for bills, vehicle repairs, taxes, insurance expenses, or living expenses accounted for 45.9% of outstanding loans. The next largest categories were home repairs or improvements (14.4%). Personal expenses accounted for 12.3% of the reasons for having borrowed. Medical or education expenses accounted for 11.0% of outstanding loans and automobile purchases accounted for 4.3% of DC loans. Expenses could be planned or unplanned within a particular category. For example, medical expenses could be unplanned if for emergency reasons, whereas education expenses could be anticipated expenses but perhaps so large that they needed to be financed.

Comparing Households With and Without Outstanding Loans

In general, it appears that households with outstanding loans were in worse financial shape than households that could borrow but did not have outstanding loans. However, households with loans had similar median DC account balances than households without loans. The analysis below identifies important differences between households with and without outstanding DC plan loans.

Financial Characteristics

Table 4 shows that, overall, households with outstanding loans were poorer than households without outstanding loans. Households with loans had lower net worth and financial assets. Households with loans also had more debt relative to the amount of their financial assets.

Median net worth, the broadest measure of wealth, was 52% lower for households with outstanding loans compared with households without outstanding loans ($115,100 versus $242,260). Similarly, median financial assets were 44% lower for households with loans ($55,220 versus $98,400). In addition, median income was nearly 19% lower among households with outstanding loans compared with households without outstanding loans ($71,986 versus $88,440).

Although households with loans had lower average and median dollar amounts of debt, the borrowers were likely in relatively worse off financial condition. The debt-to-financial assets ratio is an indicator of households' ability to meet their financial obligations. The median of this ratio was nearly 67% higher for households with outstanding loans (1.87 versus 1.12), which means that households with loans outstanding were relatively more indebted than households without loans.

While it appears that the overall financial condition of households with outstanding loans was worse than households without outstanding loans, households with loans had similar median DC account balances ($41,000 versus $40,100) although the median amount of total retirement assets was 33% higher for households without outstanding DC plan loans ($60,000 versus $45,000). Households with outstanding loans had a higher median ratio of DC-to-financial assets ratio (0.89 compared to 0.51).

Table 4. Financial Characteristics of Households With and Without Outstanding Defined Contribution Plan Loans in 2007

($ in thousands)

		Households That Had Outstanding Loans	Households That Did Not Have Outstanding Loans
Net Worth	Mean	248	652
	Median	115	242
Assets	Mean	400	825
	Median	267	383
Financial Assets	Mean	125	297
	Median	55	98
Non-financial Assets	Mean	276	528
	Median	192	254
Housing Equity	Mean	72	156
	Median	36	101
Debt	Mean	153	173
	Median	112	128
Mortgage debt	Mean	107	139
	Median	83	101
Installment Debt	Mean	14	15
	Median	9	6
Defined Contribution Account Balances	Mean	78	106
	Median	40	40
Total Retirement Assets	Mean	92	145
	Median	45	60
Income	Mean	82	133
	Median	72	88

		Households That Had Outstanding Loans	Households That Did Not Have Outstanding Loans
DC-to-Financial Assets Ratio	Mean	0.78	0.53
	Median	0.89	0.51
Debt-to-Financial Assets Ratio	Mean	4.69	4.83
	Median	1.87	1.12

Source: CRS analysis 2007 Survey of Consumer Finances.

Notes: Net worth is assets minus debt. Assets are financial assets and non-financial assets. Financial assets include savings and checking accounts, stocks, bonds, cash value of life insurance, and retirement assets. Non-financial assets include vehicles and home value. Housing equity is home value minus mortgage debt. Debt includes mortgage debt, credit card balances and other installment debt. Installment debt includes credit card balances and other installment debt. Defined contribution account balances are from pensions from current job only. Retirement assets include defined contribution account balances from current and previous jobs, and Individual Retirement Account (IRA) balances.

Demographic Characteristics

Table 5 compares loan use among households using several common demographic characteristics and other variables. For comparison, 14.6% of households that could borrow in 2007 had outstanding loans (see **Table 1**).

Among the findings:

- Few households (8.8%) in which the head of the household is 20 to 29 years old had outstanding loans. Households in which the head was 30 to 39 years old also had below-average loan rates (11.1%). Households in which the head was 40 to 49 years old had higher than average loan rates (17.5%). Possible explanations include (1) younger households are more likely to have smaller DC and retirement account balances, and (2) younger households are less likely to have expenses associated with home ownership compared with older households.
- The percentage of households with outstanding loans decreased as the education of the head of the household increased. While 18.7% of households with high school education or less had outstanding loans, only 8.4% of households with graduate degrees had outstanding loans. This may be because household income increases with education. Higher levels of education may be associated with greater financial literacy and households that are more financially savvy are also more likely to heed the warnings against borrowing from their DC plans.
- A greater percentage of single households (21.8%) had outstanding loans compared with married households (12.2%). Among married households, those with a spouse that did not work had a higher percentage of outstanding loans (14.2%) compared with households in which both the head and spouse worked (11.5%).
- A higher percentage of households in which the head was non-white had outstanding loans compared with households in which the head was white.

Among non-white households, 16.2% had outstanding loans compared with 13.6% of white households.[16]

- Although 17.2% of outstanding loans were for residence purchases or residence repairs, home ownership did not appear to be an important distinction between those households with and without outstanding loans. Among households that owned their home, 14.5% had outstanding loans. Among households that did not own their home, 14.8% had outstanding loans.
- Although households that also participate in defined benefit pensions had higher loan rates (16.7% versus 13.4%), ownership of Individual Retirement Accounts (IRAs) appeared to be a more important factor. Among households that could borrow from their DC plans and also had IRAs, 7.2% had outstanding loans, while among households that could borrow from their DC plans and did not have IRAs, 19.5% had outstanding loans. The possible reasons for this difference include (1) households with IRAs were also wealthier. Among households that were able to borrow from their DC plans, those with IRAs had a median net worth of $400,400, while households without IRAs had a median net worth of $113,450; or (2) households might have preferred to make withdrawals from their IRAs rather than borrow from their DC plans. Information is not available on the numbers of households that make withdrawals from their IRAs.
- Among households that had been turned down for credit in the five years prior to the survey year, 29.3% had outstanding loans, suggesting that households were borrowing from their DC plans because they lacked alternative sources of credit. Among households that had not been turned down for credit in the previous five years, 11.3% had outstanding loans.
- The percentage of households that had outstanding loans decreased the longer the household head's savings horizon.[17] For example, 19.3% of households with a savings horizon of less than one year had outstanding loans, whereas 14.6% of households with a savings horizon of two to 10 years had outstanding loans. Among households with a savings horizon in excess of ten years, 9.3% had outstanding loans. Households with longer savings horizons may have been less willing to endanger their long-term goal of saving for retirement.
- A greater percentage of households that reported doing almost no shopping for credit had outstanding DC loans compared with households that reported doing a moderate amount or a great deal of shopping for credit (17.7% versus 14.0%).

[16] A study of 57 large corporate 401(k) plans by Ariel Investments and Hewitt Associates found that percentage of those who took hardship withdrawals or who borrowed from their DC plans was higher for African-Americans and Hispanics than for whites. The study did not control for other factors that might also explain the higher withdrawal and loan rates among minorities. This study is available at http://www.hewittassociates.com/_MetaBasicCMAssetCache_/Assets/Articles/2009/arielhewitt_401k_study_results.pdf.

[17] Savings horizon refers to the period of time which respondents indicate is most important for planning their households' spending and saving.

Table 5. Demographics of Households With and Without Outstanding Defined Contribution Plan Loans in 2007

		Total (thousands)	Households That Had Outstanding Loans (percentage)	Households That Did Not Have Outstanding Loans (percentage)
Age	21 – 29	2,582	8.8	91.2
	30 – 39	6,463	11.1	88.9
	40 – 49	7,877	17.5	82.5
	50 -59	7,356	16.6	83.4
Education	High School or Less	7,375	18.7	81.3
	Some College	5,883	18.9	81.1
	Finished College	6,739	10.3	89.7
	Graduate Degree	4,281	8.4	91.6
Marital Status	Single	6,181	21.8	78.3
	Married	18,096	12.2	87.8
Spouse's Employment (Among Married Households)	Working Spouse	13,504	11.5	88.5
	Non-Working Spouse	4,592	14.2	85.8
Race	White	18,642	13.6	86.4
	Non-White	15,921	16.2	83.8
Home Ownership	Homeowner	19,699	14.5	85.5
	Non-Homeowner	4,579	14.8	85.2
Participation in Defined Benefit Plan	Defined Benefit Plan Participant	8,565	16.7	83.3
	Non-Defined Benefit Plan Participant	15,713	13.4	86.6
Ownership of IRA	IRA Owner	9,653	7.2	92.8
	Not an IRA Owner	14,625	19.5	80.5
Refused Credit in Previous 5 Years	Turned Down For Credit	4,449	29.3	70.7
	Not Turned Down For Credit	19,829	11.3	88.7
Saving Horizon	1 Year or Less	5,917	19.2	80.8
	2 to 10 Years	13,043	14.6	85.4
	More Than 10 Years	5,318	9.3	90.7
Amount of Shopping Around for Credit	Almost No Shopping	3,907	17.7	82.3
	Moderate or a Great Deal of Shopping	20,371	14.0	86.0

Source: CRS Analysis of 2007 Survey of Consumer Finances (SCF).

Statistical Analysis

Although **Table 4** and **Table 5** identify differences between households with and without outstanding DC loans, it is useful to identify which of these factors are most important. A logit analysis was used to study the relationship between borrowing decisions and variables suggested by economic theory and previous research. In this model, the response, or dependent variable, has one of two possible values: 1 for households that had outstanding loans against their DC plans and 0 for households that did not have outstanding DC plan loans. The independent variables relate to a household's demographic factors, retirement plan use, credit use, and attitudes toward savings and credit. The model can isolate the impact that individual factors have on the likelihood of having a loan. The results of the logit regression are presented in **Table 6**.[18]

The results are consistent with households having borrowed from their DC plans because of financial difficulty.[19] Eighteen of the 27 variables in the regression are significantly different from zero. Results that are significantly different from zero are not likely due to chance.[20]

Households with poor credit may not have been able to find other sources of credit and may have had to borrow from their DC plan because of financial difficulty. Households that had been denied credit in the prior five years were more likely to have outstanding DC plans loans. These are households that might have difficulty finding sources of credit other than their DC plan loans. Households who were less disciplined savers were more likely to have outstanding DC plan loans. Households who did a moderate or great deal of shopping for credit or who had longer savings horizons, both of which could be indicators of savings discipline, were less likely to have a loan outstanding.

[18] Unlike least squares regressions, the coefficients of logit regressions do not have economically meaningful interpretations. However, the estimates in logit models are easily transformed into probabilities. These probabilities are evaluated at the average values for each of the explanatory variables. The marginal changes are calculated as the difference in probability that a household with and without a particular attribute had a loan outstanding. For example, the probability that a household without a DB plan had a loan outstanding was 9.3%, while the probability that a household with a defined benefit plan had outstanding loans was 11.9%. Therefore, having a defined benefit plan increased the probability of having an outstanding loan by 2.6%.

A further difficulty in interpreting the model used in this report is that several independent variables are categorical variables (e.g., age groups, income groups, and savings horizons). CRS calculated these marginal effects as the probability of having a loan outstanding as a household moved from a lower category to a higher category. For example, the probability that a household in which the head of the household was less than 30 years old had a loan outstanding was 4.5% while the probability for a household in which the head was 30 to 39 years old was 9.7%, which means that the probability of having a loan outstanding increases by 5.2% as households moved from their twenties to their thirties.

Further information on logistic regression models is available in *Introductory Econometrics: A Modern Approach*, by Jeffrey M. Wooldridge (South-Western College Publishing, 2000), pp. 535 - 540.

The standard errors of the parameter estimates are adjusted for the SCF's use of multiple imputation of missing values. The SCF provides five estimates of each missing value in the dataset. Failure to correct for imputation would result in some parameter estimates being wrongly interpreted as statistically significant. The SCF codebook has more information. It is available at http://www.federalreserve.gov/Pubs/OSS/oss2/2007/codebk2007.txt.

[19] Researchers at the Federal Reserve Board reach a similar conclusion. See *New Evidence on 401(k) Borrowing and Household Balance Sheets*, by Geng Li and Paul A. Smith, Finance and Economics Discussion Series, Federal Reserve Board, 2009.

[20] The coefficients indicating whether the household was in the 2004 or 2007 SCF are not statistically significant. This indicates that households were not more likely to have a loan outstanding in 2004 or 2007 compared with 2001.

Higher retirement savings, as measured both by the dollar amount of retirement assets and relative amount of DC-to-financial assets, were associated with higher probabilities of having outstanding loans. Households that had retirement assets between $15,000 and $50,000 had a 5.7% greater probability of having an outstanding DC loan compared with households with account balances of less than $15,000. The probability of having a loan increased by 1.4% for households that had account balances between $50,000 and $125,000 and increased by an additional 0.2% for households with account balances greater than $125,000. This could be because wealthier households also have larger retirement account balances. When DC assets are measured relative to household financial assets, the probability of having an outstanding loan increased by 6.0% as households went from a DC-to-financial assets ratio of less than 0.25 to between 0.25 and 0.50. The probability increased an additional 2.9% as the DC-to-financial assets ratio increased to between 0.50 and 0.75 and by 6.8% as the ratio increased to greater than 0.75. This may be because as a household's DC-to-financial assets ratio increases, the more attractive the DC plan balances become as a source of funds.

Households in which the head of the household was under 30 years old had a lower probability of having an outstanding loan compared with older households. The probability of having an outstanding loan was 5.1% higher for households in which the head was age 30 to 39 compared with households in which the head was in their twenties. The probability was 1.4% higher for heads of households in their forties compared with heads in their thirties. The probability of having an outstanding loan was 0.3% lower for households in which the head was 50 to 59 years old compared with households in which the head was 40 to 49 years old.

The probability of having an outstanding loan increases as households increase their debt-to-financial assets ratio from below 0.3 to 0.3 - 1.0 and increases again as the ratio increases to 1.0 - 3.2. This indicates that more indebted households are more likely to have outstanding DC plan loans. However, the probability for very indebted households shows a puzzling decrease. As households increase their debt-to-financial assets ratio from 1.0 - 3.2 to more than 3.2, the probability decreases by 11.4%. This appears to be counterintuitive.

Table 6. Results of Logistic Regression for Determinants of Having Outstanding Defined Contribution Plan Loans

Variable	Parameter Estimate	Marginal Effect: Change in Probabilities of Having an Outstanding Loan
Intercept	-3.57[a]	
In the 2004 SCF	-0.04	0.31%
In the 2007 SCF	-0.21	-1.5%
The marginal effects for the following variables are interpreted as the difference in probability of having an outstanding DC loan for households in that group compared with the immediate lower group (e.g., households in the 30 to 39 age group compared to the under 30 age group; households in the 40 to 49 age group compared to households in the 30 to 39 age group; and households in the 50 to 59 age group compared with households in the 40 to 49 age group).		
Debt-to-Financial Assets Ratio: 0.3 - 1.0	0.38[a]	4.6%
Debt-to-Financial Assets Ratio: 1.0 - 3.2	0.55[a]	2.4%
Debt-to-Financial Assets Ratio: > 3.2	-0.51[a]	-11.4%
Retirement Assets: $15k - $50k	0.72[a]	5.7%
Retirement Assets: $50k - $125k	0.85[a]	1.4%

Variable	Parameter Estimate	Marginal Effect: Change in Probabilities of Having an Outstanding Loan
Retirement Assets: > $125k	0.87[a]	0.2%
DC-to-Financial Assets Ratio: 0.25 - 0.50	0.97[a]	6.0%
DC-to-Financial Assets Ratio: 0.50 - 0.75	1.25[a]	2.9%
DC-to-Financial Assets Ratio: > 0.75	1.75[a]	6.8%
Age: 30 - 39	0.73[a]	5.1%
Age: 40 - 49	0.87[a]	1.4%
Age: 50 - 59	0.84[a]	-0.3%
Education: Some College	-0.18	-1.9%
Education: Finished College	-0.43[a]	-2.3%
Education: Grad School	-0.64[a]	-1.6%
Savings Horizon: from Two to Ten Years	-0.32	-3.4%
Savings Horizon: Greater Than Ten Years	-0.59[a]	-2.2%
The marginal effects for the following variables are interpreted as the difference in probability of having an outstanding DC loan for households with the particular attribute compared with households without the attribute (e.g., unmarried versus married households).		
Denied Credit in Previous Five Years	1.04[a]	12.6%
IRA Owner	-0.43[a]	-3.9%
Married	-0.26	-2.6%
Race: White	0.16	1.5%
DB Plan Participant	0.23	2.2%
Did Not Shop Around For Credit	0.22	2.1%
Homeowner	-0.18	-1.8%

Source: CRS analysis of the 2001, 2004, and 2007 Surveys of Consumer Finances.

Notes: Based on average of 2771 observations in each of the five SCF datasets. Average percentage of correct predictions is 87.6%.

a. The coefficient is statistically significant at the 5% significance level.

The probability of having an outstanding DC plan loan decreased for heads of households who finished college or had graduate school educations compared with households that had not completed college. Heads of households with a college degree had a 2.3% lower probability of having an outstanding loan compared with household heads that did not have a college degree. The probability of having an outstanding loan decreased an additional 1.6% for households that had graduate degrees compared with those household heads with undergraduate degrees. Two explanations are possible: (1) household wealth increases with the education of a household and wealthier households have more resources available for meeting expenses, or (2) households with more education may have higher levels of financial education which may make them more aware of the risks of borrowing from their DC plans.

Household heads that had a savings horizon longer than 10 years had a 2.2% lower probability of having an outstanding loan compared with household heads with shorter savings horizons.

Although households in which the head is non-white have a greater percentage of loans outstanding compared with households in which the head is white, differences in race do not appear to be a statistically significant factor explaining the characteristics of households with outstanding DC plan loans. Factors such as education or the amount of retirement assets had stronger relationships with the dependent variable.

Finally, the probability of having an outstanding loan was 3.9% lower for households that had an IRA compared with those that did not have an IRA. Possible explanations include (1) households with IRAs may prefer to make withdrawals from their IRAs rather than borrowing from a DC plan; (2) households with IRAs may be more disciplined savers and therefore may be less inclined to endanger their long-term savings goals; or (3) households with IRAs are wealthier and have more sources of credit available to them.

Policy Issues

Congress faces several competing factors in assessing policy with regards to allowing access to assets in DC plans. Congress, in providing tax-advantaged retirement accounts, is encouraging households to save for retirement in order to supplement other sources of retirement income such as Social Security, employer provided DB plans, and private savings. The decline in DB plan coverage means that households will need to rely more on their own savings. Allowing access to DC plan funds can both further and hinder that goal. Allowing access can further that goal if allowing borrowing encourages participation or higher participant contributions.[21] Younger households might be less inclined to participate in DC plans that do not allow access to the funds until retirement because retirement may seem like a distant goal 30 or more years in the future.

Altering the statutory loan maximum from the lesser of $50,000 or 50% of non-forfeitable assets would likely not have an impact on DC plan loans. As noted previously, the median plan loan was $4,328 and the loan balance as a percentage of DC plan assets was 10.6%, both of which are considerably below the statutory loan maximums. In addition, the probability of having a plan loan is higher for households who had been previously turned down than for credit for households who had high DC account balances relative to the amount of their financial assets. The evidence suggests that households are using DC plan loans because they may not have other sources of credit available or that they were poor savers.

If households are going to access their retirement funds prior to retirement, finance experts suggest it is better that they borrow rather than make withdrawals. It is a decision of each individual plan whether to allow withdrawals or loans. Some plans allow only borrowing, some plans allow only hardship withdrawals, some plans allow both, whereas some plans allow neither. Among households that can make withdrawals from their DC plans, 18.6% could not borrow. If these households wished to access their funds prior to retirement, they may have had no choice but to make withdrawals. Although it might be desirable to give households that can make withdrawals the additional option of borrowing, requirements for such plans to also allow borrowing could prove to be administratively costly, resulting in some plans removing the option to make withdrawals. Individual plan sponsors may best know the needs of their workers and can

[21] One study finds that having a borrowing option raises contribution rates by 10%. See "Turning Workers Into Savers," by Olivia S. Mitchell, Stephen P. Utkus, and Tongxuan (Stella) Yan, *National Tax Journal*, September 2007.

design the features of their plan accordingly, including whether participants would benefit from the ability to make withdrawals or borrow from the plan.[22]

Changing the interest rate that DC plans charge on loans would likely not have much of an effect on borrowing. The households that would be most responsive to such a change would be households that are using DC plan loans because they offer attractive interest rates, which does not appear to be an important reason that households borrow from their DC plans. Households with outstanding loans likely borrow because they are out of credit options. Increasing or decreasing the interest rate would not likely change their loan use.

Current law requires DC plan loans to be paid back within five years, although loans used to acquire principal residences may use longer repayment periods. It's difficult to say whether altering the maximum term would increase, decrease, or have no effect on the number of households that borrow. For those that do borrow, lengthening the maximum term of DC plan loans might increase the loan amount, since each monthly repayment would be lower; thus, a borrower could take a larger loan yet make the same monthly payment if the term of the loan is longer. However, borrowers that take a loan to pay for a specific expense would perhaps not change the loan amount even if the monthly payment were lower.

The analysis in the report suggests that IRA ownership decreases the probability that a household had an outstanding DC plan loan. As mentioned above, it is possible that households were making withdrawals from their IRAs rather than taking DC plan loans. Although it is conceivable that some of these households might have chosen to borrow from, rather than make withdrawals from, their IRAs, allowing loans from IRAs would raise substantial public policy concerns.

Under current law, lending money from an IRA to the account owner or beneficiary is a transaction that is prohibited under the Internal Revenue Code unless a statutory or administrative exemption is available.[23] Prohibited transactions are transactions between a plan and a "disqualified person" which are deemed likely to injure a pension plan; IRA owners and their beneficiaries are disqualified persons. Because IRA owners exercise control over the assets of their plans, they are also considered fiduciaries.[24] Fiduciaries must act solely in the interest of the participants and beneficiaries for the exclusive purpose of providing benefits to participants and their beneficiaries.[25] Proposals to allow IRA owners to borrow from their accounts could have wider implications for the obligations of IRA fiduciaries.

In addition, default rates might be higher for loans from IRAs compared with DC plan loans. In case of default of a DC plan loan, the amount outstanding is considered a distribution that must be

[22] For example, Karsten Manufacturing Corporation does not allow hardship withdrawals or loans from its 401(k) plans, saying that the company is "a paternalistic company and the 401(k) plan is a savings vehicle for employees' retirement." See "Putting Employees First Through Innovative Education, Plan Design and Investment Solutions," *Defined Contributions Insights Magazine*, January/February 2007, available at http://www.psca.org/DCIMagazineMembers/tabid/133/ctl/Detail/mid/490/Id/765/Archive/Default.asp.

[23] See 26 U.S.C.§ 408(e)(2)(A) and 26 U.S.C. § 4975(c)(3), which require that an IRA cease to be an IRA should the account holder or beneficiary engage in any of the prohibited transactions listed in 26 U.S.C. § 4975(c)(1). An exemption for loans to DC plan participants is granted by 26 U.S.C. § 4975(d)(1).

[24] The Internal Revenue Code uses the term "disqualified person" while ERISA refers to "party of interest." Other examples of prohibited transactions include the sale, exchange, or lease of property between a plan and a disqualified person or dealings by fiduciaries with the income or assets of the plan for their own use (self-dealing). See CRS Report RL34443, *Summary of the Employee Retirement Income Security Act (ERISA)*, by (name redacted) and Jennifer Staman.

[25] See 26 U.S.C. § 1104(a)(1)(A).

reported as income. Plans with high default rates may risk losing their qualified (tax-advantaged) status.[26] Most employers provide for automatic payroll deduction of DC loan repayments, which likely keeps default rates low. Although financial institutions could require automatic debit repayments as a condition for borrowing from IRA plans, IRA trustees would not have the same incentive to ensure that IRA loans are repaid.

Limited data are currently available on the incidences of withdrawals from IRAs and the characteristics of these households. More data would be useful in understanding how tightening or loosening access to IRAs prior to retirement would affect ownership of and contributions to IRAs.

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[26] See *Compliance Profile of Section 401(k) Plans: Results of an IRS Survey* available at http://www.irs.gov/pub/irs-utl/401k-survey.pdf.