

# CAN WE PREDICT BOOMERS' DRAWDOWN BEHAVIOR FROM EARLIER COHORTS?

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## Introduction

Research has found that past generations drew down their wealth slowly in retirement, leaving much of their savings untouched throughout old age. This pattern, however, may not hold for new retirees, who are more likely to rely on a defined contribution (DC) plan than a defined benefit (DB) plan. Retirees with a DB plan had less need to draw down financial assets to cover their spending and could reserve these assets for late-life medical expenses or bequests. This project, based on a recent study, uses data from the restricted *Health and Retirement Study* (HRS) to examine the extent to which the slow drawdown of past generations was associated with substantial access to a DB pension.<sup>1</sup>

The discussion proceeds as follows. The first section describes how the pace of drawdown could be related to access to a DB plan. The second section describes the HRS data used in this project and the methodology for testing the relationship between DB coverage and drawdown speed. The third section presents the results, showing that households with a DB plan retain more of their wealth, meaning that they draw it down more slowly than those without. Specifically, retirees with \$200,000 of starting wealth (roughly the sample median) and covered by a DB plan reduce their financial assets by \$28,000 less by

age 70 than their peers without a pension. The final section concludes that forecasts based on past patterns are likely to underestimate the drawdown speed for Baby Boomers.

## Background

Past research has found that retirees barely drew down their financial assets during retirement.<sup>2</sup> In fact, the evidence indicates that many retirees' assets continue to grow well into retirement. This slow (or negative) drawdown is puzzling, since one of the main purposes of retirement savings in the lifecycle model is to provide consumption throughout old age.

Numerous explanations have been proposed for this "retirement savings puzzle." First, retirees may hold onto wealth to leave a bequest when they die.<sup>3</sup> Second, retirees may keep money aside for large, unpredictable medical expenses in old age, including long-term services and supports.<sup>4</sup> Third, retirees may retain their assets to insure against longevity risk – the risk that they live much longer than expected.<sup>5</sup>

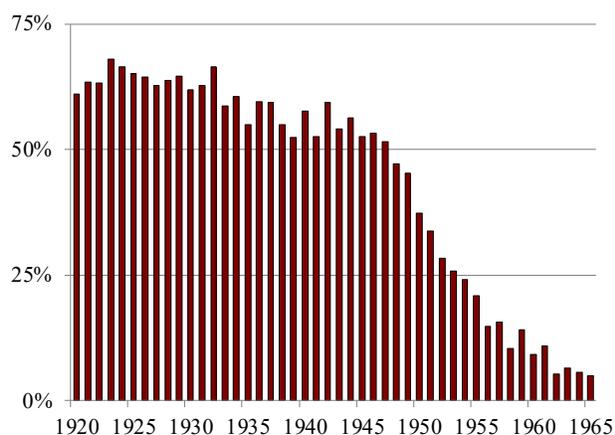
Past research, by necessity, focused on older generations that had substantial DB plan coverage. The nature of retirement plan coverage, however, has changed

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dramatically. Given the focus of this analysis on retirement income specifically, Figure 1 illustrates this trend by showing the share of households receiving DB plan income by birth year. While most households with heads born between 1920 and 1940 had income from a DB plan, this share had dropped dramatically by the time the earliest Baby Boomers retired.<sup>6</sup>

FIGURE 1. SHARE OF HOUSEHOLDS RECEIVING INCOME FROM A DEFINED BENEFIT PLAN, BY YEAR OF BIRTH



Source: Authors' calculations from the University of Michigan, *Health and Retirement Study* (HRS) (1992-2018).

The three explanations for slow drawdown of retirement assets in the past have different implications for what might happen as the form of savings shifts from DB to DC plans. Consider a simple two-period model (early retirement and late retirement) in which individuals have no bequest or precautionary saving motives and no uncertainty about time of death. Individuals start the first period with the assets and benefits they had accumulated during their working life, and they optimally draw down accumulated assets between early and late retirement. In this simple framework, the shift from DB to DC plans would not change drawdown speed; the retiree consumes half of total assets in each period.

*Bequest/Precautionary Saving Motives:* This simple model can be extended to include a bequest motive or a desire to retain assets for late-life health expenditures. Now, the retiree must leave some savings untouched by the end of late retirement. Retirees still aim to split their consumption optimally, so they reduce their consumption by the bequest or precau-

tionary saving target – which is a larger share of the smaller sum of liquid assets in the DB world. In this expanded model, the shift from DB to DC plans then *speeds up* drawdown.

*Longevity Risk:* The model can be extended further to include longevity risk – that is, the notion that a retiree lives to late retirement with some probability less than 1. Now, retirees no longer want to equalize consumption between early and late retirement. DB pensions, however, provide a relatively larger share of consumption in late retirement, since they guarantee a consumption floor in case of survival to the second period. Thus, in the presence of a DB plan, retirees have less need to save financial assets for the second period. As a result, they draw down faster when they hold more DB benefits and slower when they hold more DC assets.

The overall impact of the shift from DB to DC plans depends on the relative importance of bequests and precautionary savings for medical protection, on the one hand, and protecting against longevity risk, on the other. Drawdown speed is expected to increase as DBs are replaced by DCs if bequests or precautionary savings for medical expenses are the main drivers of slow drawdown in the DB world; drawdown speed would decrease if slow drawdown is mostly due to self-insurance against longevity risk.<sup>7</sup>

## Data and Methodology

This project relies on data from the *Health and Retirement Study* (HRS), a longitudinal survey of U.S. households with at least one adult age 50 or older. Every two years (one “wave”), respondents are asked about their labor market activity, income, health insurance status, wealth, and saving activity, as well as their demographics, family structure, health, and retirement expectations. The data for this study cover the Children of the Depression cohort (born 1924-1930) through the Early Boomers cohort (born 1948-1953).

In the analysis, financial wealth includes all financial assets, 401(k)s and IRAs, and the net value of non-home real estate, less any non-mortgage debt.<sup>8</sup> Drawdown of retirement assets is measured as the change in log financial wealth between retirement and a target age (70, 75, or 80).<sup>9</sup> The log of financial wealth ensures that drawdown is measured relative to a household’s overall wealth, as households with less wealth may only make smaller withdrawals.<sup>10</sup>

The analysis also takes into account the Required Minimum Distribution (RMD) rules for assets in tax-deferred 401(k)s and IRAs. After age 70½, sample households with 401(k)/IRA assets must withdraw at least the RMD, a constraint which is absent for other sources of financial wealth.<sup>11</sup> Thus, ignoring the RMD might confound the effect of employers shifting from DB to DC plans with the increasing share of financial assets covered by DC plans and hence subject to RMDs.<sup>12</sup>

With the data in hand, the following regression is used to estimate within-cohort differences in the speed of drawdown for all households, whether they are covered by a DB pension or not:

$$\log(\text{assets at 70}) - \log(\text{assets at retirement}) = f(\text{has DB plan, cohort fixed effect, household characteristics})$$

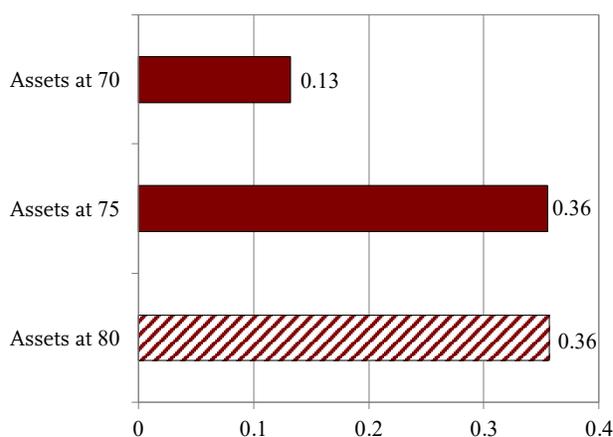
A positive value for the coefficient on “has DB plan” means that households with DB plans have retained a greater share of their wealth and therefore have drawn down more slowly than those without. Household demographic characteristics at retirement include marital status, race, years since retirement, gender, education, number of children, long-term care insurance, homeownership, and the log of residential housing value.<sup>13</sup> The demographic controls (gender, race, and cohort) are, among other things, proxies for mortality expectations, both in terms of life expectancy and mortality uncertainty. Retirees with shorter life expectancies likely draw down their wealth faster, while retirees with more uncertainty have more longevity risk and therefore a stronger precautionary savings motive.<sup>14</sup> Years since retirement matter because those who retire earlier have more years of drawdown by the target age.

## Results

Figure 2 shows the relationship between having a DB plan and the change in wealth over the relevant period. (Full regression results are provided in the Appendix.) At all three target ages, having a DB plan is associated with more retention of wealth, which means they draw down their wealth more slowly than those without. By age 70, a household with a DB plan drew down 13 log points less of their starting wealth than households without a DB plan. For a household that entered retirement with a DB plan and \$200,000 in savings (approximately the median in our sample), this slower drawdown corresponds to having \$28,000

more wealth remaining at age 70 than a household with the same initial wealth but no DB plan.<sup>15</sup> By age 75 and by age 80, the household with a DB plan drew down 36 log points less of their initial wealth, corresponding to \$86,000 more wealth. However, the results at age 80 are not statistically significant, likely due to the small sample for this analysis.<sup>16</sup>

FIGURE 2. RELATIONSHIP BETWEEN “HAVING A DEFINED BENEFIT PLAN” AND WEALTH RETENTION



Note: Solid bars are statistically significant at least at the 5-percent level.

Source: Siliciano and Wettstein (2021).

As a result, the magnitude of the slower drawdown is large, considering the median household in these older generations withdrew only 12 log points of their starting wealth by age 70. Using the drawdown speed of these older generations as a prediction for younger generations could significantly underestimate the drawdown speed of Baby Boomers. A rough estimate for more recent retirees without DB plans is that they would draw down 21 log points, or 24 percent, of wealth by age 70. At this rate, Boomers would deplete their assets by age 85, about the life expectancy for someone who reaches retirement age. This pace would leave them no precautionary savings for either medical risk or longevity risk even though roughly half would survive past this age.

The results, overall, indicate that bequests and precautionary medical savings outweigh longevity insurance motives in the explanation of slow drawdown. Regarding the relative importance of bequests and precautionary medical savings, however, the results do not provide strong evidence to illuminate either of these channels.

## Conclusion

Past generations drew down their financial wealth slowly, likely reserving it for bequests and precautionary savings, rather than spending it to finance their own consumption. However, forecasting drawdown for the currently retiring Boomers must account for changes across generations, namely the shift from DB to DC plans.

This analysis shows that past generations' access to a DB pension was associated with slower drawdown of their financial assets. Thus, forecasts for the Baby Boomer generation based on the drawdown of past generations likely underestimate their drawdown speed. The results suggest that Baby Boomers without DB plans may be drawing down their assets faster, leaving them with more risk that they will outlive their savings.

## Endnotes

- 1 Siliciano and Wettstein (2021).
- 2 Poterba, Venti, and Wise (2011) and De Nardi, French, and Jones (2016).
- 3 See, for example, Kopczuk and Lupton (2007).
- 4 Palumbo (1999); De Nardi, French, and Jones (2010); Kopecky and Koreshkova (2014); and Munnell, Wettstein, and Hou (2020).
- 5 Wealth saved for bequests, medical expenses, and longevity are not necessarily separate, as the three motives are complementary (Dynan, Skinner, and Zeldes 2002; Lockwood 2018). For example, precautionary savings for longevity risk can be left as a bequest if the retiree dies early, or used for unexpected medical expenses that imply a shorter expected lifespan.
- 6 Currently, only public sector workers still have substantial access to DB pensions (Munnell, Haverstick, and Soto 2007).
- 7 This analysis focuses only on the drawdown of financial wealth and excludes wealth from owner-occupied homes, because using home equity for consumption is difficult. Few homeowners take out a reverse mortgage or downsize at retirement. Research finds that home equity is primarily used for bequests and large medical expenses (Davidoff 2010; Nakajima and Telyukova 2020).
- 8 Specifically, this measure of wealth includes the total value of stocks, bonds, retirement accounts, CDs, bank accounts, businesses, vehicles, and non-housing real estate, net any debts including credit card balances, loans excluding mortgages, and medical debt.
- 9 Retirement is defined as self-reported retirement. A household may report different retirement years when asked the same question across waves. In that case, the analysis uses the most common answer.
- 10 The sample for each step is restricted to households with positive financial wealth at retirement, at age 70, and at the final age of the studied interval.

11 Existing evidence shows that the RMDs are binding for a substantial share of retirees. See Brown, Poterba, and Richardson (2017) and Mortenson, Schramm, and Whitten (2019). The start of RMDs was recently increased to age 72; however, this change will not impact the analysis as it affects those turning 70½ in 2019, after the last HRS wave used in this study (2018).

12 The RMD rules require that individuals withdraw a minimum share of their assets, as determined by an account holder's age, and these withdrawals, as a percentage of assets, vary by year. Using the age of the financial respondent and the survey year, the RMD is estimated by applying these rules to the level of assets remaining in 401(k)-type accounts. If a household either reported taking an RMD, or withdrew an amount within 5 percent of the estimated RMD, the analysis counts them as having taken an RMD.

13 Housing value is included as a control because housing comprises a large share of assets for the typical household, as well as making up a large share of bequests and a source of liquid funds in case of long-term care shocks. Non-homeowners are assigned the median household value for homeowners. This choice only affects the coefficient for the homeownership indicator, which will correspond to the difference between renting and being a homeowner with the median housing value.

14 See Wettstein et al. (2021).

15 This dollar value and future dollar values are calculated after converting log points to percentages, since the relatively large coefficients imply that log points themselves are a poor approximation to percentage changes.

16 For bequests, Hurd (1987) argued that the number of children would predict bequest motives but did not find that this variable predicted drawdown speed. In contrast, our results find that having children is associated with faster, rather than slower, drawdown. Further study is needed to determine which channels – bequests, medical risk, longevity risk, or behavioral biases – drive the slower drawdown associated with DB pension access.

## References

- Brown, Jeffrey R., James Poterba, and David P. Richardson. 2017. "Do Required Minimum Distribution Rules Matter? The Effect of the 2009 Holiday on Retirement Plan Distributions." *Journal of Public Economics* 151: 96-109.
- Davidoff, Thomas. 2010. "Home Equity Commitment and Long-term Care Insurance Demand." *Journal of Public Economics* 94(1-2): 44-49.
- De Nardi, Mariacristina, Eric French, and John B. Jones. 2016. "Savings after Retirement: A Survey." *Annual Review of Economics* 8: 177-204.
- Dynan, Karen, Jonathan Skinner, and Stephen Zeldes. 2002. "The Importance of Bequests and Life-cycle Saving in Capital Accumulation: A New Answer." *American Economic Review* 92(2): 274-278.
- Hurd, Michael. 1987. "Savings of the Elderly and Desired Bequests." *American Economic Review* 77(3): 298-312.
- Kopczuk, Wojciech and Joseph Lupton. 2007. "To Leave or Not to Leave: The Distribution of Bequest Motives." *The Review of Economic Studies* 74(1): 207-235.
- Kopecky, Karen and Tatyana Koreshkova. 2014. "The Impact of Medical and Nursing Home Expenses on Savings." *American Economic Journal: Macroeconomics* 6(3): 29-72.
- Lockwood, Lee. 2018. "Incidental Bequests and the Choice to Self-Insure Late-Life Risks." *American Economic Review* 108(9): 2513-2550.
- Mortenson, Jacob, Heidi Schramm, and Andrew Whitten. 2019. "The Effects of Required Minimum Distribution Rules on Withdrawals from Traditional IRAs." *National Tax Journal* 72(3): 507-542.
- Munnell, Alicia H., Kelly Haverstick, and Mauricio Soto. 2007. "Why Have Defined Benefit Plans Survived in the Public Sector?" *State and Local Plans Issue in Brief* 2. Chestnut Hill, MA: Center for Retirement Research at Boston College.

- Munnell, Alicia H., Gal Wettstein, and Wenliang Hou. 2020. "How Best to Annuitize Defined Contribution Assets?" *Journal of Risk and Insurance*.
- Nakajima, Makoto and Irina Telyukova. 2020. "Home Equity in Retirement." *International Economic Review* 61(2): 573-616.
- Palumbo, Michael. 1999. "Uncertain Medical Expenses and Precautionary Saving Near the End of the Life Cycle." *The Review of Economic Studies* 66(2): 395-421.
- Poterba, James, Steven Venti, and David Wise. 2011. "The Composition and Drawdown of Wealth in Retirement." *Journal of Economic Perspectives* 25(4): 95-118.
- Siliciano, Robert L. and Gal Wettstein. 2021. "Can the Drawdown Patterns of Earlier Cohorts Help Predict Boomers' Behavior?" Working Paper 2021-11. Chestnut Hill, MA: Center for Retirement Research at Boston College.
- University of Michigan. *Health and Retirement Study*, 1992-2018. Ann Arbor, MI.
- Wettstein, Gal, Alicia H. Munnell, Wenliang Hou, and Nilufer Gok. 2021. "The Value of Annuities." Working Paper 2021-5. Chestnut Hill, MA: Center for Retirement Research at Boston College.

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# APPENDIX

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TABLE A1. RELATIONSHIP BETWEEN WEALTH  
RETENTION AND DEFINED BENEFIT PLAN ACCESS

	(1)	(2)	(3)
	Log (assets at 70) - log (assets at retirement)	Log (assets at 75) - log (assets at retirement)	Log (assets at 80) - log (assets at retirement)
Have DB	0.132** (0.0575)	0.355*** (0.117)	0.357 (0.230)
Retirement age	0.0172** (0.00686)	0.00592 (0.0102)	-0.0503** (0.0222)
Black	-0.127 (0.0984)	0.351** (0.144)	0.395 (0.291)
Hispanic	-0.00148 (0.110)	0.00578 (0.163)	0.372 (0.334)
Other (race)	-0.0685 (0.158)	0.150 (0.228)	-0.504 (0.491)
Male	0.00574 (0.0550)	0.158** (0.0780)	-0.124 (0.151)
Homeowner	0.359*** (0.0837)	0.138 (0.119)	0.330 (0.215)
Some college	0.0106 (0.0632)	-0.0504 (0.0884)	-0.382** (0.168)
College	0.155** (0.0632)	0.00625 (0.0856)	0.399** (0.158)
Married	-0.00992 (0.0641)	-0.132 (0.0906)	0.206 (0.176)
Housing value (log)	0.117*** (0.0258)	0.120*** (0.0365)	0.0848 (0.0688)
Have children	-0.244** (0.0985)	-0.277* (0.145)	-0.272 (0.303)
Have LTCI	-0.0707 (0.0508)	-0.0538 (0.0687)	-0.0946 (0.128)
Constant	-2.664*** (0.556)	-2.466*** (0.810)	1.394 (1.492)
Cohort controls	Yes	Yes	Yes
RMD controls	-	Yes	Yes
Observations	3,425	2,120	647
R-squared	0.030	0.051	0.098

Notes: Standard errors in parentheses. \*\*\* p<0.01,  
\*\* p<0.05, \* p<0.1.

Source: Siliciano and Wettstein (2021).

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