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Do Required Minimum Distributions Constrain Household Behavior? The Effect of the 2009 Holiday on Retirement Savings Plan Distributions

Jeffrey Brown
University of Illinois and NBER

James Poterba
MIT and NBER

David Richardson
TIAA-CREF Institute

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ABSTRACT

This paper investigates how the 2009 one-time suspension of the Required Minimum Distribution (RMD) rules associated with qualified retirement plans affected plan distributions at TIAA-CREF, a large retirement services provider. Using panel data, we find that roughly one third of the retirement plan participants who were over the age of 70 1/2 in 2008, and who were therefore affected by the minimum distribution rules, discontinued their distributions in 2009. The results also show relatively small differences in the suspension probability between those who had 2008 distributions equal to the RMD amount, and who might therefore be classified as facing a binding RMD constraint, and those who were taking distributions in excess of the RMD amount before the distribution holiday. The probability of suspension declines with age and rises with economic resources. These findings provide some insight on the revenue consequences of changing RMD rules, and they also raise questions about the role of various behavioral considerations, such as inertia, in modeling distribution behavior.

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Qualified tax-preferred retirement saving plans in the United States, such as Individual Retirement Accounts (IRAs) and employer sponsored 401(k) and 403(b) plans, must meet a variety of plan qualification requirements in order to be eligible for advantageous tax treatment. For example, there are limits on the amount that participants can contribute to these plans each year, restrictions on how and when funds can be withdrawn without paying penalties, and requirements that retired participants must begin making withdrawals after they reach a certain age. Each of these and other parameters of the qualified plan system can affect the evolution of participant balances. As a result, they can also affect federal revenues because contributions and "inside buildup" are typically tax-deductible while withdrawals are typically taxable. Whether and how these plan qualification requirements affect accumulations and federal revenue depends on how they influence participant behavior.

It is difficult to estimate the behavioral responses to changes in many of the plan qualification rules because the regulations change relatively infrequently. One such change took place in 2009, when the Worker, Retiree, and Employer Recovery Act – the "stimulus bill" – suspended the Required Minimum Distribution (RMD) rule for qualified plans for one year. The intent was to allow retirement plan participants whose account balances had been reduced by falling asset prices to skip a year of required payout and thereby to preserve the value of their retirement account.

One source of information on the effect of the distribution holiday is aggregate data from the IRS Statistics of Income reports on the taxable distributions from IRAs. These data show a decline of 16.7 percent between 2008 and 2009. Specifically, these distributions totaled $148 billion in 2007, $162 billion in 2008, $135 billion in 2009, and $194 billion in 2010. The number of participants taking withdrawals in each year follows a similar pattern: 10.7 million in

2007, 11.3 million in 2008, 9.7 million in 2009, and 12.5 million in 2010. Although the aggregate data are suggestive of a substantial impact of the distribution holiday, they suffer from at least three shortcomings. First, inference is complicated by the fact that the holiday coincided with a sharp decline in asset values, both overall and within the IRA plans that are used as the distribution basis in the aggregate statistics. Second, the aggregate data may confound the distribution holiday with another policy change that allowed individuals to make a conversion of traditional IRA assets to Roth treatment under favorable terms, namely, spreading the tax liability over two subsequent years. Finally, the aggregate data cannot offer any insight on the characteristics of the qualified plan participants who took advantage of the distribution holiday.

This paper analyzes distribution patterns using administrative record data from TIAA-CREF, a large provider of retirement income and retirement services for employees at nonprofit institutions. The data span the 2007-2010 period, which enables us to compare participant behavior before, during, and after the distribution holiday. The data provide very detailed information on withdrawal activity. We estimate the probability that retirement plan participants who had taken distributions before the distribution holiday suspended their distributions in 2009. We also examine how a limited set of covariates based on administrative records are correlated with suspension decisions. This will help to shed some light on whether those constrained by the RMD rules are more likely to be higher wealth taxpayers who wish to further shield their accounts from taxation, or whether it is households with fewer resources who wish to more allocate more of their resources to future consumption.

The paper is divided into four sections. The first describes the RMD rules that apply to qualified retirement accounts and places the 2009 legal changes in context. It also describes the small prior literature that has considered the effects of distribution rules on participant behavior.

The second section describes our data set on TIAA-CREF participants who were taking withdrawals in 2008. It notes a number of challenges that arise in tracking withdrawal behavior over time, even with administrative record data. Section three presents our central findings. It describes the decline by roughly one third in the number of qualified plan withdrawals in 2009, as well as the characteristics of those who made a withdrawal in 2008, but chose not to do so in 2009. This section also reports the similarity between the suspension behavior of those who appear to have been taking the minimum distribution allowed by the RMD rules, and those who were withdrawing other (larger) amounts from these accounts. We also provide evidence that the probability of suspension declines with age and rises with economic resources. A final section concludes, describes potential applications, and suggests several open research questions.

1. Required Minimum Distribution (RMD) Rules and Tax-Deferred Accounts

The present discounted value of the revenue loss associated with a qualified account saving program generally rises with the length of time that assets are held in these accounts. Prior to the creation of so-called Roth options for qualified plans in the late 1990s, virtually all contributions to qualified retirement plans were excluded from the contributor's taxable income. In addition, the accruing income ("inside buildup") on assets held in both traditional and Roth plans are also untaxed. All payouts, whether from contributions or accumulations, were taxed as ordinary income when funds were distributed. RMD rules were adopted to prevent open-ended accumulation in these tax favored accounts by restricting the length of time assets could be held in these accounts, and thereby limit the foregone revenue. This section describes current RMD rules and past research on how they affect distribution patterns.

1.1 RMD Rules

The RMD rules stipulate that a taxpayer with a "traditional" (non-Roth) qualified retirement account must begin distributions no later than April 1 of the year following the calendar year in which she turns 70 ½, or the year in which she terminates employment, whichever is later. The RMD rules do not apply to Roth-style accounts, which can include some IRAs, 401(k)s, and 403(b)s.

The RMD rules specify that the distribution each year must exceed the participant's account balance at the end of the previous year divided by an "applicable distribution period" that depends on the participant's life expectancy and that of the qualified plan's beneficiary. If the account holder is married and his or her spouse is the beneficiary, then the divisor depends on the age disparity between the account holder and the spouse. It is larger if the spouse is more than ten years younger than the participant than if the participant and spouse are closer in age.

Table 1: Applicable Distribution Period for Married Account Owners with Spousal Beneficiaries and Age Disparity of Less than Ten Years

Age	Distribution Period	Required Withdrawal (% of Previous Year-End Balance)
70	27.4	3.65%
71	26.5	3.77
75	22.9	4.37
80	18.7	5.35
85	14.8	6.76
90	11.4	8.77
95	8.6	11.63
100	6.3	15.87
105	4.5	22.22
110	3.1	32.26
> 115	1.9	52.63

Source: IRS Publication 590, Individual Retirement Arrangements, Appendix C, Table III, and authors' calculations.

Table 1 shows the applicable distribution period for what the IRS labels a "uniform lifetime." This is the divisor for unmarried account owners, for married owners whose beneficiaries are spouses within ten years of their age, and for married owners whose spouses are not the beneficiary of their accounts. When an individual is 70 or 71 years old begins required distributions, the RMD would be slightly less than four percent of the account balance. While Table 1 illustrates the RMD percentage for one type of account holder - one with a spousal beneficiary who is relatively close in age -- there are other distribution rules that apply to account holders with other beneficiaries, or spousal beneficiaries who are more than ten years younger than the account holder. In addition, there is another RMD table for beneficiaries to use after they have inherited an account.

The penalty for failure to take minimum distributions is stiff: an excise tax of fifty percent of the required, but undistributed, amount. This provides a substantial incentive for participants to track their RMDs, and is one reason that many retirement plan providers prepare RMD estimates for their participants.

1.2 Previous Research on Distribution Patterns and RMDs.

A number of previous studies have explored distributions from qualified accounts using a variety of data sources. Sabelhaus (2000), Bershadker and Smith (2006), and Bryant (2008) examine tax return data, which offer precise information on withdrawals, but very limited information on participant characteristics. Holden and Bass (2012) use administrative records from mutual funds that administer IRAs, Keogh plans, and corporate defined contribution plans. Poterba, Venti and Wise (2013) use household survey data from the SIPP and HRS. These studies generally find that, not surprisingly, withdrawals from IRAs and other qualified plans rise sharply when participants reach age 70 1/2, the age at which RMDs must begin for most

participants. The studies all suggest that there are substantial numbers of households that do not take any distributions prior to this age.

One puzzling finding from the studies using household survey data is the significant number of households with members over age 70 ½, which hold qualified accounts, but do not report any distributions. A number of explanations have been advanced for this finding: the accounts could be Roth IRAs rather than traditional accounts that are subject to RMDs, the accounts could be employer-sponsored and the account holders may still be employed, the accounts may be held by another member of the household who is not yet subject to RMD rules, or the household may not be compliant with the RMD regulations. All of these factors may contribute to some degree, but it is not possible to distinguish among them in most studies.

A particularly important limitation of the studies that use tax return information is the absence of specific information on a participant's age. This makes it difficult to judge the fraction of qualified plan owners that are above the age at which RMDs must be taken, and consequently to determine whether the these account holders are affected by the RMD rules and if so, whether or not they are complying with them. Our data, combined with the 2009 distribution holiday, provides a valuable opportunity to learn more about the behavior of qualified account holders who are subject to RMD rules.

2. Background and Summary Statistics: Distributions from TIAA-CREF

TIAA-CREF provides investment and retirement income services for workers in the not-for-profit sector, primarily in the higher education industry, with over three million participants in 2010. Participants include faculty as well as staff at universities, medical institutions, public and private K-12 schools, and a number of other not-for-profit entities.

Our sample is based on the universe of TIAA-CREF participants who received a retirement income distribution in 2008. We then restrict the sample to retirees who maintain a Minimum Distribution Option (MDO) contract with TIAA-CREF. Under this contract, TIAA-CREF calculates the annual size of the RMD a retiree needs to withdraw from assets held within the TIAA-CREF system and distributes this amount to the participant. The participant can choose to have this amount distributed on a monthly, quarterly, semi-annual or annual schedule. Participants can take more than the required minimum distribution and can change any of their distribution choices at any time during the year. We further restrict the sample to include only primary retirees (i.e., we exclude secondary beneficiaries) who have assets in 2008, 2009, and 2010, resulting in a balanced panel sample of 63,859 individuals.

Table 2 provides descriptive statistics on the sample population. The average age in 2009 is 76.7 years, with primary participants being slightly older (77.4) on average and beneficiaries being, on average, significantly younger (61.6). Men comprise about 56.8% and married persons about 67.4% of the sample. About 14.2% of those receiving an RMD lived in a state that does not have an income tax. The table shows the substantial heterogeneity in account balances: the mean balance for primary account holders in 2007 was $494,591, but the median was less than half this value, $240,854.

Table 2: Descriptive Statistics

	Mean	Median	Standard Deviation
Age in 2009 (N = 66,849)	76.7	76.7	6.4
- Primary Participants (N = 63,859)	77.4	76.8	4.5
- Secondary Beneficiaries (N = 2,990)	61.6	59.2	15.3
Male	.596	1.0	
Married	.674	1.0	
2007 Assets	485,313	233,302	644,537
- Primary	494,591	240,854	651,277
- Secondary	287,176	134,006	433,448
2008 RMD	19,573	6765	52,350
- Primary	20,073	7,045	53,354
- Secondary	8,891	3,025	18,831
2009 RMD	11,140	1,663	42,581
- Primary	11,150	1,801	43,446
- Secondary	3,453	0	12,668
2010 RMD	20,091	6,163	66,385
- Primary	20,771	6,549	67,668
- Secondary	5,576	507	22,623

In 2008, the mean RMD was $19,573 and the median was $6,765. For 2009, the mean RMD fell by $8,433 (43.1%) to $11,140, and the median RMD declined $5,102 (75.4%) to $1,663. While the dollar amounts were larger from primary participants – those who accumulated the qualified plan balance, the relative declines were larger for beneficiaries, those who inherited these accounts. More than half of all beneficiaries stopped distributions in 2009. In 2010, the mean RMD exceeded the 2008 mean level by about 2.6% but the median RMD was only about 91% of the 2008 median level.

3. The Effects of the 2009 RMD Holiday

3.1 Univariate Results

We now turn to a discussion of who suspended their required distributions when given the opportunity to do so. We begin with Table 3, which shows the percentage of those taking distributions in 2008 who suspended distributions in 2009. TIAA-CREF sent multiple mailings and other communications to MDO contract holders after Treasury announced the RMD

holiday. These communications explained the rules of the RMD holiday and provided instructions for what participants needed to do in order to suspend their RMD for the year. TIAA-CREF sent another round of communications when Treasury issued rules that allowed participants to return RMD amounts already distributed. A small fraction of participants in our sample are individuals who returned their RMD after receiving a distribution.

We divide the sample between primary and secondary beneficiaries, and between those who were taking only minimum distributions and those who were taking more than the RMD, either in the form of an annuity or as an additional lump sum distribution that exceeds the RMD amount. The table shows that just over one third -- 35.5 percent -- of the participants who received a minimum distribution in 2008 suspended these payouts in 2009. Only a minority of those who were taking distributions and who were affected by the RMD rules decided to take advantage of the distribution holiday. The small differences between those who were taking only the RMD (36.5%) and those who are taking the RMD as well as another distribution is surprising, since one might argue that those taking only the RMD are the most constrained by the RMD rules. This is highlighted by noting that secondary beneficiaries were significantly less likely to suspend their RMD than primary participants. And secondary beneficiaries with only an RMD had the lowest likelihood of any group, with less than 1 in 5 suspending their RMD.

Table 3: Probability of Suspending 2009 RMD Distribution Among 2008 RMD Distributors

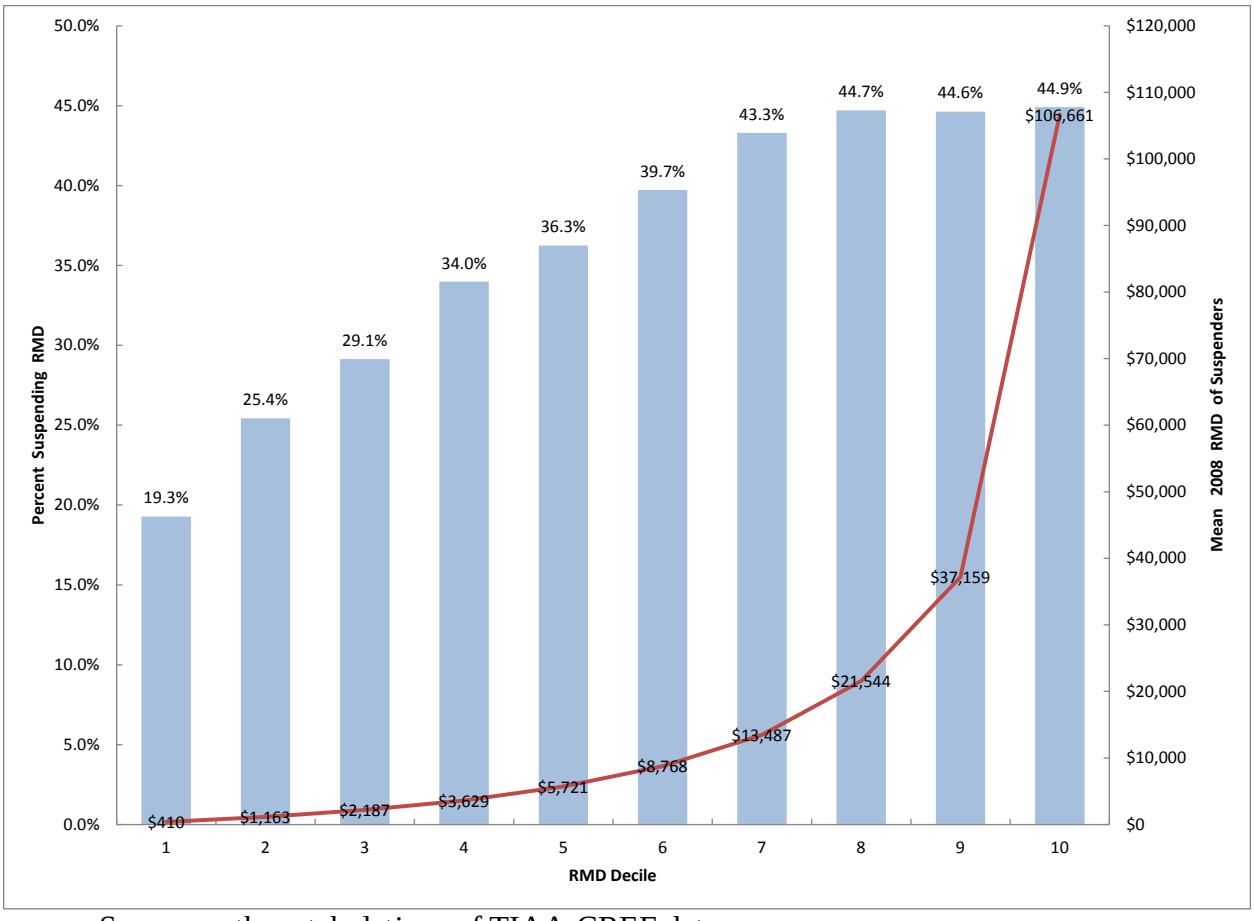
Beneficiary Type	Distribution Type			
	RMD Only	RMD + Annuity	RMD + Other	Total
Primary	37.2%	32.1%	36.4%	36.1%
Secondary	19.5	25.4	28.5	22.7
Total	36.5	32.0	35.1	35.5

Source: Authors' tabulations. See text for further details.

The information in Table 3 does not disaggregate participants by their account size or by any individual or household attributes. Figure 1 presents suspension rates of primary participants

by deciles of the 2008 RMD. The data show the likelihood of suspending increased smoothly with the size of the RMD, over the first six deciles of the RMD distribution, and roughly plateaus after that. The probability that a participant in one of the top four deciles will suspend an RMD is roughly twice the probability that a participant in the bottom two deciles will do so. The low suspension rates for the bottom four deciles may be due to the small size of their RMD. For these groups, the average 2008 RMD was less than $5,000.

Figure 1: Probability of Suspending Distribution in 2009, by Decile of 2008 Distribution

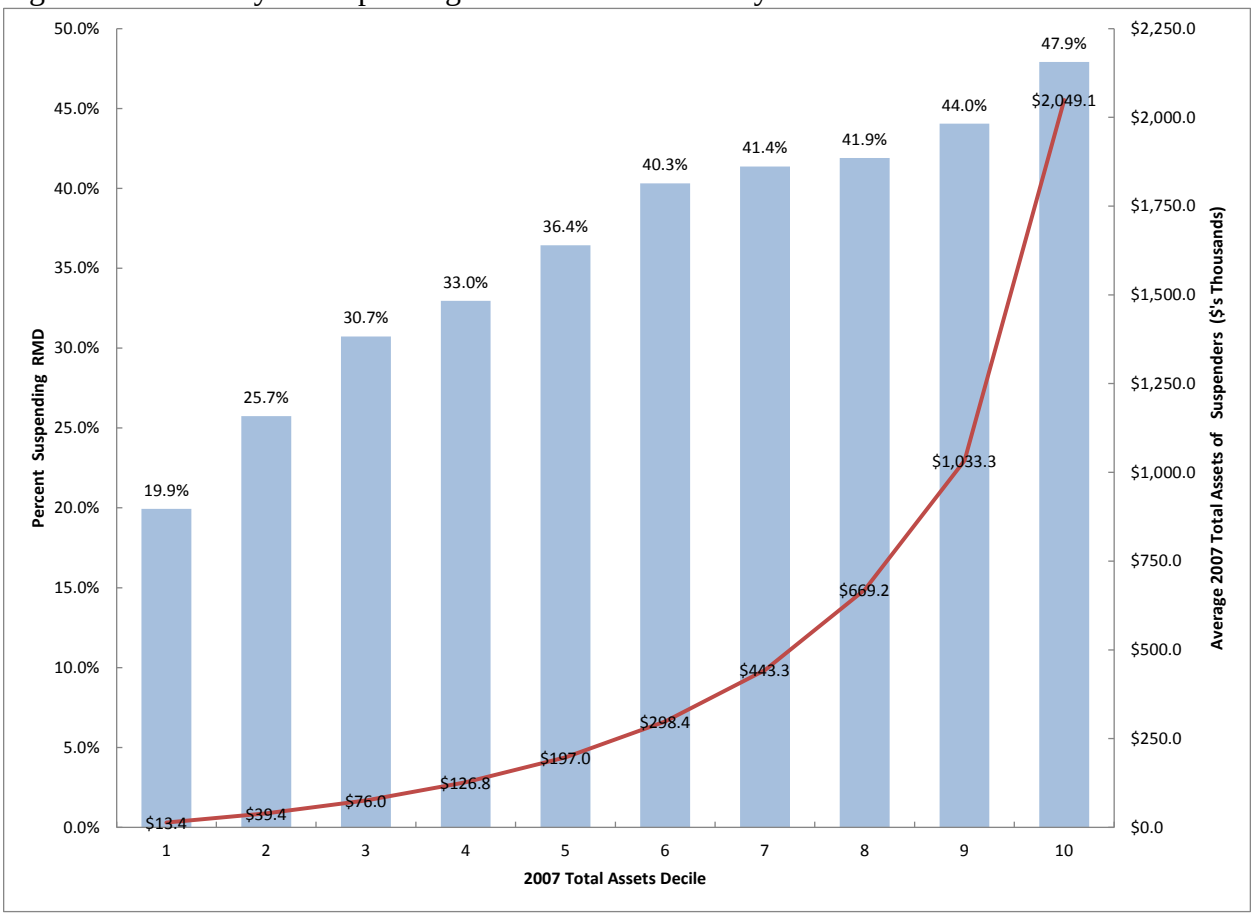


Source: authors tabulations of TIAA-CREF data

Individuals in Figure 1 that have large with large RMDs tend to be those who have large account balances or who are older (conditional on account balance). Figure 2 helps to decompose these factors by dividing primary participants by their account balances in at year-

end 2007. The data show a smoothly increasing pattern of suspension rates by account size, with more than a doubling of these rates in moving from the lowest decile to the top four deciles. The highest account balance decile is somewhat more likely to suspend distributions – 47.7 percent – than participants in the second highest (43.7 percent) or third highest (41.6 percent) deciles. Even for the highest decile, however, the probability of suspending distributions is less than 50 percent. This finding challenges the view that those with large account balances would not choose to make distributions in the absence of the RMD rules.

Figure 2: Probability of Suspending Distribution in 2009 by Decile of Total TIAA-CREF Assets

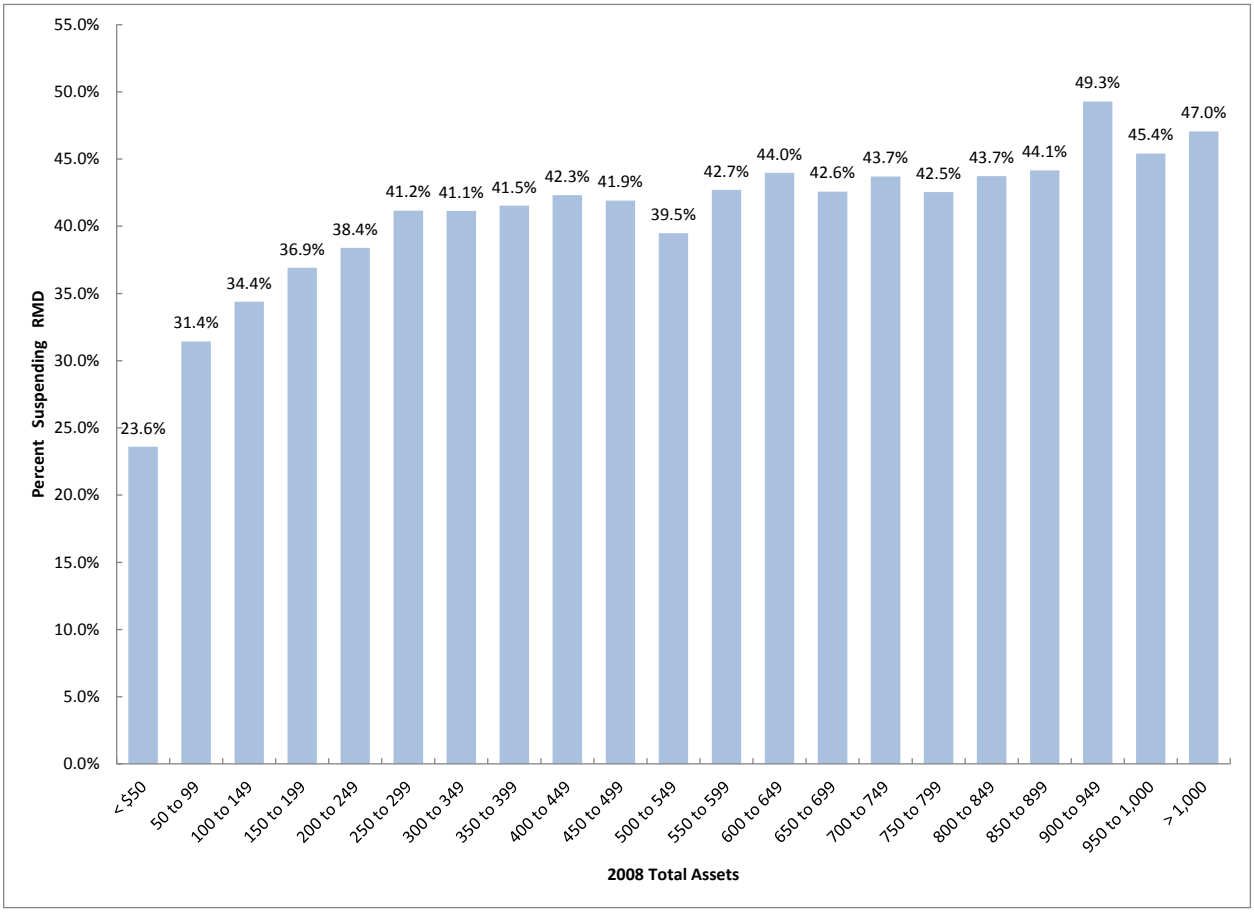


Source: Author tabulations of TIAA-CREF data

Figure 3 presents additional detail on the link between total account balance and suspension probability, dividing primary participants into categories based on the value of their

holdings rather than deciles of these holdings. This figure shows that the marginal relationship between wealth and suspension rates is strongest at lower levels of total account balance, and that after reaching the median balance – about $250,000 – there is relatively little effect of a larger balance.

Figure 3: Probability of Suspending Distribution in 2009 by Amount of 2008 TIAA-CREF Assets

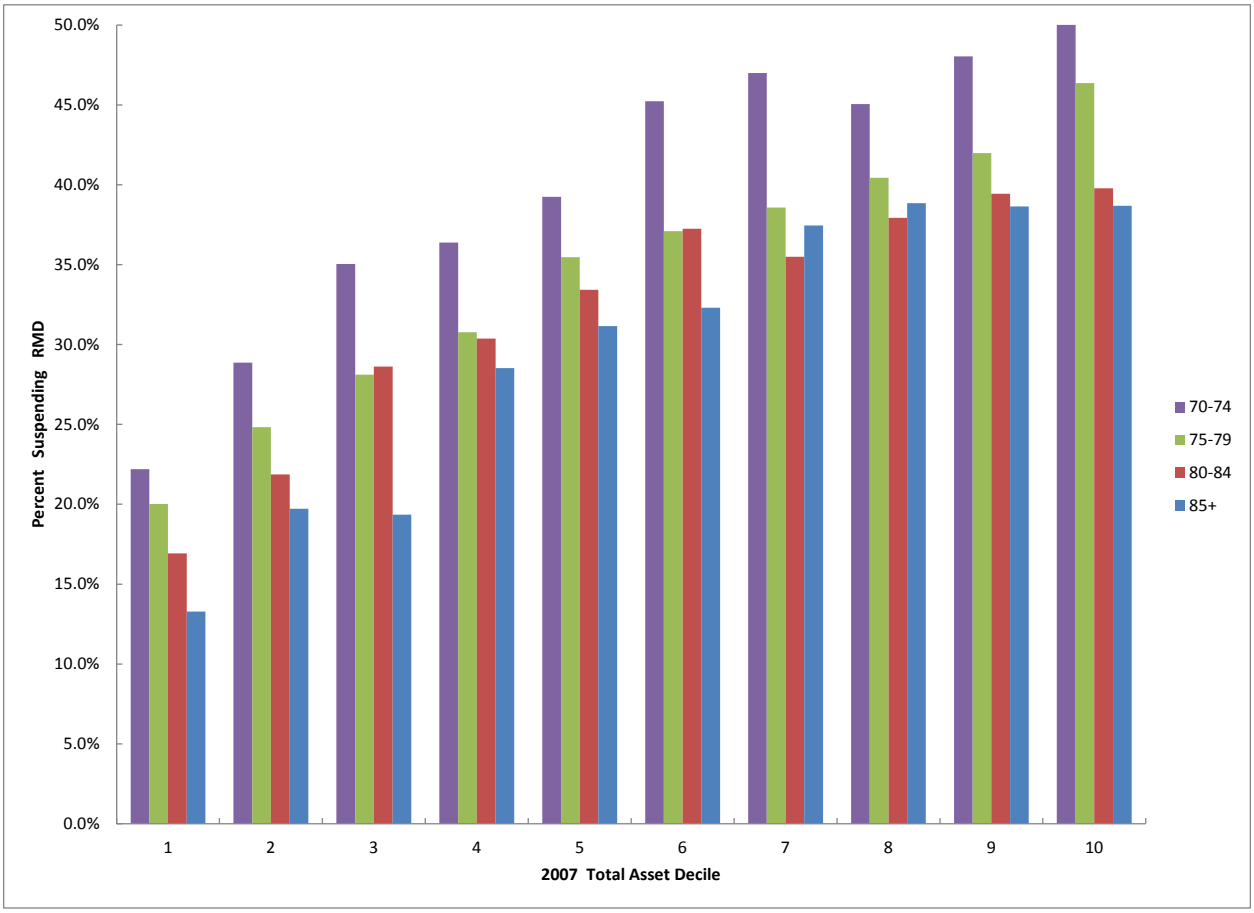


Source: Author tabulations of TIAA-CREF data

In addition to account balance, the other factor that determines the size of one's RMD is the age of the participant. Figure 4 examines the likelihood of a primary participant suspending their RMD by 5 year age bins and deciles of their total TIAA-CREF assets. The figure shows that for most asset deciles, the probability of suspending distributions declines with age. When

all participants are aggregated, over 40% of those participants ages 70-75 but over age 70 suspended their RMD. The suspension probability falls steadily, reaching only 23.2% of individuals age 90 and above. This pattern is consistent with a view that as individuals grow older, their distributions from retirement accounts are more likely to represent a source of consumable income, rather than simply being forced upon individuals who would otherwise prefer to continue to allow their distributions to accumulate.

Figure 4: Probability of Suspending Distribution in 2009 by Age and Decile of Total TIAA-CREF Assets



Source: author tabulations of TIAA-CREF data

3.2 Regression Results

We now turn to investigating the relationship between suspension decisions and individual attributes in a multivariate setting. Our univariate results suggest that suspension

probability rises with account size and falls with age. Here, we explore these factors jointly with three additional measures of individual characteristics that we can obtain from our administrative data. Specifically, in Table 4, we report the results of a linear probability model where the dependent variable "Suspend" = 1 if the individuals suspends their RMD, and 0 otherwise. We also report the marginal effects of a Probit model which are nearly identical. We include controls for five-year age bins (where <75 years is the excluded category), indicator variables for male and for married, and the log of the median income of the zip code of the respondent's primary residence, which is meant to serve as a proxy for an individual's economic status. Finally, we include in columns 3 and 4 the log of assets held inside the TIAA CREF complex.

Table 4: Marginal Effects (OLS and Probit) of Demographic Characteristics on the Probability of Suspending RMD

	OLS		Probit		OLS		Probit	
Age 75-79	-0.0562	***	-0.0552	***	-0.0536	***	-0.0523	***
	(0.0044)				(0.0044)			
Age 80-84	-0.0853	***	-0.0848	***	-0.0794	***	-0.0787	***
	(0.0054)				(0.0053)			
Age 85-89	-0.1057	***	-0.1064	***	-0.0865	***	-0.0872	***
	(0.0087)				(0.0086)			
Age 90+	-0.1747	***	-0.1859	***	-0.1458	***	-0.1567	***
	(0.0299)				(0.0295)			
Male	0.0444	***	0.0446	***	-0.0095	***	-0.0110	***
	(0.0040)				(0.0042)			
Married	0.0237	***	0.0242	***	0.0300	***	0.0311	***
	(0.0043)				(0.0043)			
Log Median Income by Zip	0.0575	***	0.0572	***	0.0407	***	0.0403	***
	(0.0050)				(0.0049)			
Log TIAA CREF Assets 2008					0.0528	***	0.0541	***
					(0.0013)			
N	63,859		63,859		63,859		63,859	

*Notes: Dependent variable =1 if suspend and 0 otherwise. OLS standard errors in parenthesis. Probit results are the marginal effects evaluated at the mean. *** indicates significance at 1% level*

Consistent with our univariate findings above, we find an important age gradient. Across all specifications, the likelihood of suspending an RMD in 2009 is montonically decreasing with age. Relative to the omitted 70.5 to 74 category, the probability of suspending drops by approximately 5, 8, 11 and 18 percentage points as we move up each 5-year age bin respectively.

In columns 1 and 2, males appear to be 4 percentage points more likely to suspend. However, this effect goes away in columns 3 and 4 when one controls for assets held at TIAA-CREF. In these latter specifications, the coefficient on male is negative and statistically significant, but not economically large (only a 1 percentage point difference in suspension probabilities). Married individuals are 2 – 3 percentage points more likely to suspend. This could reflect the fact that they have a longer joint life expectancy than a single individual, and thus may be more concerned about holding onto assets to insure later life consumption.

Finally, both the log of median zip income and log of assets are both economically and statistically significant. Living in a zip code with a 10% higher median income is associated with a 4 – 6 percentage point increase in the probability of suspending distributions. Similarly, having 10% more assets invested with TIAA CREF makes one about 5 percentage points more likely to suspend.

Overall, these results reveal substantial heterogeneity in the response to the RMD holiday. The result that higher income, higher wealth individuals are more likely to suspend suggests that they likely have other non-qualified assets or other income that they can use to finance their consumption and would therefore prefer to continue to receive the favorable tax treatment of their tax-qualified account. Presumably, this is the type of activity that Congress was seeking to curb when it introduced the RMD rules several decades ago.

4. Conclusions and Future Directions

Our results provide some evidence on the effect of required minimum distribution rules (RMDs) on withdrawals from qualified retirement plans. They suggest that a substantial group of participants in such plans – our estimate would be over one third – would not take distributions if it were not for these requirements. This average, however, masks considerable heterogeneity by age and income. Specifically, we find that younger and wealthier individuals are those that are most likely to suspend when given the opportunity. The probability that a participant with a retirement account balance of less than $50,000 suspended distributions was about 24 percent, compared with 34 percent for a participant with a balance between $100,000 and $150,000, and just over 40 percent for those with balances above $250,000. We found very little difference in the suspension probability as a function of account balance above $250,000.

Although our results provide insight on the factors that affect distribution behavior, there remain data limitations. First, we only observe accounts at one financial institution, whereas the RMD rules apply to the set of all assets that participants hold in qualified plans. It is possible for a participant with accounts at two financial institutions to satisfy the RMD rules by taking distributions only from one firm. The key question for our analysis is whether participants who were taking distributions from TIAA-CREF accounts in 2008 changed the financial institution from which they were taking distributions for 2009, while continuing to take such distributions. Participants who did so would show up as ceasing distributions in the TIAA-CREF database, while in fact they would have continued such distributions.

Second, we should note that we only observe financial transactions, and we cannot determine whether distributions from retirement accounts are consumed, or, instead, are transferred to other financial accounts outside the qualified plan structure. For analyzing the

revenue effects of changes to RMD rules, this distinction is inconsequential. For analyzing whether changes to RMD rules might affect long-term retirement security, however, it is essential. There is a key tradeoff between administrative record data, such as the data we analyze in this study, and household survey data, from the standpoint of this question. Because the former does not capture other accounts, or information on consumption, it cannot offer any evidence on the ultimate disposition of retirement plan withdrawals. Because it is based on specific transactions, however, it avoids the problems of reporting error and recall bias that can plague household surveys and make it particularly difficult to assess transactions that must take place within a given time period.

Third, we must caution that our study is based on a one-year suspension of the RMD rules, and that the steady-state effects of increasing the RMD age might differ from the one-year effect. The fraction of retirees who choose not to withdraw assets at age 73, for example, when they have already made withdrawals at ages 71 and 72, may differ from the fraction that chooses to forego a distribution if the RMD age is raised to 73 1/2, since in the new policy regime some 73 year olds might find themselves with a need for distributions to support consumption.

The findings we present represent a starting point for analyzing how changes in the RMD rules might affect federal revenues. There have been some proposals, for example those advanced by Warshawsky (1998), to remove minimum distribution requirements or to reform them to allow substantially greater flexibility for retirees. Doing so would affect federal revenues; our findings provide a starting point for assessing such effects.

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