

**ESTIMATING THE EFFECTS OF THE REQUIRED MINIMUM
DISTRIBUTION RULES ON WITHDRAWALS FROM INDIVIDUAL
RETIREMENT ARRANGEMENTS**

Prepared by the Staff
of the
JOINT COMMITTEE ON TAXATION



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OVERVIEW

One of the responsibilities of the staff of the Joint Committee on Taxation (“Joint Committee staff”) is to provide Congress with estimates of the budgetary effects of proposed tax legislation. Providing Congress with the estimated revenue effect of proposed legislation starts with an economic analysis of the proposal.

Distributions from qualified retirement plans and individual retirement arrangements (IRAs) are generally included in a taxpayer’s adjusted gross income. The size of such distributions is often at the taxpayer’s discretion. However, in the case of defined contribution plans and IRAs, account-holders must take a required minimum distribution starting at age 70½. Understanding the extent to which the required minimum distribution requirements impose a binding constraint on taxpayers and how taxpayers respond to changes in those requirements is important for modeling the revenue effects of policies related to retirement income. This document¹ describes research the Joint Committee staff has undertaken to study the effects of required minimum distribution rules on the asset decumulation behavior of retirees with traditional IRAs.²

¹ This document may be cited as follows: Joint Committee on Taxation, *Withdrawals from Individual Retirement Arrangements and Required Minimum Distribution Rules* (JCX-5-19), February 22, 2019. This document is available on the Joint Committee on Taxation website at www.jct.gov.

² The staff of the Joint Committee on Taxation welcomes comments from interested readers who have studied modeling of the Federal individual income tax. Direct comments to Chief of Staff, Thomas A. Barthold, and Deputy Chief of Staff, Robert P. Harvey, Joint Committee on Taxation, 502 Ford House Office Building, Washington, D.C. 20515-6453. The Joint Committee staff presented a more detailed presentation of this research for comment at the National Bureau of Economic Research Public Economics meeting in Cambridge Massachusetts, April 2016 and the National Tax Association’s Annual Conference on Taxation held in Baltimore, Maryland, November 2016.

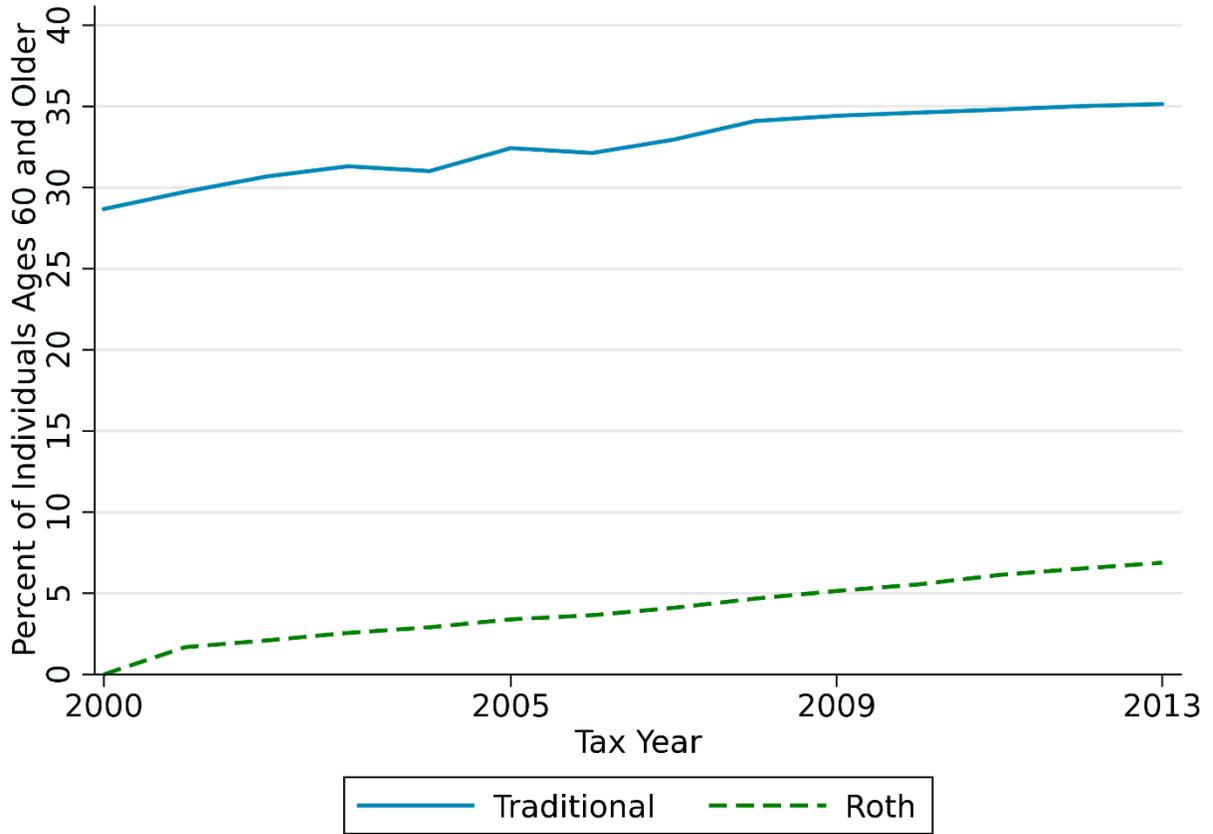
I. BACKGROUND ON INDIVIDUAL RETIREMENT A AND REQUIRED MINIMUM DISTRIBUTIONS

Individual retirement arrangements, frequently referred to as IRAs, provide tax benefits designed to encourage saving for retirement. There are several types of IRAs, including traditional, Roth, simplified employee pension, and savings incentive match plans for employees, but traditional accounts are the most common. IRAs are an important component of retirement savings: over 35 percent of individuals age 60 or older had an IRA in 2013, as shown in Figure 1. The aggregate amount of assets held in these accounts has increased as well, with those 60 or older holding \$3.8 trillion in assets in IRAs in 2013, as shown in Figure 2. Given the decline of defined benefit pension plans and the rise of defined contribution plans – which are often rolled over into IRAs as individuals switch jobs or retire – IRAs will likely further increase in number and size over time.

The value of the assets shown in Figure 2 is comprised of two components: contributions from wage and salary income, some of which was untaxed when earned, and investment earnings that have accrued untaxed. Not all taxpayers are eligible to make deductible (pre-tax) contributions to traditional IRAs because of the income limits associated with such contributions.³ Therefore, it is not necessarily the case that all of an individual's traditional IRA assets derive from untaxed contributions.

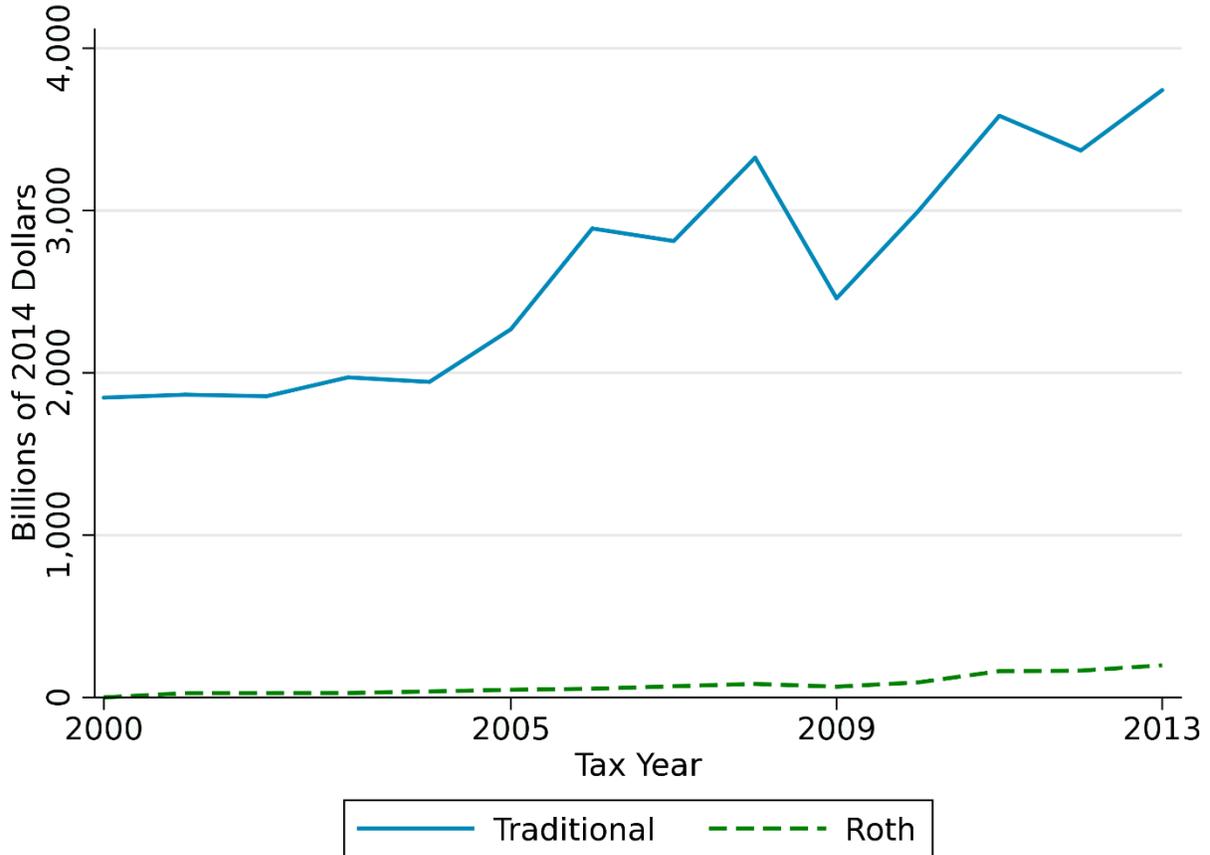
³ There are income limits associated with making deductible traditional IRA and Roth contributions. For example, in tax year 2018, individuals who are eligible to participate in their employer's retirement plan and file an annual tax return as married filing jointly with a modified adjusted gross income ("MAGI") of \$101,000 or less can make a full deduction of their traditional IRA contributions. Analogous filers with a MAGI between \$101,000 and \$121,000 can deduct a portion of their traditional IRA contributions, but those with more than \$121,000 can only make nondeductible contributions. Different income limits apply depending on filing status and whether an individual, and their spouse if married, are covered by an employer-provided retirement plan. In tax year 2018, individuals who filed as married filing jointly with a MAGI of less than \$189,000 can make a Roth contribution, with a phase-out ending at \$199,000. Individuals with a MAGI of greater than or equal to \$199,000 cannot make Roth contributions. See IRS Publication 590-A for additional details about contributions to IRAs.

Figure 1.—Percentage of Individuals 60 or Older with IRAs



Notes: The data underlying the figure are drawn from the population of information and tax returns between 2000 and 2013. The sampling rate is five percent, and the sample is limited to filings of individuals age 60 or older.

Figure 2.—Market Value of Assets Held in IRAs by Those 60 or Older



Notes: The data underlying the figure are drawn from the population of Form 5498 filings between 2000 and 2013. The sampling rate is five percent, and the sample is limited to filings of individuals between age 60 or older.

Traditional IRAs allow individuals to delay income taxation of deductible contributions and to have tax deferral on investment earnings that accrue within the accounts.⁴ Subject to certain restrictions, contributions to traditional IRAs are tax-deductible. If an individual or the individual’s spouse is an active participant in an employer-sponsored retirement plan, the deduction for IRA contributions is phased out as modified adjusted gross income increases over certain thresholds. An individual may not contribute more than a statutorily prescribed maximum amount to an IRA in a year.⁵ Distributions (withdrawals) of untaxed contributions and earnings from traditional IRAs are taxed as ordinary income. Distributions taken before age 59½ are subject to a 10-percent tax in addition to ordinary income tax unless one of several

⁴ For the general rules associated with traditional IRAs, see Internal Revenue Code (“Code”) sections 219 and 408.

⁵ For example, in tax years 2015-2018, the IRA contribution limit was \$5,500 or the contributing individuals’ taxable compensation for the year, whichever was smaller. Individuals who are age 50 or over at the end of the calendar year could contribute an additional \$1,000, referred to as the “catch-up” contribution limit. The IRA contribution limit is adjusted for inflation in \$500 increments.

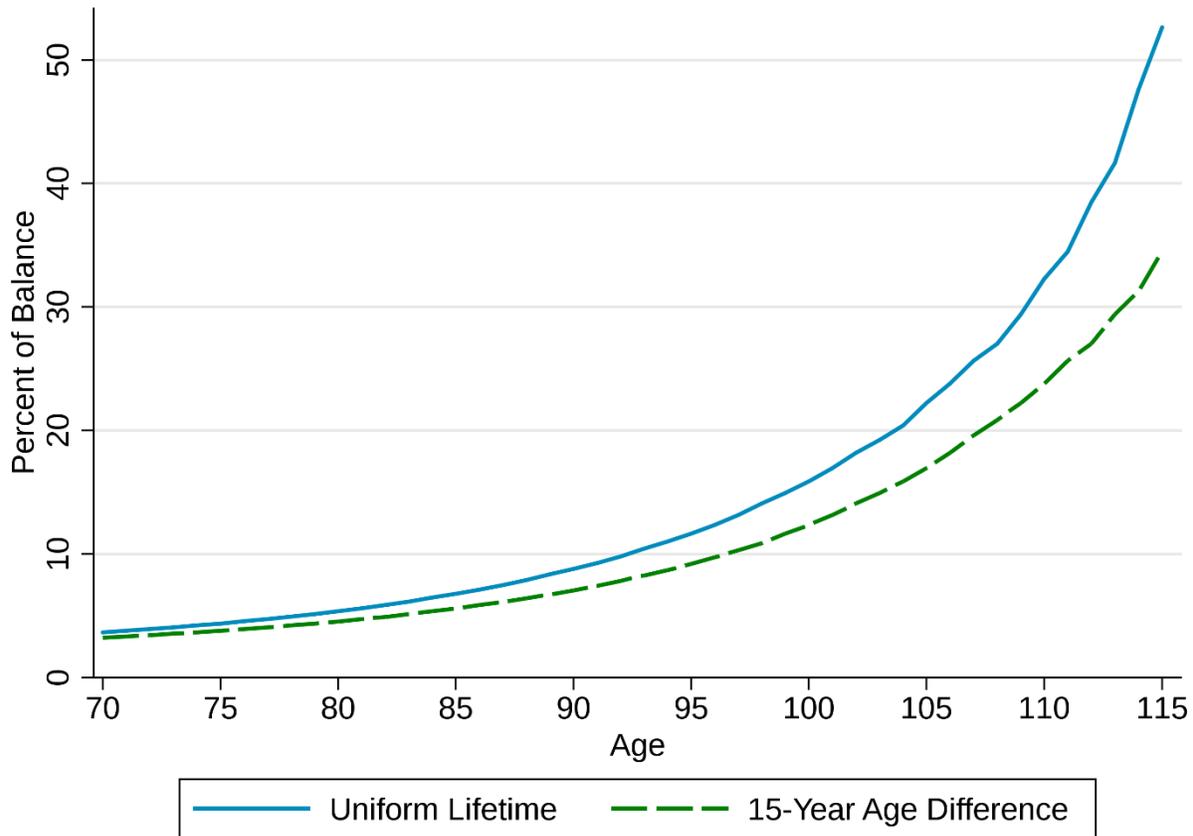
exceptions applies. For example, qualified first-time homebuyers may withdraw up to \$10,000 from an IRA without penalty, and unemployed individuals may withdraw money penalty-free to pay health insurance premiums. An individual age 70½ or older must withdraw at least a statutorily-prescribed minimum amount each year. This minimum amount is referred to as a “required minimum distribution.”⁶

The required minimum distribution rules considered in the research discussed in this document apply to traditional IRAs and defined contribution plans for individuals who are the original account holders.⁷ The required minimum distribution for each year is determined by dividing the account balance at the end of the prior year by an age-specific factor in the Uniform Lifetime Table of IRS Publication 590-B. As an individual ages, the fraction of the balance that is required to be withdrawn increases. An IRA owner with a spouse who is the sole beneficiary of their IRA and who is more than 10 years younger than the owner is subject to an alternative, less strict schedule. Both schedules are depicted in Figure 3, where the spousal age difference is assumed to be 15 years in the case of the non-Uniform Lifetime schedule. Under both schedules, the rules allow more than 30 percent of the original account balance to remain in an account at age 90 if investments generate zero returns and more than 70 percent of the original balance if investments generate four-percent returns annually.

⁶ For the general required minimum distribution rules, see Code section 401(a)(9).

⁷ Inherited IRAs are subject to a separate set of rules and are not considered in the research discussed here.

Figure 3.—Required Minimum Distribution Schedules



Notes: The figure shows the required minimum distribution, measured as the percentage of the account balance that must be withdrawn, for ages 70 to 115 for the years 2002 to 2014. Note that requirement minimum distribution rules were suspended for one year in 2009.

By requiring distributions that might have otherwise been delayed, required minimum distribution rules hasten the collection of tax revenue in two ways. First, amounts distributed under the rules generate income tax liability on investment earnings. Second, required minimum distributions limit the amount of time taxes can be deferred on deductible contributions. As a consequence, required minimum distributions reduce the tax expenditure associated with the tax deferral on traditional IRA contributions and earnings that accrue to all contributions.⁸

When estimating the revenue consequences of potential changes to the required minimum distribution rules, the Joint Committee staff takes into account various behavioral responses to the rules. For example, if a proposal called for the required minimum distribution schedule to begin at age 75 (instead of 70½), the Joint Committee staff would estimate the change in distribution behavior for those no longer subject to the rules (individuals of ages 70½ through

⁸ The tax expenditure for traditional IRAs is estimated to be approximately \$18 billion in 2018. See Joint Committee on Taxation, *Estimates of Federal Tax Expenditures for Fiscal Years 2018-2022*, JCX-81-18, 2018.

74) and for those who might have larger account balances once the proposed distribution requirements take effect (individuals age 75 and older). Similarly, if a proposal called for an increase in the required minimum distribution schedule, measured as a fraction of the balance that must be withdrawn, the Joint Committee staff would estimate the degree to which individuals would take larger distributions because of the rules. A key parameter of these analyses is the elasticity of distributions with respect to the required minimum distribution. This parameter represents the percentage change in expected distributions given a one-percent change in the required minimum distribution. It is a measure of taxpayer behavioral response.

The Joint Committee staff has undertaken research to provide precise estimates of the elasticity of distributions with respect to the required minimum distribution. This research is the subject of this document. The following sections describe the research design used, the results of the analyses, and their implications for revenue estimation.

II. RESEARCH DESIGN FOR ESTIMATING WITHDRAWAL RESPONSES TO REQUIRED MINIMUM DISTRIBUTIONS

There is substantial theoretical and descriptive research on the accumulation and withdrawal of assets in retirement accounts. However, before the Joint Committee staff conducted the research described in this document there were no estimates of the elasticity of distributions with respect to the required minimum distribution available in the extant economics literature.⁹ Economic theory suggests that the effect of the rules on IRA withdrawals is ambiguous and depends on individuals' withdrawal preferences in the absence of the rules. For a particular individual, the elasticity may be between zero and one, as it depends on the distance between their preferred withdrawal amount and their required minimum distribution. If an individual always prefers to withdraw an amount greater than their required minimum distribution, their elasticity is zero because a change in the required amount would have no effect on their withdrawals. In contrast, if, in the absence of distribution requirements an individual always prefers to withdraw less than their required minimum distribution, their elasticity is one because a one dollar increase in the required minimum distribution causes a one dollar increase in withdrawals. The elasticity that the Joint Committee staff estimates measures the average effect of the required minimum distribution on withdrawals across all taxpayers who are subject to the rules. The elasticity captures an average effect in the sense that responses may vary across individuals due to differences in liquidity constraints, retirement assets, age, and many other factors affecting IRA distribution decisions.

To study how withdrawals are affected by the rules, the Joint Committee staff used administrative tax data from a sample of the population of account holders: the data includes all income tax returns and information returns (such as IRS Form 5498, "IRA Contribution Information") of individuals in the United States. All tax return data are pre-audit and therefore reflect what taxpayers report when filing.

⁹ Other research that documents trends in the decumulation of retirement savings include: John Sabelhaus, "Modeling IRA accumulation and withdrawals," *National Tax Journal*, vol. 53, no. 4, 2000, pp. 865, 875; Andrew Bershadker and Paul A. Smith, "Cracking open the nest egg: IRA withdrawals and retirement finance," *Proceedings of the 98th Annual Conference on Taxation*, vol. 98, 2005, pp. 73, 83; Eric French, Mariacristina De Nardi, John Bailey Jones, Olesya Baker, and Phil Doctor, "Right before the end: Asset decumulation at the end of life," *Economic Perspectives*, 2006, pp. 2, 13; David A. Love and Paul A. Smith, "Measuring dissaving out of retirement wealth," *Proceedings of the 99th Annual Conference on Taxation*, vol. 99, 2006, pp. 102, 113; Courtney Coile and Kevin Milligan, "How household portfolios evolve after retirement: The effect of aging and health shocks," *Review of Income and Wealth*, vol. 55, no. 2, 2009, pp. 226, 248; James Poterba, Steven Venti, and David A. Wise, "The composition and drawdown of wealth in retirement," *Journal of Economic Perspectives*, vol. 25, no. 4, 2011, pp. 95, 118; James Poterba, Steven Venti, and David A. Wise, "The drawdown of personal retirement assets," NBER Working Paper 16675, January 2011; James Poterba, Steven Venti, and David A. Wise, "What determines end-of-life assets? A retrospective view," NBER Working Paper 21682, October 2015; Sarah Holden and Steven Bass, "The IRA investor profile: Traditional IRA investors withdrawal activity, 2007-2012," Investment Company Institute Research Report, March 2014; Victoria Bryant and Jon Gober, "Accumulation and distribution of individual retirement arrangements, 2010," *Statistics of Income Bulletin*, Fall 2013; Robert Argento, Victoria L. Bryant, and John Sabelhaus, "Early withdrawals from retirement accounts during the great recession," *Contemporary Economic Policy*, vol. 33, no. 1, January 2015, pp. 1, 16; Jeffrey R. Brown, James Poterba, and David P. Richardson, "Do required minimum distribution rules matter? The effect of the 2009 holiday on retirement plan distributions," *Journal of Public Economics*, vol. 151, July 2017, pp. 96, 109.

The main analysis relies on a sample from the population of individual income tax returns and information returns consisting of five percent of individuals age 60 or older for the tax years 1999 through 2014. These data offer several advantages over other datasets that have been used to study IRA withdrawal behavior. First, the data have a sufficiently large sample to derive statistically meaningful estimates of the elasticity by age group. Second, because the data are administrative, they are subject to less measurement error compared to survey data; reduced error increases the precision of the elasticity estimates. Third, the data contain a complete view of IRA balances and withdrawals across all fiduciaries, which is important to the analysis because an individual with more than one account may satisfy the required minimum distributions associated with all of their accounts by withdrawing an amount equal to their total required minimum distribution from one account. Therefore, a sample that included one or more but not all accounts of a single individual could lead to mismeasurement of their total required minimum distribution and total distributions. Fourth, the data include information regarding non-IRA sources of income, marital status, and geographic location. Information on marital status allows the Joint Committee staff to accurately calculate an individual's required minimum distribution, while information on non-IRA sources of income and geography allow for analysis of how responses to the rules vary along these dimensions. Finally, the data are organized as a panel and individuals are followed over a 16-year period, which allows for analysis of how individuals change their withdrawals over time.

The Joint Committee staff used two approaches to estimate the elasticity of distributions with respect to the required minimum distribution. Both approaches involve using statistical techniques to compare the withdrawals of taxpayers before and after a change in their required minimum distribution, controlling for the size of the account balance and characteristics of the IRA owner. The first approach relies on using expected changes in required minimum distributions associated with changes in age. An individual's required minimum distribution is calculated as a percentage of her account balance, as measured at the end of the previous year, with the fraction that she is required to withdraw increasing with age. For example, an individual who is 73 years of age is required to withdraw 4.05 percent of her account balance, while an individual who is 85 years of age is required to withdraw 6.76 percent of her account balance.¹⁰ Because individuals can inform themselves of the fraction they will be required to withdraw at each age, the change in their required minimum distribution from one year to the next is referred to as an expected change. Using this variation, the elasticity of distributions with respect to the required minimum distribution is estimated by comparing the percentage change in actual withdrawals to the percentage change in the required minimum distribution from one year to the next for individuals who are subject to the rules in both years. This approach yields an elasticity of 0.5.

The second approach involves analyzing the effects of an unexpected temporary suspension of the required minimum distribution rules. In a provision of the Worker, Retiree, and Employer Recovery Act of 2008, Congress suspended the required minimum distribution

¹⁰ These are the required minimum distributions for individuals who are subject to the Uniform Lifetime Table, which applies to 96 percent of individuals. Individuals who are married with a spouse who is more than 10 years younger have a slightly smaller required minimum distribution to account for the higher joint life expectancy of the couple, as shown in Figure 3.

rules for 2009.¹¹ The legislation associated with the suspension was enacted on December 23, 2008, which presented IRA owners who otherwise would have been subject to the rules in 2009 with an unexpected decrease in their required minimum distribution (to zero). The elasticity of distributions with respect to the required minimum distribution is estimated in this context by comparing the percentage change in withdrawals between 2008 and 2009 to the relevant percentage change in the required minimum distribution.¹² The estimated elasticity using this approach is 0.6. The following section summarizes the results.

¹¹ See Section 201 of Public Law 110-458. An explanation of the bill is provided in Joint Committee on Taxation, *General Explanation of Tax Legislation Enacted in the 110th Congress* (JCS-1-09), March 2009. This document is available on the Joint Committee on Taxation website at www.jct.gov.

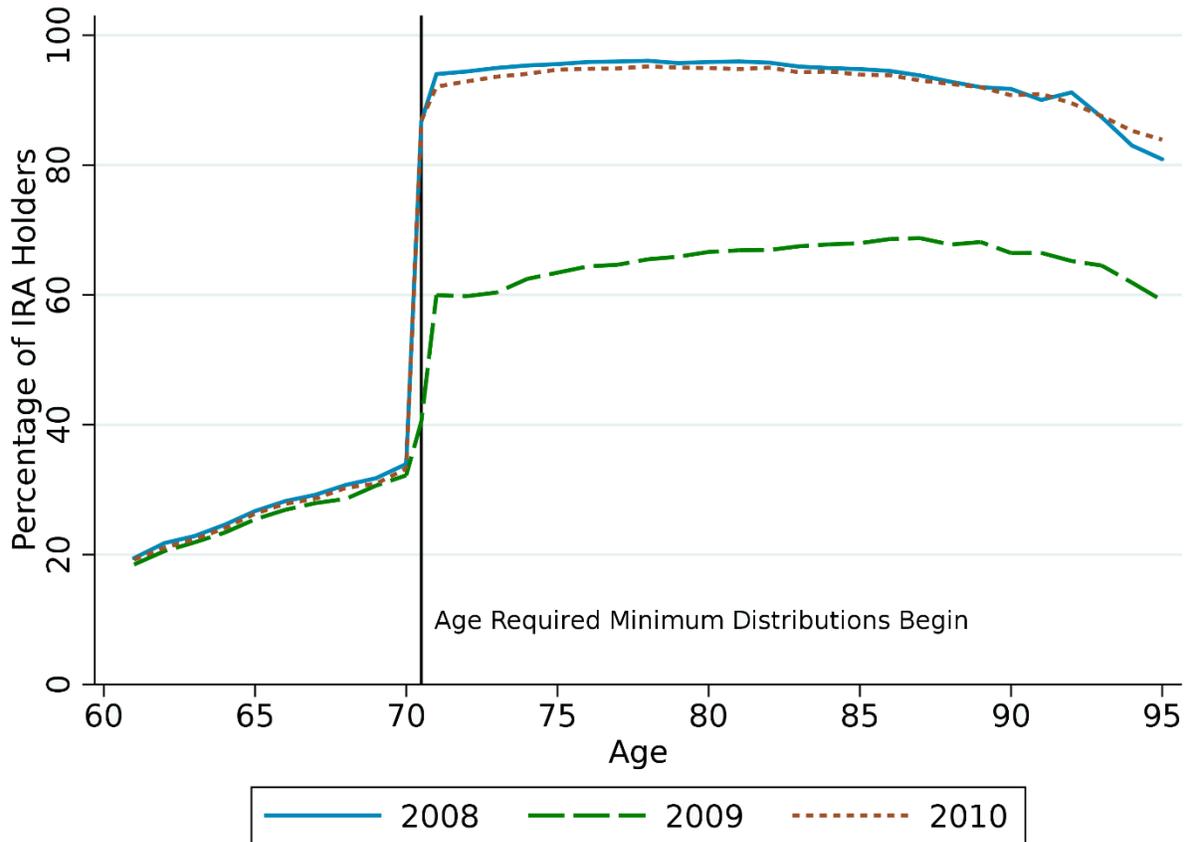
¹² The statistical techniques used to estimate the elasticities for both approaches include controls for year and the following time-varying individual controls: age, marital status, spousal age difference, and IRA balance. The techniques also control for time-invariant individual heterogeneity in withdrawal behavior through individual fixed effects, for example due to savings preferences, household resources, idiosyncratic life expectancies, medical expense uncertainty, and risk preferences.

III. SUMMARY OF RESEARCH FINDINGS

The Joint Committee staff found strong and consistent evidence of IRA withdrawal responses to required minimum distribution changes. These responses are demonstrated in Figures 4 and 5. Figure 4 displays the percentage of individuals with IRAs that took distributions by age, presented separately for 2008, 2009, and 2010. In each year, approximately 20 percent of 60-year-old IRA holders took distributions. For each year this percentage increased linearly until age 70, at which age around 35 percent of individuals in each year took a distribution. There was a sharp increase at age 70½, the first year individuals are required to take a minimum distribution. In 2008 and 2010 – years in which required minimum distribution rules were in place – roughly 95 percent of those age 70½ to 85 took distributions.¹³ This substantial increase relative to younger ages is evidence of the effect of these rules. In 2009, when the rules were suspended, approximately 35 percent of individuals who would normally be required to make a withdrawal did not make one.

¹³ Because the Joint Committee staff used pre-audit data for this research, it is likely that the small fraction of individuals who are subject to the required minimum distribution rules and are not observed to take a distribution ultimately take their required minimum distribution in a following year.

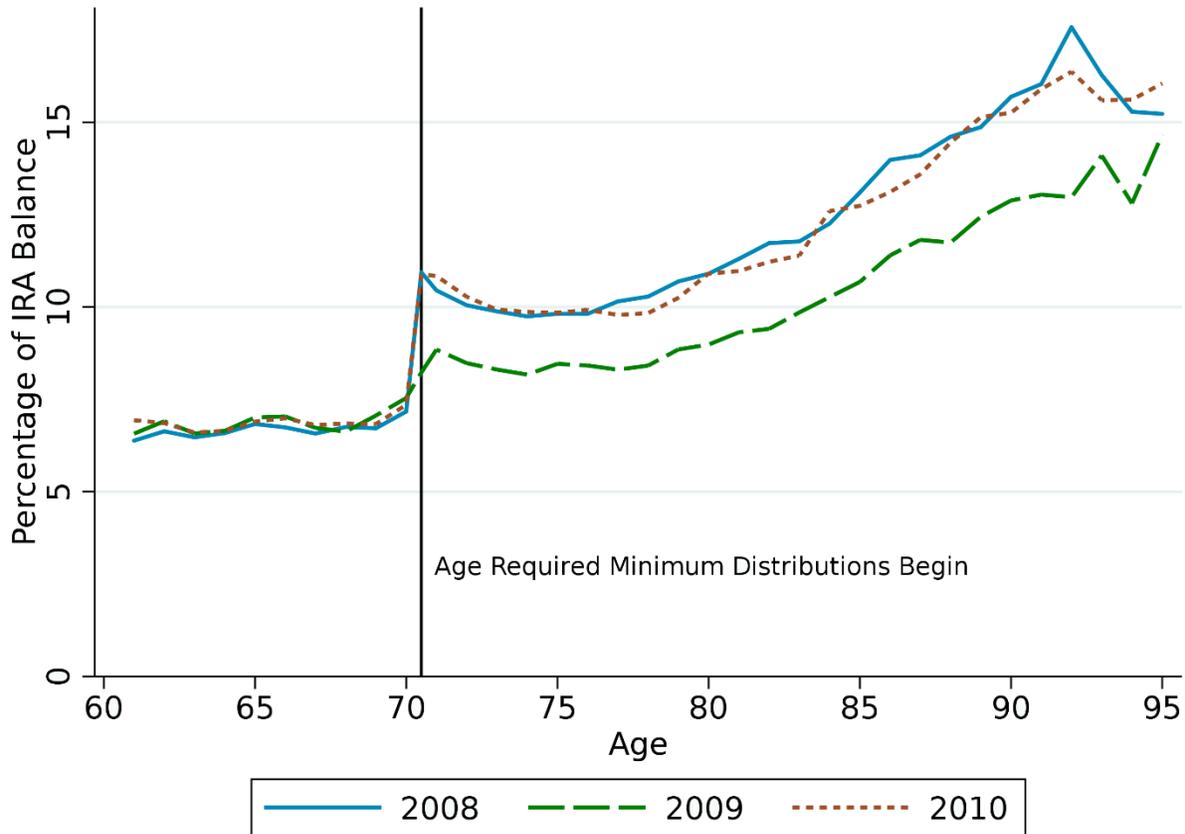
Figure 4.—Percentage of IRA Holders Taking Withdrawals by Age



Notes: The data underlying the figure are drawn from the population of Form 5498 and Form 1099-R filings in 2007, 2008, 2009, and 2010. The sampling rate is five percent, and the sample is limited to filings of individuals between the ages of 60 and 95 with a positive IRA account balance in the prior year.

Figure 5 displays the average size of distributions – as a percentage of account balances – taken by individuals of various ages, broken out separately for 2008, 2009, and 2010. Once again, the effect of required minimum distributions is clear. In 2008 and 2010 individuals who were age 70½ withdrew over 10 percent of their account balances, on average, compared to approximately six percent for 60- to 70-year-olds. The size of distributions increased with age after 75, in keeping with larger required minimum distributions.

Figure 5.—Size of IRA Withdrawals by Age



Notes: The data underlying the figure are drawn from the population of Form 5498 and Form 1099-R filings in 2007, 2008, 2009, and 2010. The sampling rate is five percent, and the sample is limited to filings of individuals between the ages of 60 and 95 with a positive IRA account balance in the prior year.

In the suspension year, 2009, both the percentage of IRA holders age 70½ or older taking distributions (Figure 4) and the average size of distributions (Figure 5) decreased but were still noticeably higher than those of individuals aged 60 to 70 years old. This finding suggests that while some individuals changed their distributions in response to the suspension of required minimum distributions, many individuals did not.

The Joint Committee staff performed statistical analyses of the expected (due to aging) and unexpected (due to the 2009 suspension) changes in required minimum distributions to identify the effect of these rules on withdrawals. The result of these analyses is an estimate of the elasticity of IRA distributions with respect to the required minimum distribution, a key parameter for revenue estimates in this context. The Joint Committee staff estimates an elasticity of 0.5 when the changes in the required minimum distribution are expected, which indicates that an expected increase of 10 percent in the required minimum distribution causes a five percent increase in the size of IRA withdrawals on average. Similarly, the Joint Committee staff estimate that roughly 52 percent of individuals required to make a distribution would prefer to take a smaller distribution than their required minimum distribution.

The analyses conducted by the Joint Committee staff also provide an estimate of the elasticity in the context of unexpected changes in required minimum distribution rules. When the analysis is limited to 2008 and 2009, the elasticity estimate is approximately 0.6. This elasticity indicates that an unexpected increase of 10 percent in required minimum distributions causes a six percent increase in IRA distributions, on average.

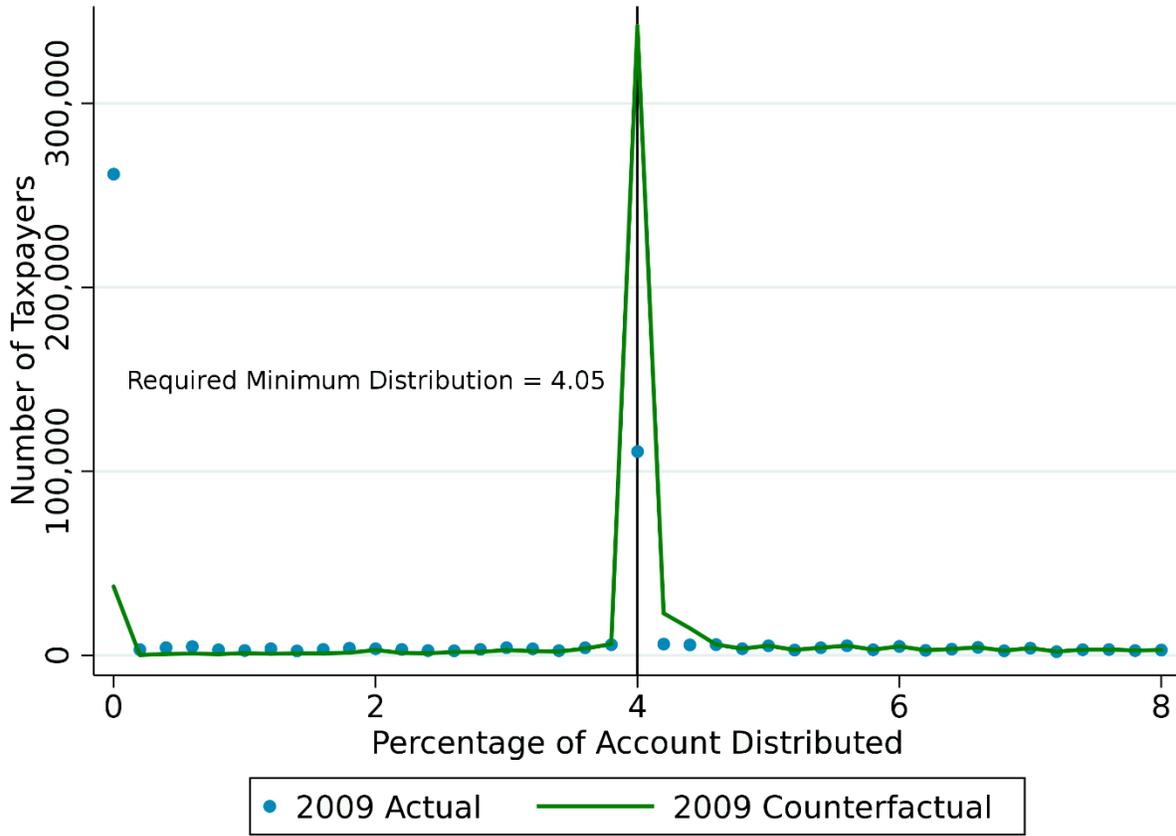
While the above results provided an indication of average responses to the required minimum distribution rules, the Joint Committee staff use another statistical technique to estimate responses of the entire statistical distribution of withdrawals. This technique involves estimating the statistical distribution of withdrawals that would have occurred in the absence of the suspension.¹⁴

Figure 6, on the following page, presents both the actual (blue dots) and estimated counterfactual histograms (green line) for 73 year olds in 2009.¹⁵ The horizontal axis measures the percentage of the account balance that was distributed in 2009 and the vertical axis measures the number of taxpayers that took distributions corresponding to various amounts. For example, approximately 260,000 73-year old taxpayers made a withdrawal that was zero in 2009 (the solitary blue dot in the upper left of Figure 6). The actual histogram shows that in 2009, the withdrawal amounts that most frequently occurred among 73-year olds were zero or the required minimum distribution had the rules not been suspended, which was 4.05 percent of the account balance for the majority of individuals of this age.

¹⁴ For a thorough description of the statistical techniques described in this paper see Mortenson, Jacob and Schramm, Heidi and Whitten, Andrew, “The Effects of Required Minimum Distribution Rules on Withdrawals from Traditional Individual Retirement Accounts.” <https://ssrn.com/abstract=2764435> or <http://dx.doi.org/10.2139/ssrn.2764435>.

¹⁵ Analogous figures for individuals of other ages, 75, 80, or 85 year-olds are displayed in Appendix Figures A-1, A-2, and A-3. They are quantitatively and qualitatively similar to those of 73-year olds shown in Figure 6.

Figure 6.—Actual and Counterfactual Histogram of Withdrawals by 73-Year-Olds in 2009



Notes: The data underlying the series represented by dots in the figure are drawn from the population of information and tax return filings in 2008 and 2009. The sampling rate is five percent, and the sample is limited to filings of individuals aged 73 in 2009. Taxpayers are grouped in bins based on the size of their distributions as a percentage of the account distributed in that year. The bins are 0.2 percentage points wide. The counter-factual histogram is estimated separately for withdrawals above and below the required minimum distribution. Above the required minimum distribution, Joint Committee staff use the observed 2009 histogram, consistent with an assumption that distributions exceeding the required minimum distribution are unaffected by its suspension. Below the required minimum distribution, the method takes the observed histogram of 2008 and re-weights it to account for the different distribution of covariates in 2009. These covariates include sex at the time of birth, imputed marital status, a quartic of the previous year account balance, Social Security benefits, wage income, taxable pension benefits, and income from interest, dividends, and capital gains.

The counter-factual histogram – the histogram that would have prevailed if the suspension had *not* occurred – is nearly the same as the actual histogram, with two notable exceptions. First, if the rules had remained in place in 2009, many fewer individuals would have suspended their withdrawals completely (*i.e.*, taken no withdrawals). Instead, the Joint Committee staff estimates 35 percent of individuals suspended their withdrawals in 2009, which can be seen in the figure by the elevated blue dot at zero. Most of the individuals who suspended their withdrawals in 2009 had taken withdrawals equal to their required minimum distribution in 2008, suggesting they would have preferred to take smaller withdrawals in 2008 than the rules required them to take. Second, more individuals would not have taken distributions equal to their required minimum distribution if they had been fully informed about the rule change or if the rule change had been expected. This is evident in the figure where the green line substantially exceeds the blue dot at the required minimum distribution, which was 4.05 percent of the prior year account balance for 73-year olds. Yet a substantial number of individuals between the ages of 73 and 85 – 26 percent – took withdrawals in 2009 near what their required minimum distribution would have been in the absence of the suspension even though the requirement was suspended, suggesting inattention to or costs associated with adjusting to the suspension. Those individuals who took distributions near the “phantom” required minimum distribution in 2009, that is the required minimum distribution they would have been subject to had the rules not been suspended, were more likely to have taken distributions near the required minimum distribution in 2008.

In addition to analyzing the extent to which the required minimum distribution rules affect withdrawals, the Joint Committee staff finds evidence that the rules induce individuals to close their accounts. Evidence of this can be seen in Figure 5, where the average size of distributions was higher for 70½ year olds than those with ages between 71 and 75: individuals who closed their accounts upon being subject to the rules made a withdrawal that was 100 percent of their account balance, which increases the average distribution size for a given age group when distributions are measured as a percentage of the account balance.¹⁶ The Joint Committee staff’s research indicates that individuals who are first subject to the required minimum distribution rules at age 70½ are 28 percent more likely to close their accounts than individuals who are over the age of 60 and not 70½.

The Joint Committee staff investigated the relative income profiles of individuals who took withdrawals above and below the required minimum distribution threshold. The Joint Committee staff found that individuals taking withdrawals near the required minimum distribution had higher adjusted gross incomes, on average, than those taking withdrawals above their required minimum distribution, likely because individuals with more resources at their disposal more likely can consume from taxable accounts and likely prefer to allow tax deferred accounts to grow. This is supported by examining account balances: those taking their required minimum distribution rather than a greater distribution have substantially larger account balances.

¹⁶ Individuals who close their accounts in one year are not in the sample in the following years in which they do not have an account.

IV. DISCUSSION OF IMPLICATIONS FOR JOINT COMMITTEE REVENUE ESTIMATES

The Joint Committee staff uses the elasticity of distributions with respect to the required minimum distribution to estimate the tax revenue consequences of proposed changes in the required minimum distribution rules. For example, policymakers may consider changing the beginning age for required minimum distributions or redesigning the current required minimum distribution schedule so that account balances below a certain threshold are subject to different requirements than larger balances. As discussed in the previous section, the empirical research conducted by the Joint Committee staff shows that the required minimum distribution rules have a large effect on IRA withdrawals.

There is variation in the estimated elasticities, with different responses depending upon whether the policy change is expected or unexpected and permanent or temporary. Further, the age group of individuals who are subject to a change and the account balances of individuals who are subject to a change both affect elasticity estimates. The analyses conducted by the Joint Committee staff show that an unexpected and temporary change in the required minimum distribution, such as that which occurred in 2009, has a larger effect on distributions than an expected change in the required minimum distribution, such as that which occurs in years when the rules are in place and individuals age into higher required minimum distributions. The evidence also indicates that the required minimum distribution rules are more binding for younger individuals, as elasticity estimates decrease with age. In addition, the required minimum distribution rules are more binding for individuals with larger accounts, as elasticity estimates increase with account balance. Depending on the particular details of the proposed change in the required minimum policy that is under consideration, the Joint Committee staff may use average or group-specific elasticities, with groups that are defined across these or other characteristics, in revenue estimation.

The findings of the research undertaken by the Joint Committee staff are subject to several important caveats. The first set of caveats is related to the timing associated with changes in the required minimum distribution rules. For a portion of the analysis, the Joint Committee staff used data from 2008 and 2009. This time period included significant fluctuations in asset prices associated with the financial crisis and Great Recession. An analogous suspension during a less volatile time period may have produced different responses. Further, the Joint Committee staff estimate an elasticity that captures the response of withdrawals to a one-year, unexpected change in the required minimum distribution. This responsiveness may not be predictive of changes in withdrawals for multi-year changes. Individuals who withdrew nothing in 2009 knew that they would be required to make withdrawals the following year, in 2010. If the suspension had been longer than one year, these same individuals may have chosen to take withdrawals in 2009, which would have led to a smaller estimated elasticity relative to that obtained using the one-year suspension. In addition, in 2009 a nontrivial fraction of taxpayers made withdrawals similar to the required minimum distribution that they would have been subject to had the rules not been suspended. Given a one-year suspension, taxpayers may have been unaware of the suspension or viewed the cost of adjusting withdrawals in response to changes in the required minimum distribution as too large relative to the benefits. However, given a multi-year suspension, these same taxpayers may have been more likely to have been informed of the policy change and may have chosen to adjust their withdrawals in

response to a larger multi-year change in the required minimum distribution. Incorporating this behavior would lead to a larger elasticity relative to that measured using the one-year suspension.

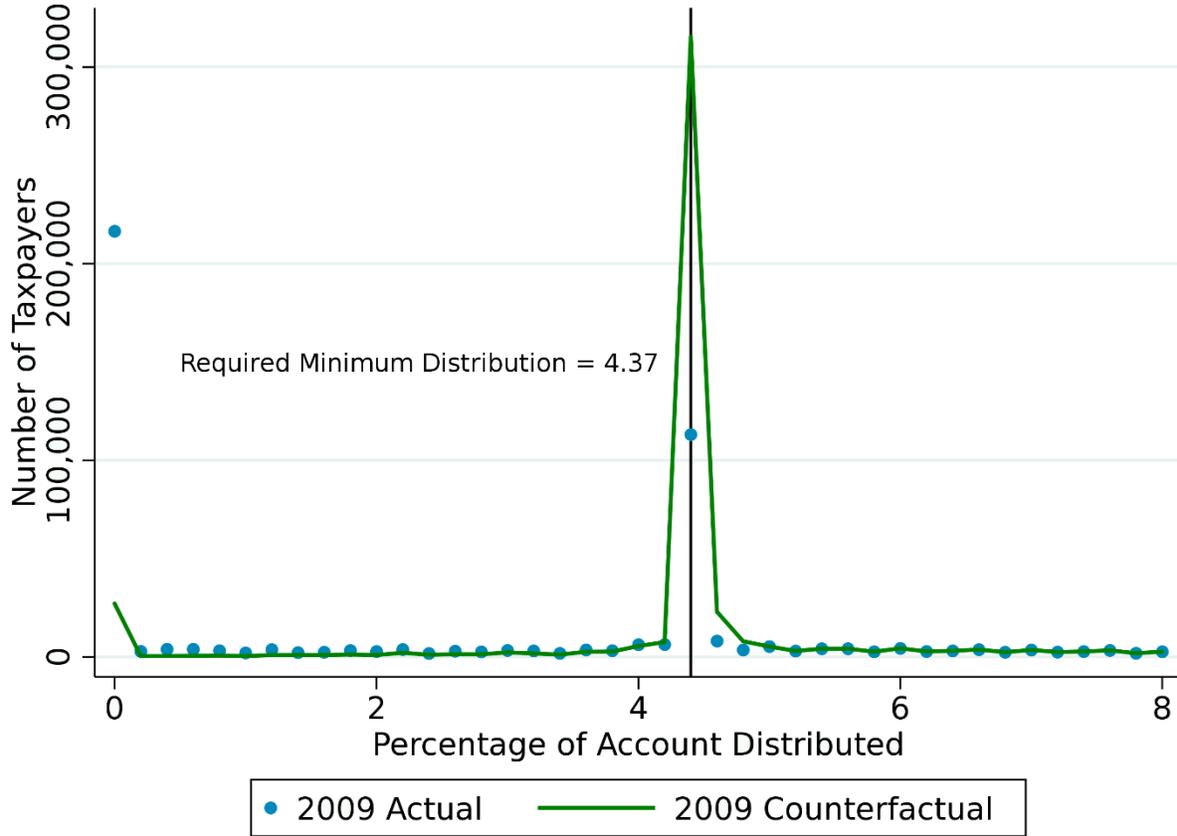
In addition to timing considerations, the elasticities may partially reflect noncompliance with the required minimum distribution rules and/or the pre-audit nature of the underlying data used in the analysis. To the extent that such noncompliance is detected by the IRS or remedied by the taxpayer in later tax years, the elasticities measured understate the behavioral responses that matter for revenue estimation. More research is needed to establish the extent to which noncompliance in one tax year is remedied in later years, when individuals may withdraw more than their required minimum distribution in that year to account for noncompliance in a previous year.

Finally, the Joint Committee staff assumes that withdrawal responses to the required minimum distribution rules do not have macroeconomic effects. To the extent the rules affect portfolio composition or interest rates, there may be macroeconomic consequences associated with changing the rules.¹⁷

¹⁷ In providing conventional estimates, the Joint Committee staff (consistent with analysts at the Congressional Budget Office and the Office of Tax Analysis of the U.S. Department of the Treasury) follows the long-standing scorekeeping convention that a proposal does not change total income. Within this modeling framework, the Joint Committee staff holds gross national product (“GNP”) fixed. In prior years, the Congress has requested that the Joint Committee staff provide a analysis reflecting potential changes in macroeconomic performance that may result from proposed policy changes that were deemed “major legislation.” See, for example in the 115th Congress, House Rule XIII(8)(B) and the Concurrent Resolution on the Budget for fiscal Year 2018. For an overview of the models the Joint Committee Staff uses to prepare macroeconomic analyses of proposed changes in tax policy, see Joint Committee on Taxation, *Overview of Joint Committee Macroeconomic Modeling* (JCX-33-18), April 23, 2018.

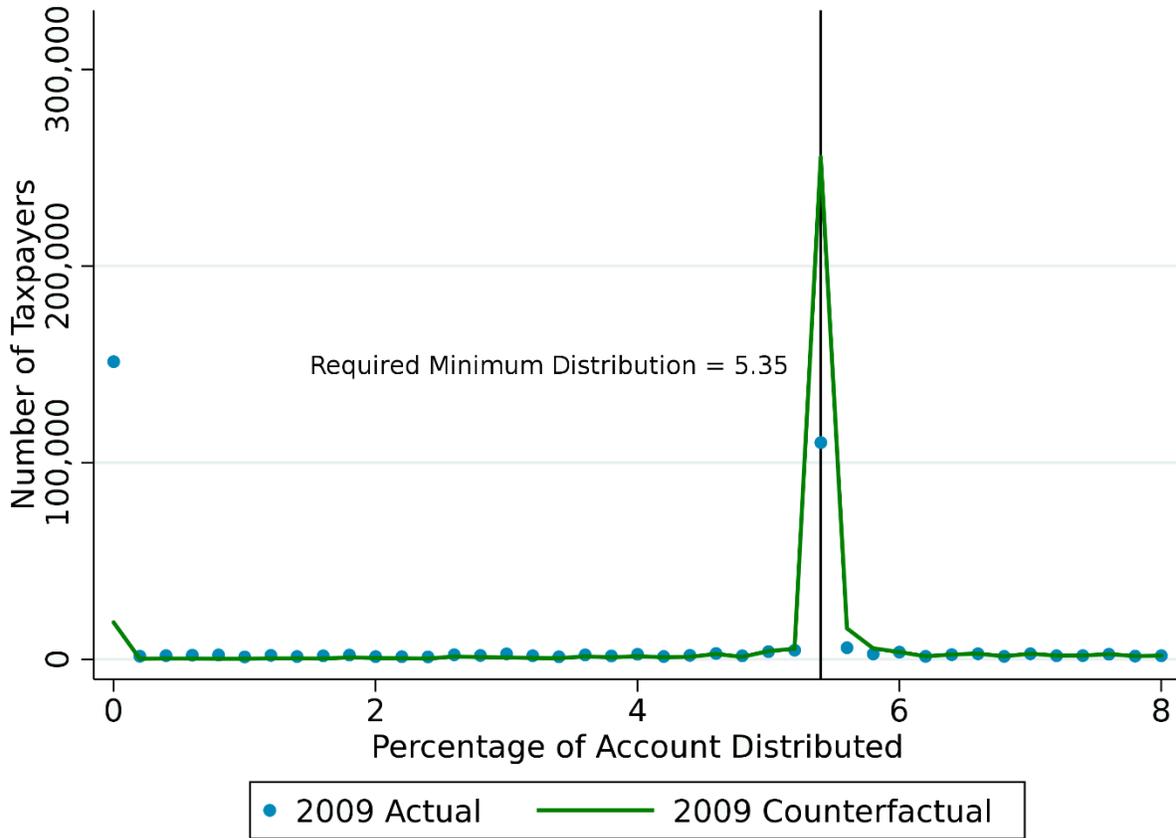
APPENDIX

Figure A-1.—Actual and Counterfactual Histogram of Withdrawals by 75-Year-Olds in 2009



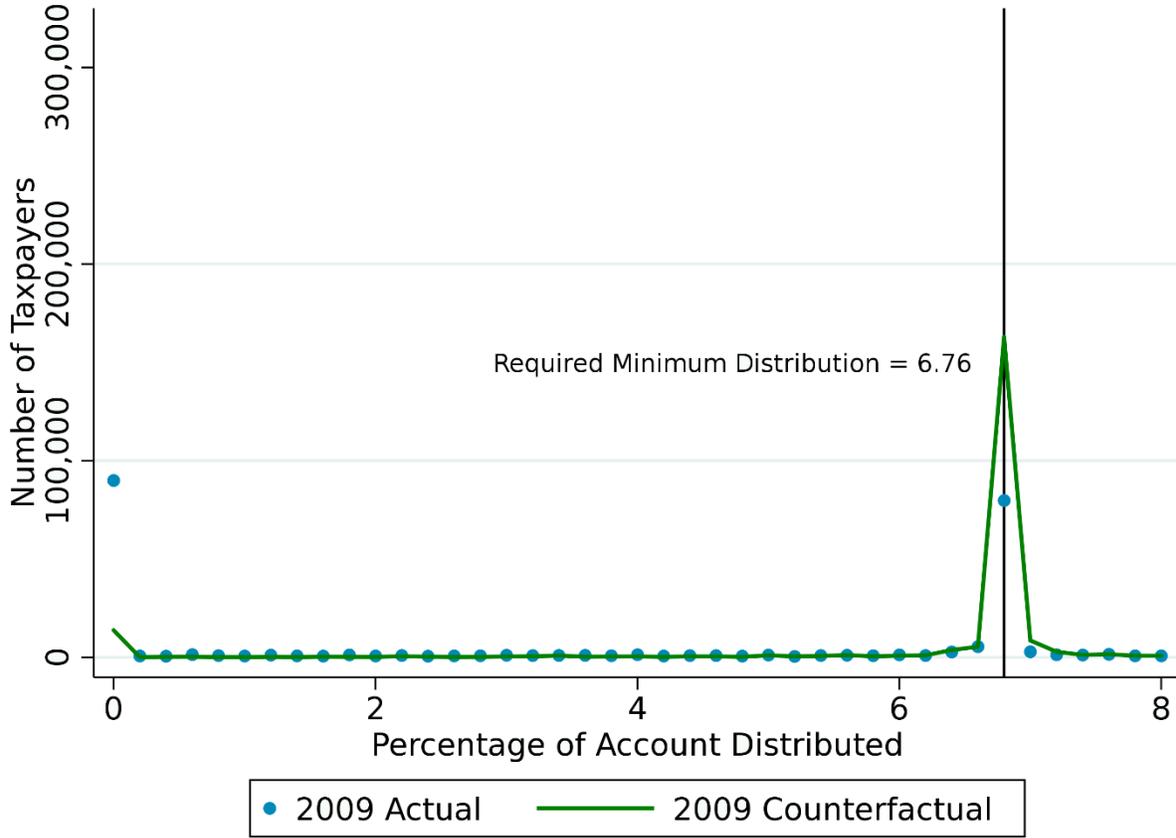
Notes: The data underlying the series represented by dots in the figure are drawn from the population of information and tax return filings in 2008 and 2009. The sampling rate is five percent, and the sample is limited to filings of individuals aged 75 in 2009. Taxpayers are grouped in bins based on the size of their distributions as a percentage of the account distributed in that year. The bins are 0.2 percentage points wide. The counter-factual histogram is estimated separately for withdrawals above and below the required minimum distribution. Above the required minimum distribution, Joint Committee staff use the observed 2009 histogram, consistent with an assumption that distributions exceeding the required minimum distribution are unaffected by its suspension. Below the required minimum distribution, the method takes the observed histogram of 2008 and re-weights it to account for the different distribution of covariates in 2009. These covariates include sex at the time of birth, imputed marital status, a quartic of the previous year account balance, Social Security benefits, wage income, taxable pension benefits, and income from interest, dividends, and capital gains.

**Figure A-2—Actual And Counterfactual Histogram Of Withdrawals
By 80-Year-Olds In 2009**



Notes: The data underlying the series represented by dots in the figure are drawn from the population of information and tax return filings in 2008 and 2009. The sampling rate is five percent, and the sample is limited to filings of individuals aged 80 in 2009. Taxpayers are grouped in bins based on the size of their distributions as a percentage of the account distributed in that year. The bins are 0.2 percentage points wide. The counter-factual histogram is estimated separately for withdrawals above and below the required minimum distribution. Above the required minimum distribution, Joint Committee staff use the observed 2009 histogram, consistent with an assumption that distributions exceeding the required minimum distribution are unaffected by its suspension. Below the required minimum distribution, the method takes the observed histogram of 2008 and re-weights it to account for the different distribution of covariates in 2009. These covariates include sex at the time of birth, imputed marital status, a quartic of the previous year account balance, Social Security benefits, wage income, taxable pension benefits, and income from interest, dividends, and capital gains.

**Figure A-3.—Actual and Counterfactual Histogram of Withdrawals
By 85-Year-Olds In 2009**



Notes: The data underlying the series represented by dots in the figure are drawn from the population of information and tax return filings in 2008 and 2009. The sampling rate is five percent, and the sample is limited to filings of individuals aged 85 in 2009. Taxpayers are grouped in bins based on the size of their distributions as a percentage of the account distributed in that year. The bins are 0.2 percentage points wide. The counter-factual histogram is estimated separately for withdrawals above and below the required minimum distribution. Above the required minimum distribution, Joint Committee staff use the observed 2009 histogram, consistent with an assumption that distributions exceeding the required minimum distribution are unaffected by its suspension. Below the required minimum distribution, the method takes the observed histogram of 2008 and re-weights it to account for the different distribution of covariates in 2009. These covariates include sex at the time of birth, imputed marital status, a quartic of the previous year account balance, Social Security benefits, wage income, taxable pension benefits, and income from interest, dividends, and capital gains.