Trends and Issues
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How Do Distributions From Retirement Accounts Respond to Early Withdrawal Penalties?

Evidence From Administrative Tax Returns

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Executive Summary

In the United States, Americans have an estimated $14.4 trillion invested in employer-sponsored defined contribution plans and Individual Retirement Accounts (IRAs) (Investment Company Institute, 2015). While the goal of conventional retirement savings accounts is to accumulate wealth available for retirement, the availability of pre-retirement withdrawals could potentially serve as a form of insurance against financial shocks.

However, these pre-retirement withdrawals could also reduce wealth available for retirement. To preserve retirement wealth, IRAs and employer-sponsored defined contribution plans typically feature limited liquidity. While these accounts allow withdrawals for hardship, such as death or disability, they usually impose a penalty on early withdrawals. Specifically, IRAs impose a 10 percent penalty for withdrawals taken before the age of 59 ½.

There have been active policy debates regarding the trade-off between liquidity and retirement wealth accrual. However, there is not a large amount of literature seeking to understand implications for potential policies, such as adjusting the age threshold or the amount of the penalty. In this study, we examine withdrawal behavior of individuals with IRAs as they cross the age 59 ½ threshold.

We use data from a full sample of tax returns to investigate this question. While tax data has several advantages, one large disadvantage is that it does not allow us to observe the exact date of withdrawal. Instead, we can only see annual distributions over different calendar years. Without high-frequency data on withdrawal behavior, it is difficult to observe sharp changes occurring exactly when someone turns age 59 ½. To overcome this problem, we make use of one's birthdate determines how much the early withdrawal penalty is in effect in the year where age 59 ½ p reached. For instance, someone who turns 59 ½ on March 1 of a given calendar year has six additional months during that year to make withdrawals without a penalty than someone who turns 59 ½ on September 1 of that same year.

Our estimates show that crossing the age 59 ½ threshold leads to an approximately $1,600 increase in annual distributions from IRAs. Furthermore, our results suggest that this increase is primarily due to additional people taking withdrawals after the penalty is lifted rather than higher distributions among those who were already withdrawing prior to age 59 ½.

Retirement liquidity in the U.S.

Retirement savings accounts may help households accumulate savings that might not otherwise be achieved, but can come at the cost of access to emergency income prior to retirement. IRAs and employer defined contribution accounts allow individuals to contribute funds annually, up to a set maximum. Contributions are either made with pre-tax assets and taxed when withdrawn, as in the case of Traditional IRAs or 401(k)s, or made with after-tax assets and exempt from taxes when withdrawn, as in the case of Roth IRAs or Roth 401(k)s. In order to encourage individuals to use the proceeds from these accounts for retirement, the government imposes various restrictions or penalties against withdrawing funds for other purposes.

The restriction depends on precisely which type of account is being withdrawn from. Typically, traditional IRAs allow early withdrawals for any reason, but these early withdrawals are subject to a 10 percent penalty. Exceptions to the penalty are made in the event of death or disability, for first-time homebuyers, education expenses, health insurance premiums while unemployed, and unreimbursed medical expenses. Since Roth IRA contributions are made on an after-tax basis, withdrawing the basis - and not the earnings —can be done without penalty. In addition, job transitions can provide opportunities to liquidate tax-preferred retirement savings accounts with funds less than a specified threshold, and some accounts allow loans which may become distributions if not paid back upon job separation.[1] All penalties and restrictions are lifted once an individual turns 59 ½.

Recent evidence suggests that pre-retirement withdrawals, known as “leakage,” are substantial, amounting to approximately $0.40 of every $1 contributed into the account prior to the age of 55 (Bryant, Holden and Sabelhaus, 2010; Argento, Bryant and Sabelhaus, 2015). Leakage reduces wealth available for retirement substantially. However, wealth accumulated in retirement savings accounts can also provide an important form of insurance. Indeed, previous studies find that early withdrawals tend to occur in response to sharp changes in income or changes in marital status (Amromin and Smith, 2003; Argento, Bryant and Sabelhaus, 2015). If retirement savings accounts allow the ability to insure against these types of shocks, then some level of liquidity prior to retirement may be optimal. In addition, offering this liquidity may make it more attractive to save in retirement savings accounts relative to accounts where pre-retirement withdrawals are forbidden.

In summary, the potential consumption-smoothing benefits retirement savings accounts can provide may be at odds with the goals of retirement wealth accumulation. As a result, there has been recent discussion regarding adjusting the age threshold for penalty-free withdrawals (Munnell and Webb, 2015) or changing the amount of the penalty (Beshears et al., 2014). It is worth noting that the liquidity in retirement savings accounts in the U.S. is generally higher than other developed countries. Beshears et al. (2015b) compare the liquidity in retirement savings systems across six developed countries and show that the U.S. has a much more liquid system with relatively low penalties for early withdrawals, and several exceptions for penalty-free withdrawals. Moreover, several other developed countries, which generally lack options for early withdrawal, are in the considering providing early access to retirement savings (Beshears et al., 2015a; Agarwal, Pan and Qian, 2016). Despite these active policy debates, there is not a large amount of literature seeking to understand the implications of these potential policies.

Description of study

The goal of our study is to investigate how individuals respond to the removal of the 10 percent penalty imposed on IRA withdrawals when the account holder turns 59 ½. Our data come from the population of tax and information returns collected by the Internal Revenue Service (IRS). We use supplementary information provided by the Social Security Administration (SSA) on date of birth, gender, and date of death. We restrict our sample to individuals born between July 1, 1941 and July 1, 1951 for tax years 1999 through 2013 who are alive in the year they turn 57 ½. This

1. For instance, the IRS waives any penalties for workers aged 55 and older after a job termination.

sample restriction ensures that our data contain tax years two years before and two years after each individual turns 59 ½.

Our dataset contains information on household income (Form 1040), wage earnings and employee contributions to employer-sponsored retirement plans (Form W2), distributions from IRAs and employer-sponsored retirement plans (Form 1099R), contributions to and account balances of IRAs (Form 5498), and tax amounts on early distributions (Form 5329). Because the data is unedited, we make a number of restrictions in an effort to remove observations with erroneous information. We drop roughly 1.5 million observations due to death and birthdates that do not exist (e.g. September 31).

Our analysis focuses on distributions from IRAs due to some important data limitations. First, unlike Form 5498 which provides the fair market value of an IRA annually, there is no tax form at the individual level that reports account balances for defined contribution plans. This makes it difficult to select a sample of individuals who have the option of withdrawing funds from these accounts. Second, while distributions from defined contribution plans are reported on 1099-R forms, they are undistinguishable from defined benefit payments. By contrast, IRA distributions can be separately identified due to a checkbox on the 1099-R tax form.

As described in the previous section, the penalties differ somewhat for 401(k)s and IRAs, as 401(k) plans only allow hardship withdrawals prior to age 59 ½ while IRAs allow withdrawals for any reason. Therefore, generalizing our results to other types of accounts should be done with caution. However, IRAs may be more typical, particularly at ages close to 59 ½, since many individuals roll over their employer-sponsored retirement accounts into IRAs prior to retirement.

Our main analysis sample contains individuals who have a positive fair market value in at least one IRA as reported on Form 5498 in the year they turn 57 ½. While our data is at the individual level, we collapse the data by individual date of birth to perform our analysis, which allows us to compare individuals with different degrees of access to penalty-free withdrawals within a given calendar year. Therefore, our total number of observations is 14,608 date-of-birth-by-year groups, representing 12,445,087 individuals or 36% percent of the population who attains age 57 ½ in our analysis period.

Empirical strategy

Distributions from IRAs in the tax data can only be observed at an annual level. Since the threshold for penalty free withdrawals is 59 ½, we would like to be able to observe withdrawals on a more granular level, e.g. on a quarterly or monthly level, to be able to examine the relationship between the penalty's removal and subsequent withdrawals. We therefore develop a novel empirical method to allow us to uncover this relationship by comparing people across different dates of birth.

To illustrate the intuition behind our method, suppose that distributions from IRAs increase steadily with age, but that there is no jump in this pattern age 59 ½. Under this assumption, the difference between the amount distributed in the calendar year that someone turns 58 ½ and the calendar year that someone turns 59 ½ would not differ between people with different birthdays. This relationship is depicted in Figure 1, where the left panel shows the pattern of withdrawals for an older individual who turns 59 ½ earlier in the year and the right panel shows withdrawals for a younger individual who turns 59 ½ later in the year. Note that the area of the pink diamond, which represents the extra amount withdrawn in the year someone turns 59 ½, is the same for the older and younger person.

By contrast, suppose that distributions from IRAs feature a jump at age 59 ½ when the penalty on early withdrawals is eliminated. In this case, the change in the annual distribution during that calendar year would be much larger for someone who turns 59 ½ early in the year than for someone who turns 59 ½ late in the year. This pattern is illustrated in Figure 2, where again the left and right panels show the pattern of withdrawals for a slightly older and slightly younger individual, respectively. In this case, the change in withdrawals (pink area) from one year to the next is much larger for someone who experiences a larger share of the year without a penalty for early withdrawals.

Figure 1: Illustration of the empirical strategy—No jump at age 59 ½

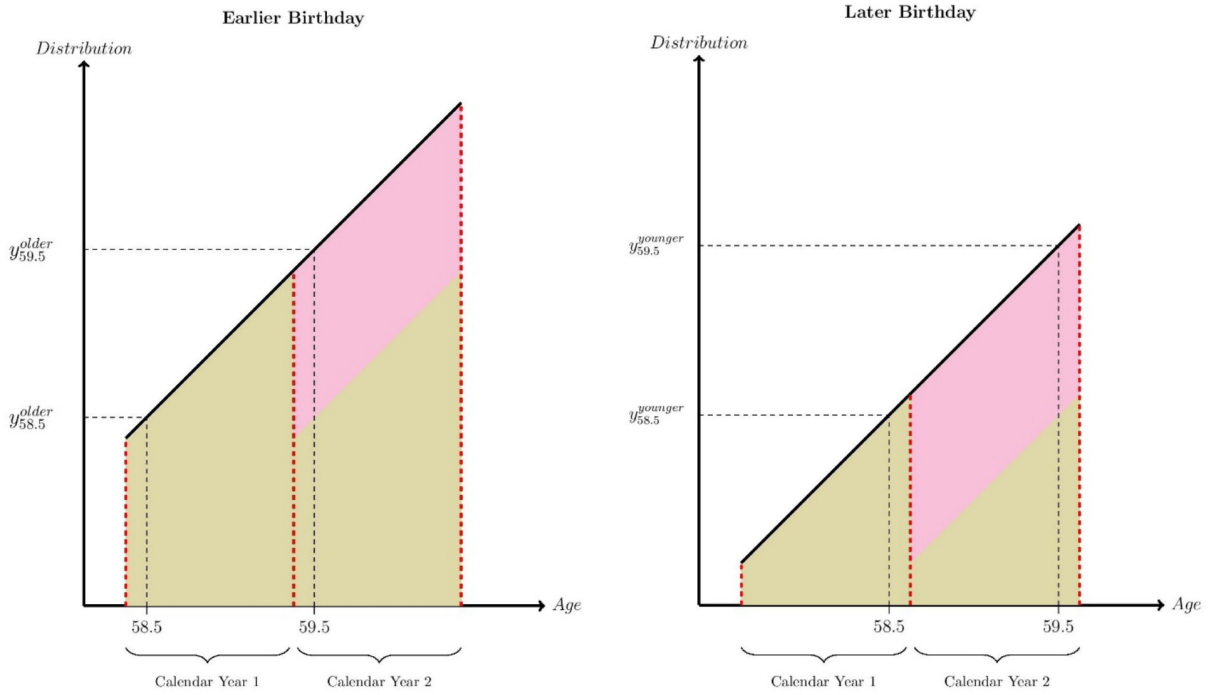
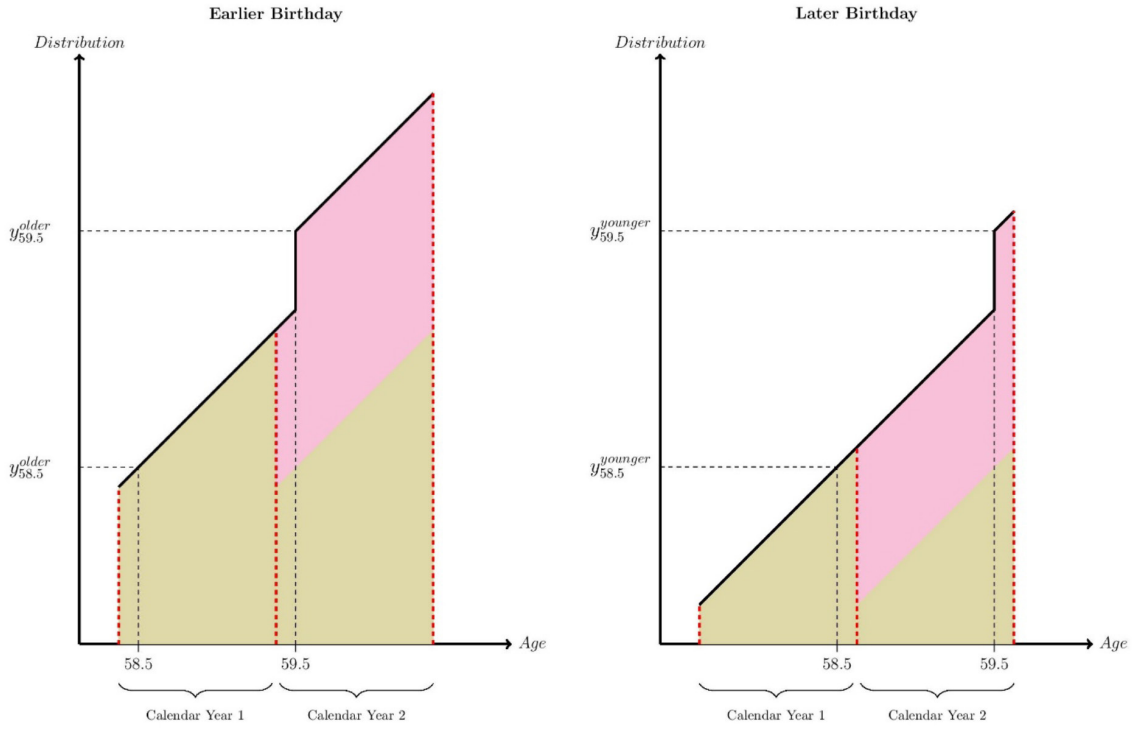


Figure 2: Illustration of the empirical strategy—Jump at age 59 ½



Note that both individuals withdraw the same amount of money when they are the same age in both sets of figures. Comparing distributions at the younger and the older individual's 58 ½ and 59 ½ birthdays illuminates this idea. In addition, the magnitude of the discontinuous jump in distributions on the individual's 59 ½ birthday is the same for the older individual as for the younger individual in Figure 2. However, given the difference in the timing of the older and younger individuals' birthdays, the total distributions over the calendar year is different.

The figures suggest that if the differences in withdrawals between the calendar year in which a person turns 58 ½ and 59 ½ varies systematically with one's date of birth, it can provide evidence of a jump in retirement withdrawals that happens at age 59 ½. We investigate this formally and also examine the relationship between date of birth and changes in withdrawals occurring across calendar years near age 59 ½. In addition, we use a more sophisticated technique to directly estimate the jump in the pattern of withdrawals that occurs when the penalty for early withdrawals is lifted.

Results

We first plot annual IRA distributions during the calendar years in which individuals turn 57 ½, 58 ½, 59 ½, and 60 ½ separately by quarter of birth. Each quarter of birth corresponds to a different amount of months during which an individual is able to withdraw funds without a penalty in the year in which they attain age 59 ½. For instance, those born between April 1 and June 30 turn 59 ½ between October 1 and December 30, indicating that they would have between one and three months of exposure to penalty-free withdrawal in the calendar year in which they turn 59 ½. Similarly, those born between July 1 and September 30 turn 50 ½ between January 1 and March 30, and would have between ten and twelve months of exposure to penalty-free withdrawal in the calendar year in which they turn 59 ½.

The annual IRA distributions by months of penalty-free exposure are shown in Figure 3. As shown in the figure, people with birthdays that result in fewer months of penalty-free withdrawal in the calendar year in which they turn 59 ½ have a much smaller increase in annual distributions between the years in which they turn 58 ½ and 59 ½. By contrast, those who turn 59 ½ early in the calendar year see much sharper increases over the same calendar years. The pattern is reversed going from the calendar year in which one turns 59 ½ to the calendar year in which one turns 60 ½. In particular, those who had sharper increases over the previous calendar year see smaller increases over the following calendar year.

Figure 4 shows estimates of average daily IRA withdrawals. The horizontal axis represents the number of days before or after an individual turns 59 ½. For instance, positive values represent days after an individual turns 59 ½ and negative values represent days before an individual's 59 ½ birthday. We label this "event time," i.e. time relative to the key event of turning 59 ½. As shown in the figure, we find evidence of a discontinuous jump in average daily IRA withdrawals once an individual turns 59 ½. The magnitude of the increase corresponds to just over $4 per day, or $1,577 per year.

Figure 3: Mean annual IRA distributions by exposure to penalty-free withdrawal

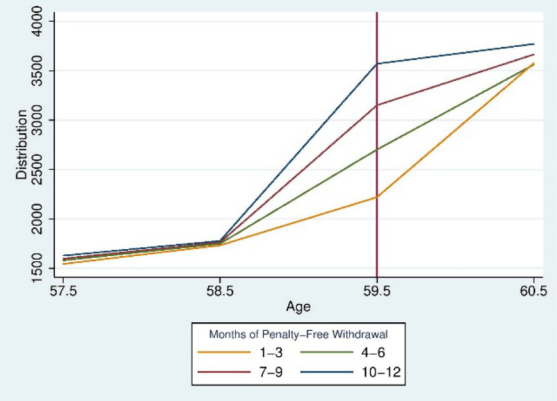
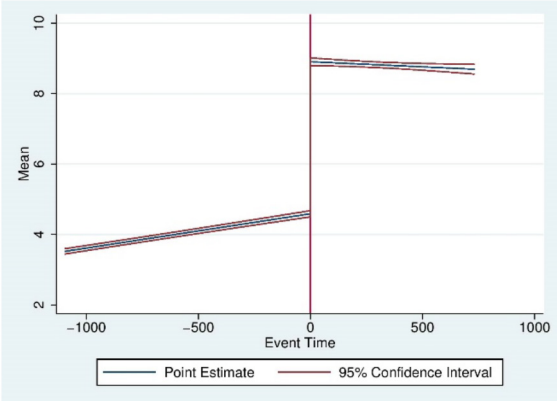


Figure 4: Daily withdrawals by days since age 59 ½ birthday



While Figure 4 displayed the pattern of withdrawals assuming withdrawals change linearly with age, we get similar estimates if we assume different relationships between age and withdrawals. We also get similar estimates if we aggregate over larger time intervals, such as weeks, months, or quarters. Table 1 shows estimates for the above depicted jump on the day one turns 59 ½ for different levels of aggregation, and shows that the estimated increases are considerable and similar in magnitude across the different specifications.

Table 1: Estimated increase in daily traditional IRA withdrawals at age 59 ½ threshold by level of aggregation assuming a linear age pattern

	Level of Aggregation			
	Quarterly	Monthly	Weekly	Daily
Increase in daily withdrawals	$3.95	$4.24	$4.30	$4.32

If we assume the jump estimated under a daily level of aggregation represents the increase in distributions that occur when one turns 59 ½, it implies that IRA distributions increase by $4.32 per day or $1,577 annually.[2] The increase of $1,577 represents roughly a 93 percent increase in average unconditional withdrawals (i.e., including those with $0 withdrawals). If this increase is coming entirely from a larger share of individuals withdrawing, it would present an increase in the share withdrawing of approximately 7.5 percentage points. Alternatively, if the increase is fully due to larger withdrawals among those who were withdrawing prior to 59 ½, it would represent an increase in conditional annual withdrawals of approximately $19,700.

Figure 5 shows the fraction with any IRA distribution by age and Figure 6 shows the distribution amount for those who withdraw positive amounts. As Figure 6 shows, the distribution conditional on withdrawing does not vary much by age, whereas the fraction with IRA distribution increases with age in Figure 5. These patterns suggest that the increase in IRA withdrawals we estimate above are most likely due to more people taking IRA distributions rather than people who withdraw prior to 59 ½ withdrawing larger amounts.

Figure 5: Fraction with IRA distribution

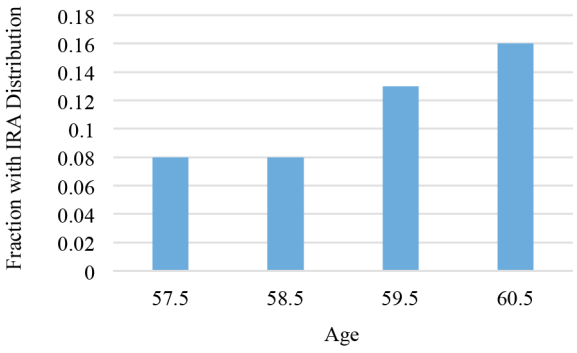
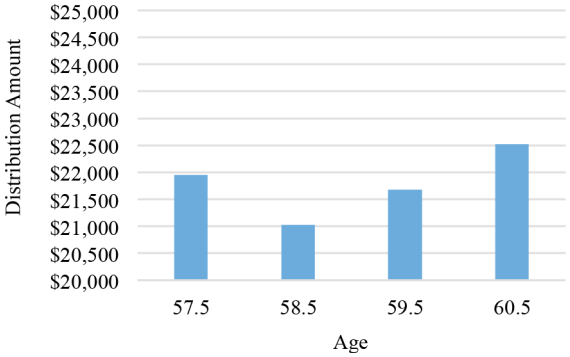


Figure 6: Conditional IRA distribution amount



2. 365 x $4.32 = $1,576.80

Conclusion

Despite active research that documents pre-retirement withdrawals from retirement savings accounts, there has not been much research that investigates the relationship between pre-retirement withdrawal penalties and distributions from retirement accounts. One of the large barriers of understanding the effects of these penalties on distributions from retirement accounts has been data limitations, as household surveys have limited sample size and potentially underreported withdrawal activity and administrative data is often collected at longer frequencies, making it difficult to see sharp changes occurring when the penalty is lifted at age 59 ½.

This study attempts to overcome several of these shortcomings in the data by developing new empirical techniques that allow us to analyze withdrawal activity when the penalty for early withdrawals is lifted using high-quality data from the IRS. Using differences in date of birth, which leads to natural variation in exposure to penalty-free withdrawals over calendar years, we can estimate how withdrawal behavior changes on either side of the age 59 ½ threshold. Our results indicate large changes in withdrawal behavior as a result of crossing age 59 ½. In particular, we find that annual distributions from IRAs increase by approximately $1,600 annually, representing an increase of approximately 93 percent relative to annual withdrawals prior to age 59 ½. Our data suggest that this increase is primarily driven by additional individuals with IRA accounts accessing their funds rather than an increase in withdrawals among those already making withdrawals. These findings suggest that the removal of the 10 percent penalty for early withdrawals at age 59 ½ does influence withdrawal behavior among individuals with IRAs. Future work will explore heterogeneity in the penalty's effect on different groups of individuals and the effect of the penalty on other financial outcomes to better understand the broader implications of policies that may change the amount or timing of the penalty.

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