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Keywords

saving, pensions, retirement, pandemic

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This paper documents changes in retirement saving patterns at the onset of the COVID-19 pandemic. We construct a large panel of US tax data, including tens of millions of person-year observations, and measure retirement savings contributions and withdrawals. We use these data to document several important changes in retirement savings patterns during the pandemic relative to prior years, and we compare these results to changes in savings patterns during the Great Recession. We find that, unlike during the Great Recession, contributions by individuals to retirement savings vehicles did not meaningfully decline. Additionally, driven by the suspension of required minimum distribution rules, IRA withdrawals substantially declined in 2020 for those older than age 72. Finally, likely due to the partial suspension of the early withdrawal penalty, employer-plan withdrawals increased for those under age 60.

JEL Codes: G51, H24, J32

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The COVID-19 pandemic brought about a fast and severe global economic decline. By the end of March 2020, the United States economy had lost over 13 million jobs, compared to 9 million jobs lost during the Great Recession (Cajner et al. 2020). Although some of the effects were mitigated by government interventions—increased unemployment insurance (UI), stimulus checks, government assistance to private entities, and other public assistance—changes in asset prices, employment, and consumption were substantial.

In this paper, we use tax data to document how retirement savings—specifically, contributions to and withdrawals from tax-preferred savings accounts—changed during the COVID-19 pandemic in comparison to the Great Recession (from 2008 to 2010). Retirement savings behavior might plausibly have been affected both by the pandemic (and related recession) itself, as well as by the policy actions that Congress took in response to the pandemic.

We find little change in individuals' contributions to retirement plans in 2020, which increased from the previous year at a rate in line with recent trends, a stark difference from the drop in contributions that occurred during the 2008-09 Great Recession (Argento et al. 2015; Goodman et al. 2021). This may have occurred because the effects of the COVID-19 pandemic were disproportionately worse for workers at the bottom of the income distribution, who save at much lower rates than middle- and high-income earners, while the earnings shocks during the Great Recession affected middle- and high-income workers to a greater degree than during COVID-19 (Larrimore et al. 2022). At the same time, we observe in publicly available Form 5500 data that employers reduced contributions to defined contribution (DC) plans.

Conversely, retirement plan withdrawal patterns in 2020 were meaningfully different from prior years, falling for older individuals and increasing for younger people. Both patterns were influenced by policy changes that Congress made in response to the pandemic. First, the

requirement for older individuals to take certain withdrawals (known as required minimum distributions, or RMDs) was suspended in 2020. We find that people responded to this policy by sharply reducing their withdrawals, much as they did in response to the suspension of those same requirements in 2009. Second, Congress granted broad (but not complete) relief from the 10 percent penalty that applies to most early withdrawals made by individuals under age 59½. Using bunching methods, we find clear evidence that some individuals responded to this policy by taking large withdrawals near the exemption limit (approximately \$100,000). Individuals who took such withdrawals were more likely to have experienced business losses and to have unemployment insurance income in 2020. At the same time, we also find that many people (at least, those near age 59½) took withdrawals consistent with the penalty remaining in place.

Our analysis builds on prior research examining the effects of the COVID-19 pandemic—and subsequent federal policy changes—on economic activity. Prior work has examined changes in unemployment and inequality (Bartik et al. 2020; Cajner et al. 2020; Clark et al. 2021; Coibion et al. 2020; Guerrieri et al. 2020), consumer spending (Chetty et al. 2020), and early retirement (Goda et al. 2021; Bui et al. 2020; Davis 2021) during the pandemic. Others have studied the effects of both federal and state government interventions during the pandemic including stay-at-home orders (Forsythe et al. 2020), and federal assistance programs like unemployment insurance and stimulus payments (Baker et al. 2020; Chetty et al. 2020; Larrimore et al. 2022).

We also contribute to the body of work exploring the effect of economic shocks and policy changes on retirement savings. Hurwitz et al. (2021) found that economically-vulnerable individuals are more likely to recommend savings reductions in the response to the onset of COVID. On the topic of RMDs, Brown et al. (2017) showed that the suspension of RMDs in 2009 resulted in a large decrease in withdrawals for TIAA-CREF retirement savings participants,

particularly among relatively wealthier individuals with large balances, and those with longer retirement horizons (people closer to the starting age for RMDs). Mortenson et al. (2019) found that 32 to 52 percent of individuals subject to RMDs would prefer to take a withdrawal below the required minimum, but that even when the RMD is suspended, some individuals take withdrawals at the ‘phantom’ (i.e., not in effect for that year) RMD threshold. Bershadker and Smith (2005) also estimated, using Current Population Survey (CPS) data, that about 45 percent of individuals with positive account balances did not take withdrawals until they were required to do so by law.

Research exploring the effect of the early withdrawal penalty is sparser than the RMD literature. Goda et al. (2016) measured individuals’ responsiveness to the penalty by estimating the increase in withdrawals at the threshold age of 59½, finding that the probability of a withdrawal increased by 93 percent at this age. Stuart and Bryant (2021) similarly documented that early withdrawal penalties (and RMDs) substantially influence timing or withdrawals from retirement accounts. Several studies found that the likelihood of taking early withdrawals increased significantly with negative shocks, including divorce and job loss or wage reduction, the latter of which applies directly to the COVID-19 employment shocks (Argento et al. 2015; Amromin and Smith 2003; Goodman et al. 2021; Brady and Bass 2019). Focusing on the Great Recession, Argento et al. (2015) also reported that contributions to DC plans declined significantly, and Goodman et al. (2021) found that net contributions did not recover their inflation-adjusted 2007 levels until 2014. Both papers also found that early withdrawals increased during the Great Recession, although to a smaller extent than the change in contributions. Goodman et al. (2021) reported that the share of contributions made by working age Americans who exited the retirement saving system increased modestly during the Great Recession, from a base rate of around 22 percent to 26 percent in 2009.

There has also been a focus on the effects of economic downturns on early retirement. Coile and Levine (2007) reported that economic downturns caused an increase in the percent of people who decided to retire, equivalent to the effect of a negative health shock or retirement incentives. Neumark and Button (2014) noted that age discrimination was a problem for workers nearing retirement during the Great Recession. However, Goda et al. (2011) found that, during the Great Recession, the probability of retiring early actually went down, which may have been a reaction to stock market conditions at that time. More recently, Coile and Zhang (forthcoming) found that retirements increased during the COVID-19 pandemic, but that this trend was unrelated to economic circumstances and was more likely due to general concerns about health, changes in government policies, or stock market and real estate gains.

However, as Goda et al. (2021) found, despite evidence suggesting that the COVID-19 pandemic caused an increase in early retirement, there was no significant increase in applications for social security benefits. Similarly, Maestas and Mullen (forthcoming) found that the number of Social Security Disability Insurance (SSDI) applicants fell continuously between March 2020 and January 2021, although they also observed that the number of SSDI applications received at field offices began to increase again in 2021. Both papers speculated that the drop in applications may be partially explained by increases in unemployment insurance and the issuance of stimulus checks in 2020, possibly giving individuals some financial flexibility to hold off on claiming SSDI benefits. These studies are in line with our findings, as we do not see an increase in retirement withdrawals for individuals between the ages of 60 and 70.

Background and Policy Changes

Under the Coronavirus Aid, Relief, and Economic Security (CARES) Act of 2020, the rules for distributions and withdrawals from retirement accounts changed in two ways: required minimum distributions were temporarily suspended, and ‘coronavirus-related’ early withdrawals were exempted from early distribution penalties. There were also changes to rules regarding rollovers, loan limits and repayments, and partial plan terminations, but we omit these from our discussion as they are beyond the scope of our analysis.¹

In general, owners of IRAs and DC accounts must begin taking withdrawals known as RMDs from their accounts in the year in which they reach age 72. These withdrawals are equal to a specified fraction of their prior-year balance. In the CARES Act, Congress suspended RMDs for calendar year 2020, meaning that no such withdrawals were required during that year.² Congress granted similar relief during the Great Recession, suspending RMDs in 2009 (JCT 2020; Topoleski and Myers 2020).

Non-rollover withdrawals from IRAs and DC accounts made prior to age 59½ are generally subject to a 10 percent penalty, in addition to (for traditional, non-Roth accounts) being subject to ordinary income tax at the time of withdrawal. In the CARES Act, Congress created an exception from the early withdrawal penalty for ‘coronavirus-related’ withdrawals from IRAs or eligible retirement plans (such as employer provided 401(k) and 403(b) plans). This exception was quite broad: it applied to withdrawals up to \$100,000 received by any individual who experienced self-attested economic or health hardships during 2020.³ The law also permitted the recognition of coronavirus-related withdrawals over three years, rather than at the time of this withdrawal, which provided taxpayers with greater liquidity, allowed them to take advantage of the time value of money, and provided an opportunity to smooth their income and minimize tax payments under a progressive tax schedule. The law additionally permitted individuals to ‘recontribute’ coronavirus-

related withdrawals at any point in 2020, 2021, or 2022, by making contributions back into the distributing account. All such repayments were to be treated as if they were never withdrawn (i.e., there would be no income inclusion).

Data

The data we use to generate the estimates, figures, and tables in this paper are drawn from administrative tax records in the United States. These include data compiled from Form 1040, filed by individual taxpayers, and many information returns filed by third parties including Forms W-2, 1099-R, 1099-SSA, and 5498. The base data are in the form of an unbalanced individual-level panel including five percent of all individuals in the US tax population.⁴ While the panel is unbalanced, it is representative of the population of taxpayers within each year from 2003 to 2020. Individuals can enter the panel by immigration, birth, or receiving a tax form, and they can exit the panel by emigration, death, or failing to receive a tax form.⁵

Here we rely most heavily on several pieces of information retrieved from administrative data: date of birth and death from the Social Security Administration's (SSA) DM-1 file, IRA contributions from Form 5498, wages and deferred contributions from Form W-2 (wages), social security benefits from Form 1099-SSA, and retirement distributions from Form 1099-R. All dollar amounts are adjusted to 2020 price levels using chained CPI.

Form 1099-R allows us to distinguish between distributions made from IRAs, Roth IRAs, and workplace pension plans. Yet within the category of workplace pension plans, we are unable to distinguish between distributions made from defined contribution (DC) plans and those made from defined benefit (DB) plans. Goodman et al. (2021) previously applied an algorithm to classify distributions reported on Form 1099-R as DB or DC based on various factors, but it is unable to

classify data from 2020 because it requires several years of ‘burn-out’ (i.e., the last several years of data are used to classify earlier distributions but cannot be classified themselves). Therefore, when analyzing distributions from workplace pension plans, we combine both types of distributions.

Additionally, for the purpose of calculating contributions made by employers to retirement plans, we make use of publicly available data from Form 5500. All retirement plans covered by ERISA must file Form 5500. The form contains a variety of information including total participants, participants contributions, and employer contributions.⁶

Unless stated otherwise, all dollar values in this paper are indexed to inflation using the Chained CPI series; we express our findings in 2020 dollars.

Retirement Savings Changes

Contributions. We begin by examining the aggregate amount of contributions made by individuals and employers to employer-sponsored DC accounts and IRAs. The upper panel (Figure 1a) displays total contributions, while the bottom panel (Figure 1b) indexes each series to one in 2019. The figure shows that, during the Great Recession, contributions of all types fell. For example, employee contributions to DC plans fell from \$269 billion in 2007 to \$253 billion in 2009, a 6 percent reduction. Employer contributions fell even more sharply from 2007 to 2008, falling 18 percent from \$235 billion to \$193 billion. Direct IRA contributions fell from a peak of \$73 billion in 2007 to a low of \$58 billion in 2012, a 21 percent reduction.⁷

Figure 1 here

We find significantly different patterns for individual contributions at the onset of the COVID-19 pandemic. Employee contributions to DC plans remained on a steady growth path,

growing 5 percent from 2019 to 2020—similar to the yearly growth rates experienced from 2017 onward. In fact, direct IRA contributions by individuals accelerated somewhat, growing 10 percent from 2019 to 2020. Employer contributions, however, fell noticeably, declining by 12 percent from 2019 to 2020.

There are several explanations for the disparate pattern we see during the COVID-19 pandemic in comparison to the Great Recession. First, retirement savings are concentrated in the upper half of the wage income distribution: in 2019, approximately 90 percent of contributions to employer-sponsored defined contribution plans were made by workers in the top two quintiles of the wage distribution. As shown in Larrimore et al. (2022), the labor income shocks of the COVID-19 recession were concentrated in the lower half of the wage earnings distribution relative to the Great Recession, reducing the scope for negative income shocks to affect retirement contributions in the aggregate. At the same time, large firms responsible for the bulk of employer DC contributions received comparatively less direct fiscal support, as they were mostly ineligible for programs such as the Paycheck Protection Program; this may partially explain why employers reduced contributions.⁸

Second, the pandemic and associated closures reduced the marginal utility of consumption, especially in the upper half of the income distribution. As Chetty et. al. (2020) found, consumer spending among those in the bottom quartile of the US income distribution remained about the same after June 2020; however, consumption among those in the top quartile of income dropped by about 13 percent. This reduction in the opportunity cost of contributing to a retirement account made retirement saving relatively more attractive, pushing against any reductions in saving caused by negative labor income shocks. There is no direct analogue of this part of the pandemic

experience for employers; thus, this may be a further explanation for the divergence between employee and employer contributions during the pandemic.

To further explore contribution changes, Figure 2 displays the time series of employee contributions to DC accounts according to earnings groups (which we define as wage earnings plus unemployment insurance).⁹ Specifically, the groups are (1) the bottom half of the wage distribution, (2) percentiles 51-80, (3) percentiles 81-95, and (4) the top five percentiles. The top panel (Figure 2a) plots the dollar amounts, in billions. There are large differences in levels between the groups. In 2019, the bottom 50 percentiles were responsible for only 10 percent of total contributions, percentiles 51-80 were responsible for 26 percent, percentiles 81-95 were responsible for 38 percent, and the top 5 percentiles were responsible for 26 percent.

Figure 2 here

The bottom panel (Figure 2b) plots each of these series indexed to the base in 2019. This figure reveals that, during the Great Recession, contributions fell relatively more in lower income groups. In the bottom 50 percentiles, contributions fell by 21 percent from 2007 and 2011; in the top 5 percentiles, contributions fell by only 2 percent from 2007 to 2008 before growing again. The two intermediate income groups had contributions decreases between these two extremes. By contrast, contributions in all incomes groups grew from 2019 to 2020, each at a growth rate broadly in line with growth rates in previous years. It is possible that the substantial fiscal support to low- and middle-income individuals prevented the large decreases in retirement contributions among this group that occurred during the Great Recession.

Of course, stock market conditions differed dramatically between the Great Recession and the COVID-19 pandemic. In October of 2007, the S&P 500 attained a high of 1,565, after which it tumbled over the course of 17 months to achieve a nadir of 677 in March of 2009, before

embarking on a steady recovery. It did not revert to its October 2007 value until April 2013. By contrast, the COVID-19 pandemic saw only a very brief downturn. On January 31, 2020, the S&P 500 closed at 3,226, then fell to a low of 2,237 on March 23, 2020, then proceeded to recover rapidly. The market re-attained its January 31, 2020, value by June 8, 2020. Given the well-known recency bias in investment decision-making (Tversky and Kahneman 1973)—especially by retail investors who are responsible for the bulk of retirement savings (Nofsinger and Varma 2013)—the longer bear market during the Great Recession may have had a larger effect on contributions than the V-shaped market during the COVID pandemic.

Withdrawals. Figure 3 plots aggregate withdrawals (non-rollover or conversion distributions) from IRAs and employer plans over time. As with Figures 1 and 2, the top panel (Figure 3a) plots the aggregate dollar amounts while the bottom panel (Figure 3b) indexes each series to one in 2019. Roughly speaking, both IRA and employer account withdrawals follow a smooth upward trend over time, with IRA distributions generally growing faster. In both 2009 and 2020—years in which RMDs were suspended—there are noticeable reductions in IRA withdrawals. By contrast, in 2020, employer plan withdrawals grew by 10 percent, considerably faster than the 2-4 percent annual growth rates in prior years.

Figure 3 here

In Figure 4, we disaggregate the withdrawal trends in Figure 3 for specific time periods, plotting mean withdrawals by age, from 2008 to 2010 (Figures 4a and 4b), and from 2018 to 2020 (Figures 4c and 4d). Figure 4a shows the change in mean withdrawals from IRAs by age during the Great Recession, from 2008 to 2010. Figure 4b does the same for non-IRA accounts—primarily employer sponsored defined contribution (DC) and defined benefit (DB) plans—from

2008 to 2010. Figures 4c and 4d are analogous figures for the COVID recession, comparing 2018-2019 with 2020.

Figure 4 here

Several facts emerge. First, withdrawals from IRAs fell substantially in 2009 and 2020 for ages that would otherwise be subject to RMD. Second, we see no large changes in withdrawals in those same years for individuals aged 60-70, people relatively unaffected by the major policy changes. Third, while withdrawals from workplace DB and DC pension plans remained similar across years during the Great Recession, there is a noticeable increase in early withdrawals for pre-retirement-age cohorts in 2020 relative to the previous two years.

The effects of the 2020 RMD suspension are consistent with the same 2009 policy change. In Figure 5, we graph the mass of withdrawals from IRAs taken by 75-year-olds scaled by their prior year balance, with reference to their RMD (or what the RMD would have been in the absence of the rule suspension).¹⁰ The top panel (Figure 5a) plots withdrawal levels in 2009 (line) along with the same withdrawal levels in 2008 (dots), and the bottom panel (Figure 5b) plots withdrawal levels in 2020 (line) and 2019 (dots) for comparison. In both cases, there is a substantial shifting of mass from exactly the RMD to zero. Furthermore, there remains some mass at the RMD in 2009 and 2020, potentially reflecting a mix of inertia, a perception of the RMD as ‘guidance,’ or withdrawals taken during the year prior to the policy change (Brown et al. 2017; Mortenson et al. 2019).

Figure 5 here

The population near retirement age is also of interest, as there has been concern that the pandemic and related recession induced people to retire earlier than they otherwise would, a concern corroborated by labor force participation data (Davis 2021; Schwartz and Marcos 2021;

Van Dam 2021; Hsu 2021). Yet we see no obvious increase in retirement withdrawals for those age 60-70. Furthermore, Goda et al. (2021) showed that the number of applications to file for social security retirement benefits also remained largely unchanged during the pandemic. Thus, there is no evidence of near-retirement age individuals decumulating their retirement wealth—whether in the form of social security, pensions, or IRAs—earlier than they otherwise would have. If the pandemic did cause early retirement, then early retirees would have to be financing their consumption through some other source. Perhaps, as suggested by Goda et al. (2021), increased unemployment insurance and other forms of pandemic assistance allowed some to finance an early retirement without needing to dip into retirement wealth.

The increase in workplace pension withdrawals for those of working age likely reflects both a response to policy changes and direct effects of the pandemic. In Figure 6, we plot a time series of the total withdrawals from pensions and IRAs (excluding rollovers, Roth conversions, etc.) and total penalized withdrawals for those below age 59½.¹¹ While total withdrawals increased by \$60 billion (25%) in 2020 for this group, the total amount of penalized distributions fell by nearly 50 percent. Thus, it appears that take-up of the penalty suspension was quite high.

Figure 6 here

There was a smaller take-up of the CARES Act provision that allowed for the income recognition of withdrawals to be spread over three years. In particular, we see that only 1.5 percent of tax units that took withdrawals from retirement accounts reported taxable pension and IRA amounts, approximately equal to 1/3 of total withdrawals from Form 1099-R. Low take-up rates under this provision suggests that the ‘hassle’ costs of needing to track this information to subsequent tax returns exceeded the value of the deferral of liability or other tax savings.¹²

There is clear evidence that some pre-retirement age individuals did respond to a combination of these policies. Recall that the penalty suspension and the three-year recognition rule applied to up to \$100,000 of withdrawals for any given individual. Figure 7 shows bunching at this threshold in 2020: approximately 165,000 individuals (age 20-58) took a withdrawal within \$500 of \$100,000, far larger than any nearby bins of the same width. This was not driven by round-number bunching, as we saw no analogous pattern in 2019.¹³ Under the extreme assumption that these individuals would not have taken any withdrawals at all in 2020 in the absence of the policy changes, then these bunchers would account for approximately \$17 billion of the \$65 billion increase in withdrawals from 2019 to 2020 for this age group. We cannot test this assumption directly, but we believe that it is a plausible approximation: only 10 percent of these individuals took a withdrawal of any amount in 2019. Taken together, this suggests that a non-trivial portion of the increase in withdrawals from 2019 to 2020 was driven by policy.

Figure 7 here

These bunchers could plausibly have been responding to any of the policy changes that applied to coronavirus-related withdrawals. We interpret the bunching mainly to the penalty suspension for two reasons. First, we find that the probability of paying a penalty was substantially lower for those in the bin nearest to \$100,000 in withdrawals relative to those in nearby bins. Second, only 7 percent of these bunchers took up the three-year recognition option, using the proxy described above (taxable withdrawals approximately equal to one third of total withdrawals).

We are particularly interested in the characteristics of those who appeared to be responding to this policy; see Table 1. The first column restricts the same to those age 20-58 who took distributions within \$500 of \$100,000. In column 2, we report the same statistics for the remainder of our 2020 sample within the same age range. In the first row, we find that bunchers had a

considerably higher 2019 AGI than average, which is unsurprising given that higher-income individuals are likely to accumulate large retirement account balances. We also find that bunchers were somewhat more likely to have had non-zero business income in 2019, UI income in 2020, and a business loss in 2020. However, bunchers also had a slightly higher wage share of income than the remainder of the sample.

Table 1 here

In column 3, we reweight the sample in column 2 within income percentiles to match the 2019 AGI distribution of bunchers (column 1). In this reweighted sample, we can examine whether bunchers differed from others along other dimensions, beyond what can be explained by the fact that they were higher earners. We find that bunchers were somewhat less likely than their income-matched peers to have had non-zero business income in 2019, and their wage share of income was much higher. One explanation for this pattern is that retirement savings might be much easier (or a more attractive option for foregone consumption) for wage earners relative to entrepreneurs at a given income level. At the same time, we find that bunchers did appear to experience greater economic distress than their income-matched peers: they were over 60 percent more likely to have UI income and nearly 80 percent more likely to have a business loss, despite being likely to have had non-zero business income in the prior year. This suggests that these bunchers could have used the withdrawals to smooth consumption or provide liquidity to their businesses.

While the evidence on bunching indicates that the relaxation of the early withdrawal penalty played a role in increasing withdrawals in 2020, we also find evidence that many individuals still felt constrained by the penalty, at least to some extent. Following Goda et al. (2016), we examine the probability of taking withdrawals as a function of monthly age in the vicinity of 59½. Consider the series marked with circles (2019) in each panel of Figure 8.

Individuals indicated with relative age 0 are those who reached age 59½ in January of 2020—they had zero months in 2019 during which to take penalty-free withdrawals. Moving leftward in the graph corresponds to even younger individuals (i.e., who reached age 59½ later in the year) who also had zero penalty-free months in 2019. Moving to the right corresponds to individuals who had more months of penalty-free withdrawals: at relative age 12 months, the entire year was penalty-free. Clearly there were changes in the slope of the probability of taking a non-IRA withdrawal (top panel) or an IRA withdrawal (bottom panel) at relative age 0 and 12 months, suggesting that the probability of taking a non-IRA withdrawal in any given year increased approximately linearly in the number of penalty-free months during that year.

Figure 8 here

The key empirical test is whether these discontinuous changes in slope were present in 2020 as well. If people perceived the relief for pandemic-related withdrawals as effectively eliminating the penalty for all withdrawals, then there should be no slope change; all individuals would have faced 12 months of penalty-free withdrawals.¹⁴ Yet we see very similar slope changes at 0 and 12 months in 2020 versus 2019. For the non-IRA series, the patterns across the two years are indistinguishable, potentially reflecting measurement error introduced by the fact that both series include DB withdrawals (usually) not subject to the penalty. There is a more noticeable difference in the IRA series: the change in slope in 2020 was statistically significantly smaller than the change in slope in 2019. Yet the difference is modest in magnitude, as the change in slope shrank by only 17 percent.

Figures 7 and 8 together suggest a nuanced, heterogeneous response to the relief granted to the pandemic-related withdrawals. Figure 7 suggests that a select group of about 140,000 people responded to the policy in a sophisticated way, and the behavior of this group was large enough to

affect aggregate withdrawals. Meanwhile, Figure 8 suggests that most individuals took withdrawals in a manner consistent with the penalty remaining in place, either because they did not deem their distributions to be coronavirus-related (i.e., the penalty would have applied), or because they were unaware of the penalty suspension.

Finally, we note that it is likely that some of the increase in withdrawals by working-age persons in 2020 was not the result of policy, but rather the result of the economic environment. As shown in Goodman et al. (2021), job separation was associated with a substantial increase in the probability of working-age persons taking retirement withdrawals. This could have been caused by the income shock associated with job separation, as well as the choice architecture that often makes withdrawals the default (easiest) option for those with accumulated DC balances in their previous jobs. Thus, the large increase in job separation that occurred in 2020 may have contributed to the increase in withdrawals in this period. In future research, when we are able to observe W-2 data from 2021, necessary for determining whether individuals separated from their employers, we intend to quantify the role of increased job separation on withdrawals in 2020.

Conclusion

The COVID-19 pandemic had many negative consequences that persisted for some time. The sharp increase in unemployment, supply-chain issues, increasing prices, and hesitancy of workers to return to the labor force all produced strains on the economy. Nevertheless, due to the differential impacts of the pandemic across the workforce, aggregate individual contributions to retirement accounts remained largely the same, even increasing beyond what was expected for high-income workers, though contributions by employers did decrease somewhat. Withdrawals by working-age individuals from employer-sponsored retirement accounts did rise substantially

during 2020, driven, at least to some extent, by a response to relief granted to certain early withdrawals, including the elimination of the 10 percent early distribution penalty for coronavirus-related reasons. A portion of this increase was also likely driven by the increase in job separations created by the pandemic. Withdrawals from IRAs to those over age 70 dropped precipitously, suggesting a strong response to the suspension of required minimum distribution rules. The source of the asymmetric response in IRAs and employer-sponsored plans to these two policy changes is unclear, but it is likely driven by the co-mingling of defined benefit withdrawals with defined contribution withdrawals in tax data reporting and the age-life cycle of IRA balances.

In general, the effects of retirement-related policies implemented during the COVID-19 pandemic are ambiguous when it comes to providing relief for people facing financial difficulties, especially in comparison to other targeted policies such as expansions in Unemployment Insurance, the Supplemental Nutritional Assistance Program (SNAP), Medicare and Medicaid. As Moffitt and Ziliak (forthcoming) found, SNAP take-up increased during recessions not only among young, low-income groups but also for older people (particularly for those age 50-and 61). Moreover, UI claims increased for several groups as well, including the elderly (age 62+) and for the higher-educated. These increases may also help explain why the pandemic did not precipitate a large increase in social security claims (Maestas and Mullen, forthcoming). Similarly, policies directed at lowering costs of healthcare for the low-income and elderly have been important, as out-of-pocket medical expenses account for a much larger share of spending in this subpopulation. As Follette and Sheiner (forthcoming) found, changes in Medicare payment policies introduced in the Affordable Care Act (ACA) were also instrumental in slowing the rising cost of healthcare for older Americans.

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Endnotes

¹ Specifically, the CARES Act allowed plans to increase the section 72(p) loan limit from \$50,000 to \$100,000 for certain loans and allowed plans to elect to suspend certain loan payments. The CARES Act also protected employers from inadvertently generating a ‘plan termination’ if a large share of its workforce separated from employment.

² The SECURE Act changed the threshold age from 70.5 to 72. This change would have taken effect in 2020 if Congress had not passed the RMD holiday in the CARES Act.

³ Employers can choose whether to implement these coronavirus-related distribution and loan rules; however, qualified individuals can claim the tax benefits of the coronavirus-related distribution rules even if plan provisions aren't changed (IRS 2022).

⁴ The tax population—those individuals who appear on a federal income tax return (1040) or information return (e.g., Form W-2) includes roughly 98% of the Census resident population in each year (Larrimore et al. 2022).

⁵ These base data have been used in several prior papers (Mortenson et al. 2019; Goodman et al. 2021; Larrimore et al. 2022).

⁶ For details, see US Department of Labor (nd).

⁷ Recall that all dollar values in this paper are indexed to inflation and expressed in 2020 price levels.

⁸ Large firms did receive relief of various forms, such as the Employee Retention Credit and the ability to carry back tax losses incurred in 2019 or 2020.

⁹ Wage earnings are defined as box 5 from Form W-2, Medicare Wages.

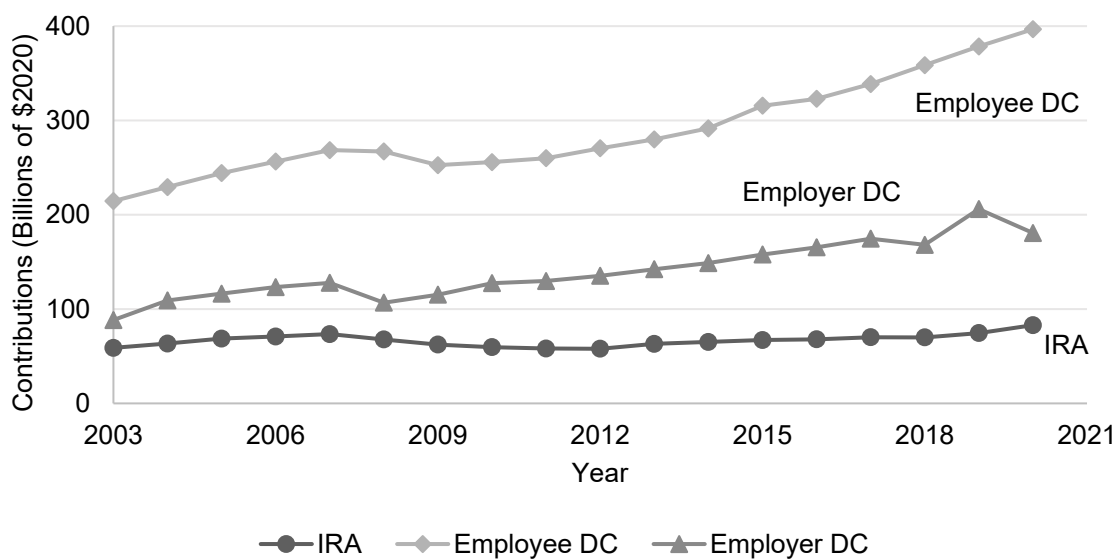
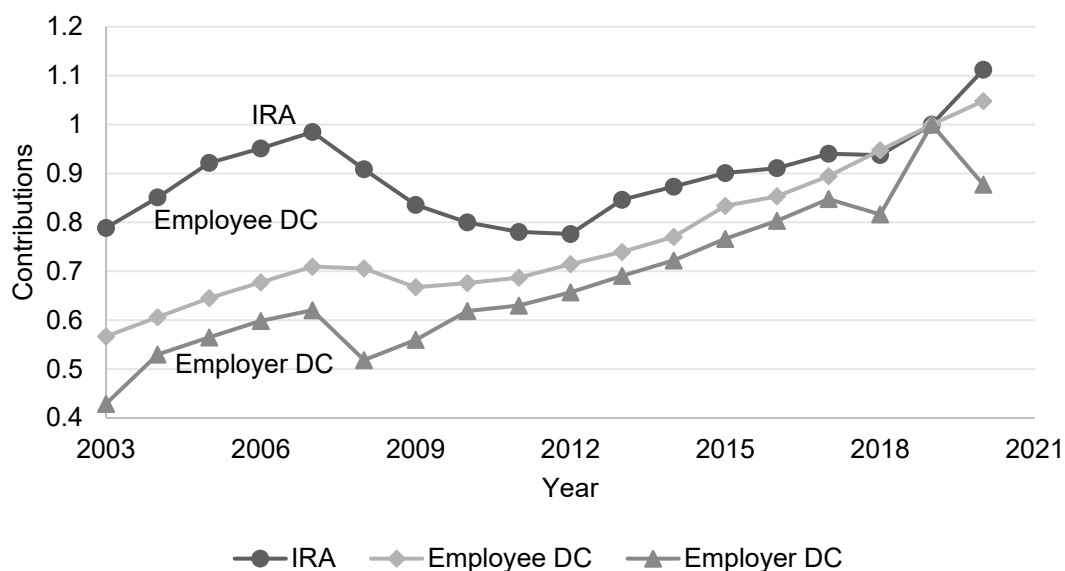
¹⁰ We display the results for 75-year-olds here, but the results are similar for other age groups subject to RMDs.

¹¹ We proxy for penalized distributions, because they are not directly observed in the tax data we use, as retirement-related penalties reported on Form 1040 among people younger than age 59½ divided by 10% (the penalty amount).

¹² We currently lack the data to analyze the take-up of the CARES Act provision that allows for subsequent repayment of coronavirus-related withdrawals.

¹³ We do not inflation-adjust in this figure.

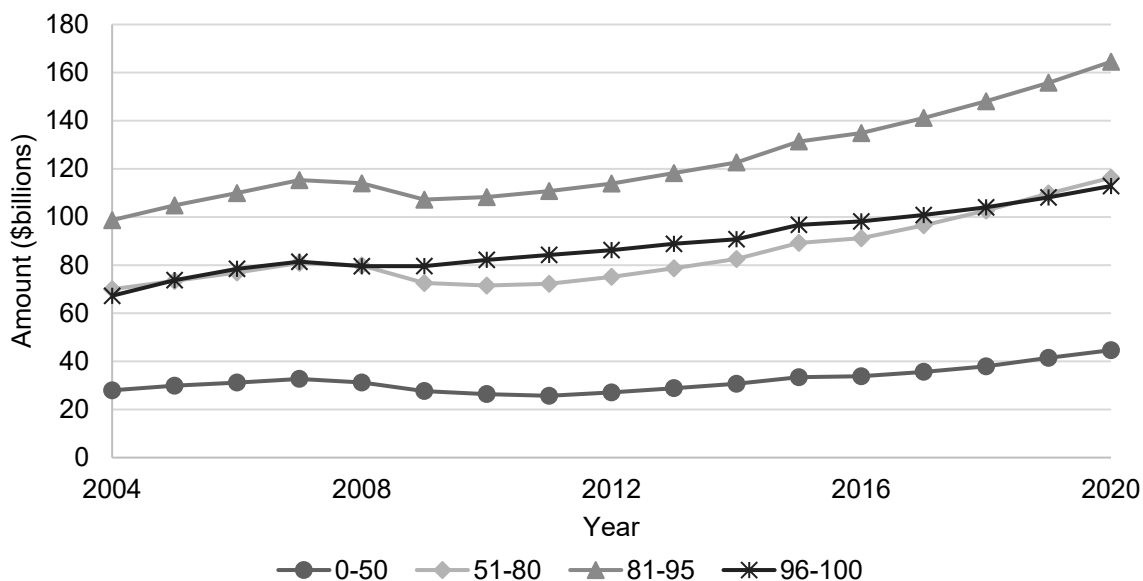
¹⁴ Given that the CARES Act passed at the end of March 2020, one might expect a kink at relative age 9 months (i.e., those attaining 59½ around March or April 2020) rather than relative age 12 months. But this should not affect the kink at relative age equal to zero months (i.e., those attaining age 59½ near the end of 2020).

1a. Annual contributions to retirement plans over time (dollars)**1b. Relative contributions to retirement plans over time (indexed to 2019)****Figure 1.** Aggregate DC and IRA contributions by year

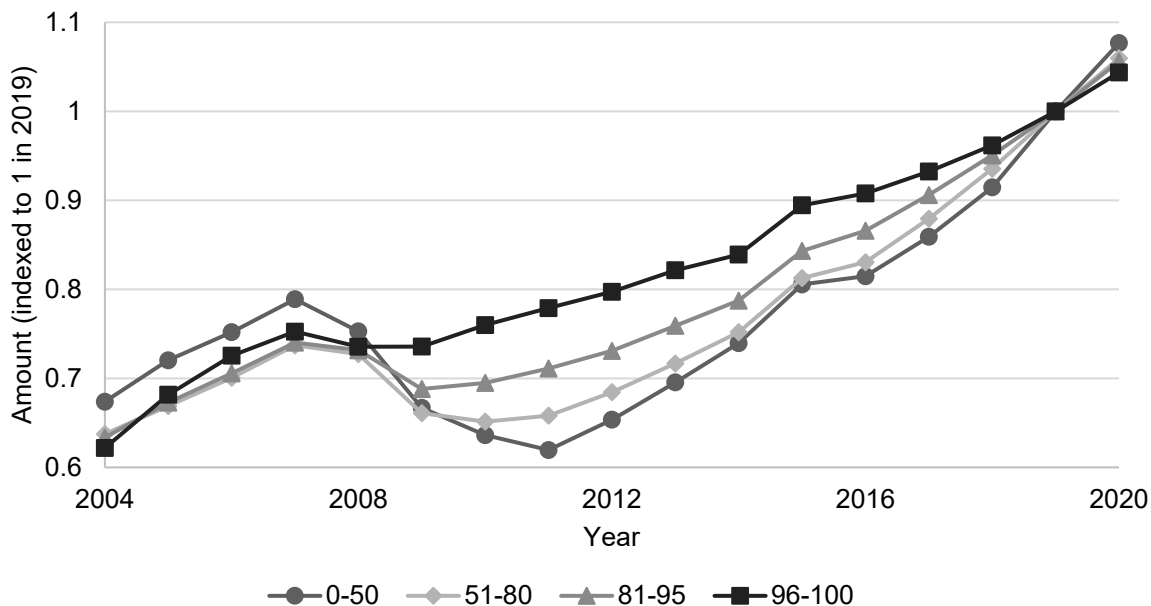
Notes: This figure plots three series of total contributions to retirement plans. The three series are employee contributions to DC plans, employer contributions to DC plans, and individual contributions to IRAs (excluding rollovers and similar transfers). The top panel (Figure 1a) plots the dollar amounts in billions; the bottom panel (Figure 1b) plots the same series indexed to one in 2019.

Source: Authors' calculations based on a 5 percent random sample of IRS records derived from tax returns and information returns. All dollar amounts are adjusted to inflation using the chained CPI and expressed in 2020 dollars.

2a. Annual employee contributions to retirement plans over time (dollars)



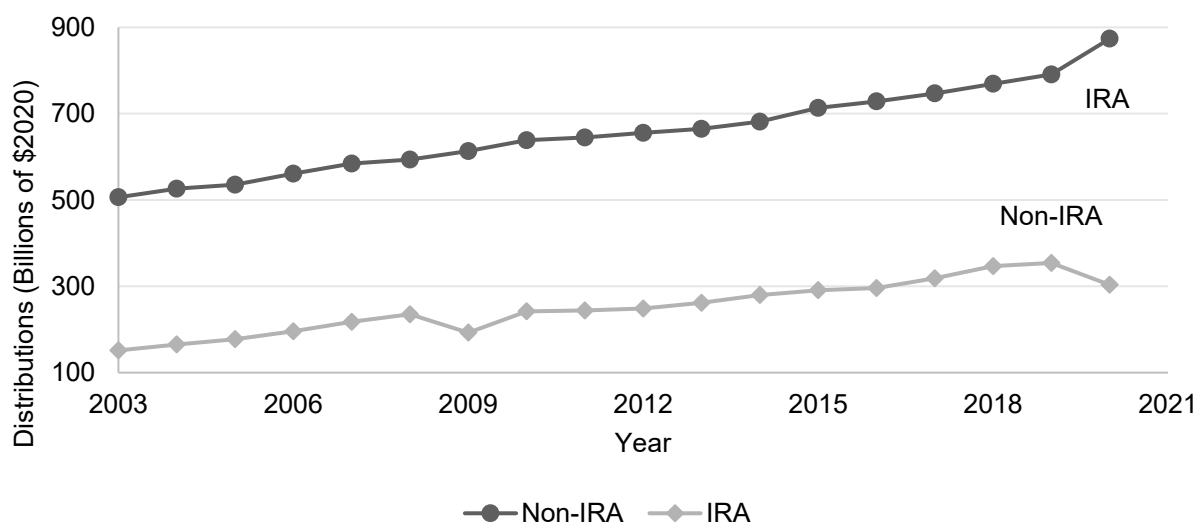
2b. Relative employee contributions to retirement plans over time (indexed to 2019)

**Figure 2.** Employee DC contributions by income groups

Notes: This figure plots total employee contributions to DC plans in four earnings groups, defined by the sum of current-year wage income and unemployment insurance income. The top panel (Figure 2a) plots the dollar amounts in billions; the bottom panel (Figure 2b) plots the same series indexed to one in 2019.

Source: Authors' calculations based on a 5 percent random sample of IRS records derived from tax returns and information returns. All dollar amounts are adjusted to inflation using the chained CPI and expressed in 2020 dollars.

3a. Annual aggregate withdrawals retirement plan over time (dollars)



3b. Annual relative aggregate withdrawals from retirement plan over time (indexed to 2019)

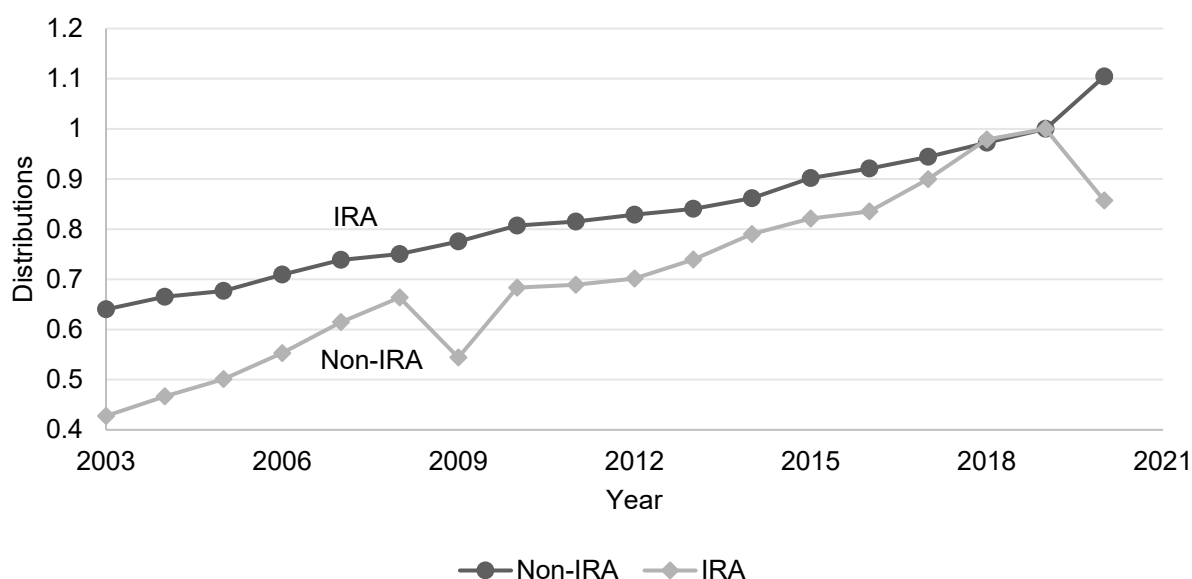
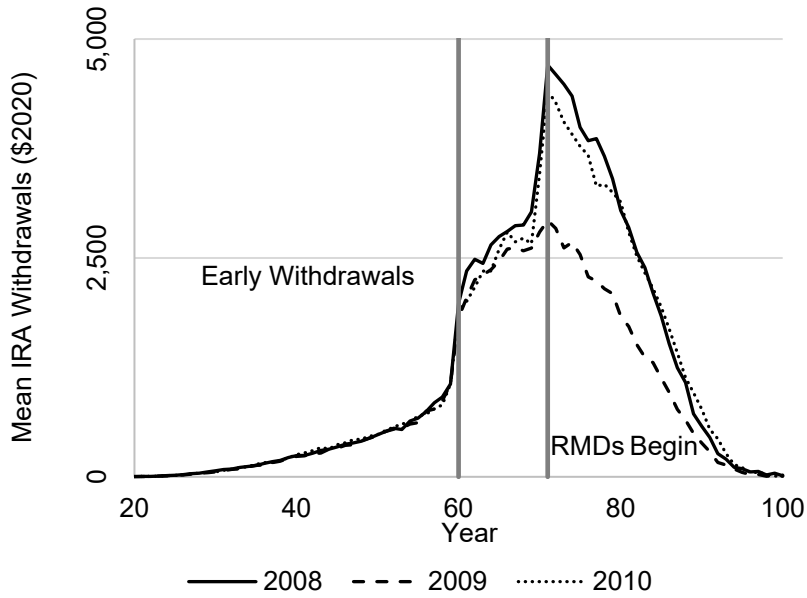


Figure 3. IRAs and other retirement withdrawals, by year

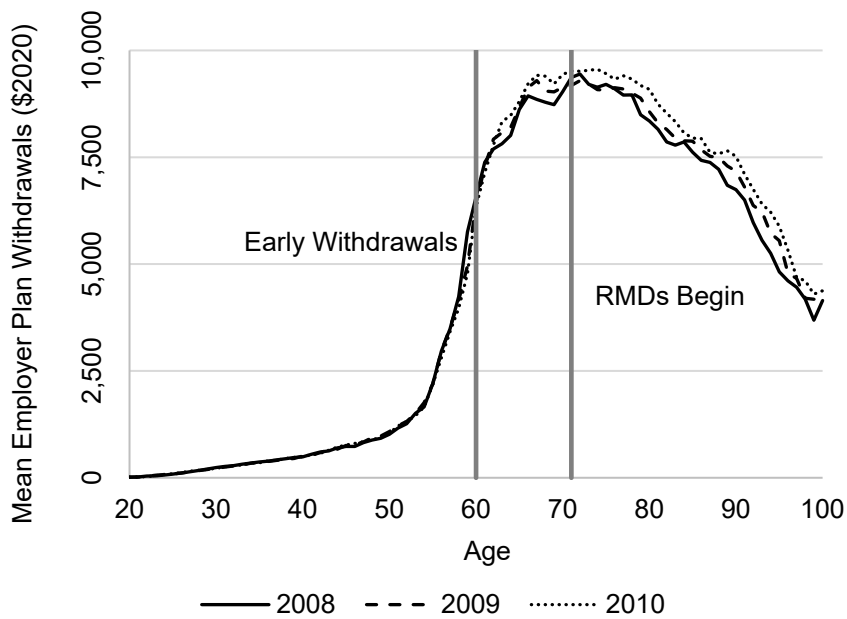
Notes: This figure plots a time series of withdrawals from retirement plans. Panel (a) plots the total dollar amount of withdrawals from IRAs and non-IRAs, the latter of which primarily represents employer DC and DB plans. Panel (b) plots the same two series but indexed to a value of one in 2019.

Source: Authors' calculations based on a 5 percent random sample of IRS records derived from tax returns and information returns. All dollar amounts are adjusted to inflation using the chained CPI and expressed in 2020 dollars.

4a. IRA withdrawals, 2008-2010



4b. Non-IRA withdrawals, 2008-2010



4c. IRA withdrawals, 2018-2020

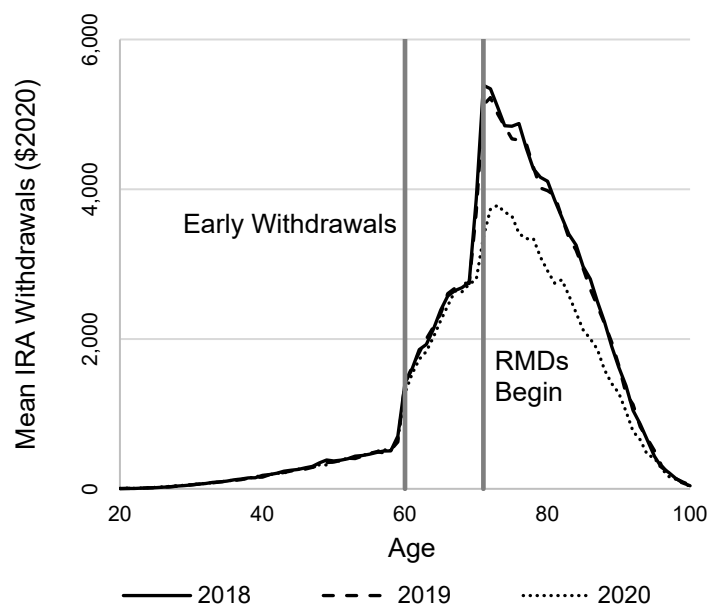


Figure 4d. Non-IRA Withdrawals, 2018-2020

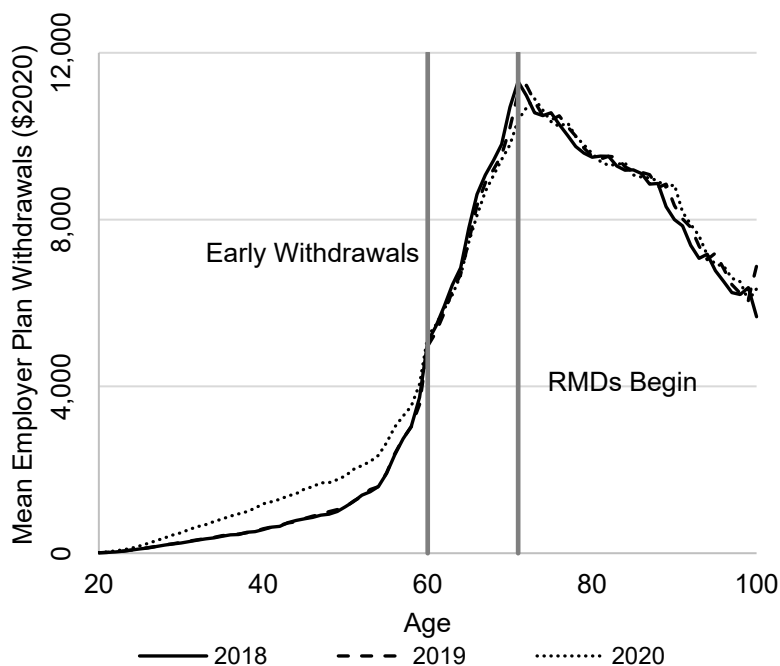
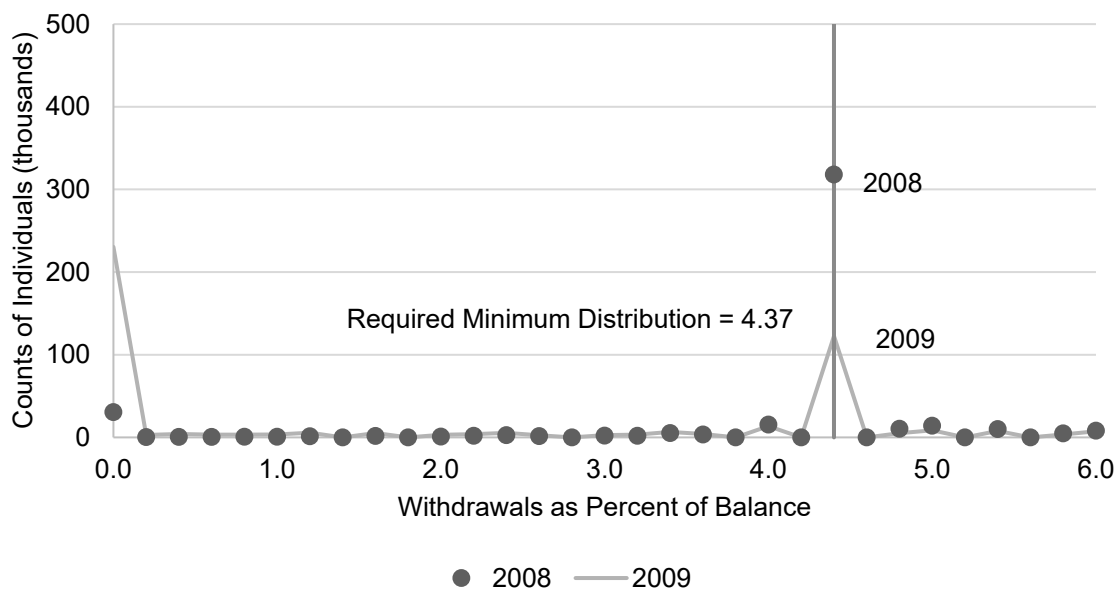


Figure 4. Mean withdrawals from IRAs and other retirement accounts, by age

Notes: This figure plots mean withdrawals from IRAs (panels (a) and (b)) and workplace defined contribution and defined benefit plans (panels (b) and (d)) as a function of age, separately by year. Withdrawals are derived from Form 1099-R and exclude rollovers and Roth conversions. All dollar amounts are adjusted to 2020 price levels. The sample is representative of all individuals of a given age that appear on a tax return or an information return, including those who do not take a withdrawal.

Source: Authors' calculations based on a 5 percent random sample of IRS records derived from tax returns and information returns. All dollar amounts are adjusted to inflation using the chained CPI and expressed in 2020 dollars.

5a. IRA withdrawals 2008-2009



5b. IRA withdrawals 2019-2020

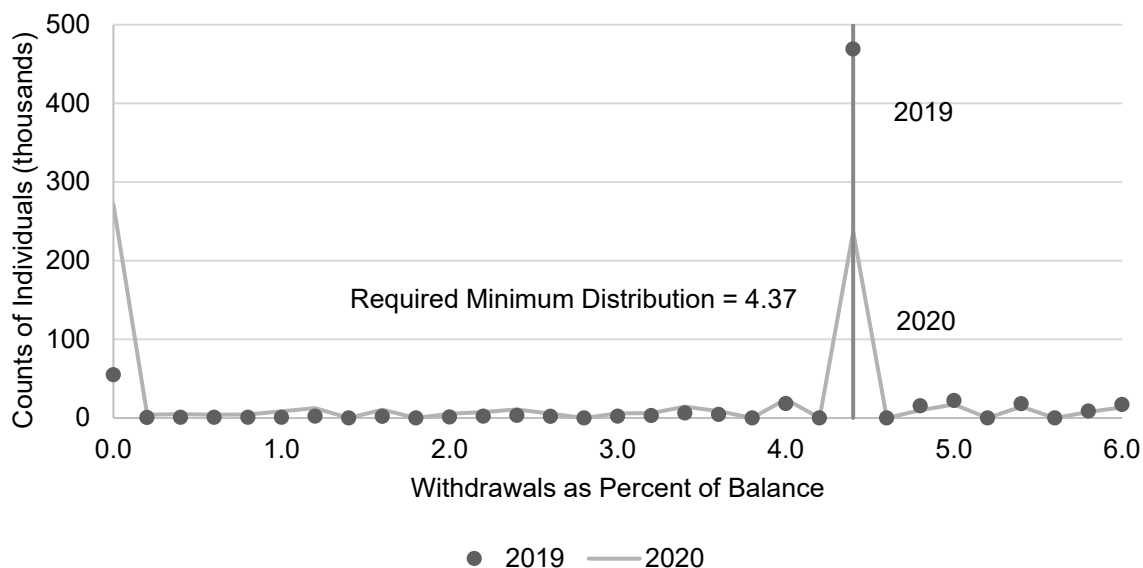


Figure 5. Counts of IRA withdrawals as a percent of prior year balance for 75-year-olds

Notes: This figure plots a histogram of IRA withdrawals for 75-year-olds, scaled by prior year IRA balance, separately by year. In each panel, the blue dots represent the series in the years in which RMDs are in effect (2008 and 2019) and the green line represents the series in years in which RMDs have been suspended (2009 and 2020). The vertical line indicates the standard RMD amount for 75-year-olds. Withdrawals are derived from Form 1099-R and exclude rollovers and Roth conversions.

Source: Authors' calculations based on a 5 percent random sample of IRS records derived from tax returns and information returns.

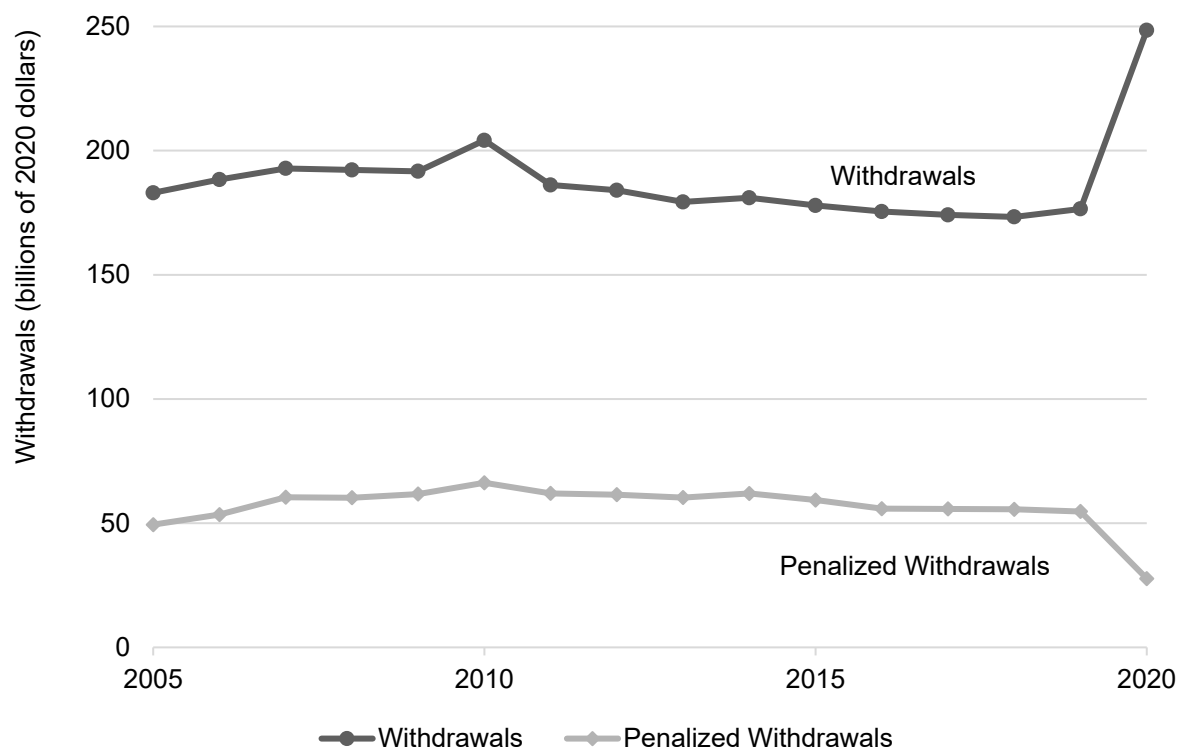


Figure 6. Total IRA withdrawals and penalized withdrawals by those under age 59.5

Notes: This figure plots withdrawals and (estimated) penalized withdrawals made to tax units with at least one member under age 59.5. Withdrawals are derived from Form 1099-R and exclude rollovers and Roth conversions. We estimate penalized withdrawals as equal to the penalty amount on Form 1040 divided by 0.1. All dollar amounts are adjusted to 2020 price levels.

Source: Authors' calculations based on a 5 percent random sample of IRS records derived from tax returns and information returns. All dollar amounts are adjusted to inflation using the chained CPI and expressed in 2020 dollars.

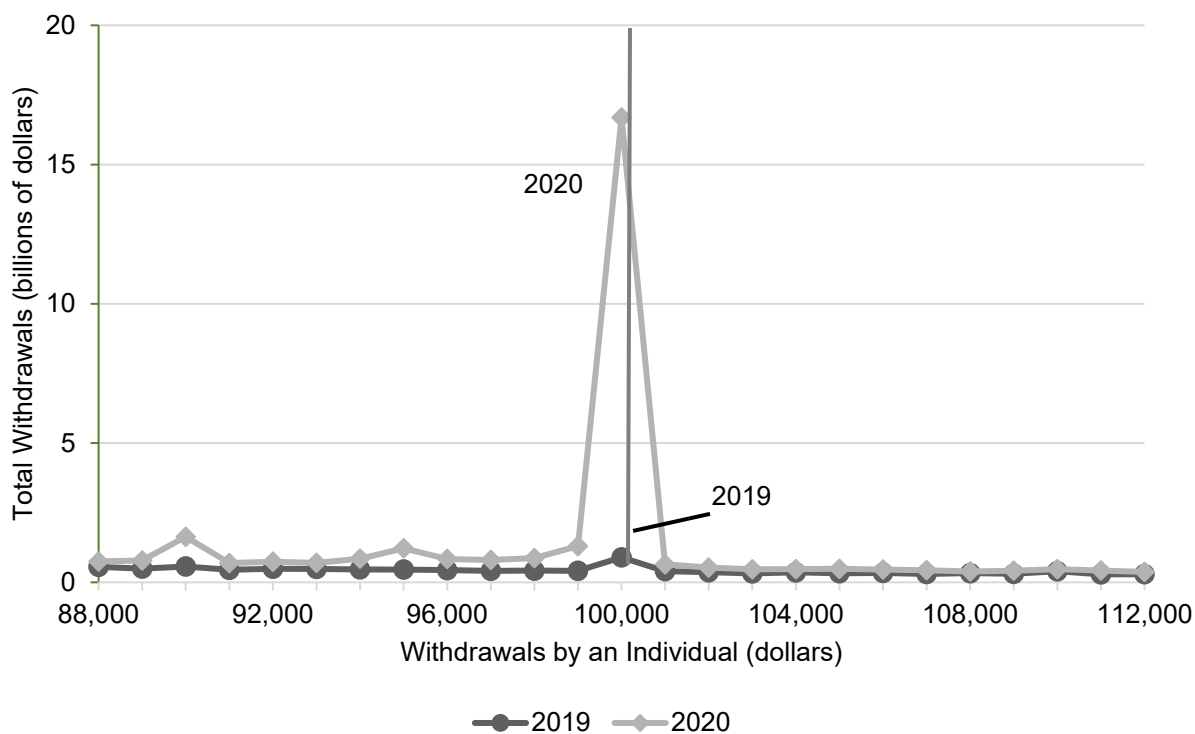


Figure 7. Total IRA withdrawals close to a \$100,000 threshold, 2019-2020

Notes: This figure plots a histogram of total withdrawals from IRAs and workplace plans made to individuals, broken out by the dollar amount of withdrawals made by an individual. The horizontal axis are thousand-dollar wide bins, and the vertical axis displays the total dollars of withdrawals made within each bin. Withdrawals are measured on Form 1099-R and exclude rollovers and Roth conversions. Only individuals between the ages of 20 and 58 are included.

Source: Authors' calculations based on a 5 percent random sample of IRS records derived from tax returns and information returns. In this figure, dollar amounts are not adjusted for inflation.

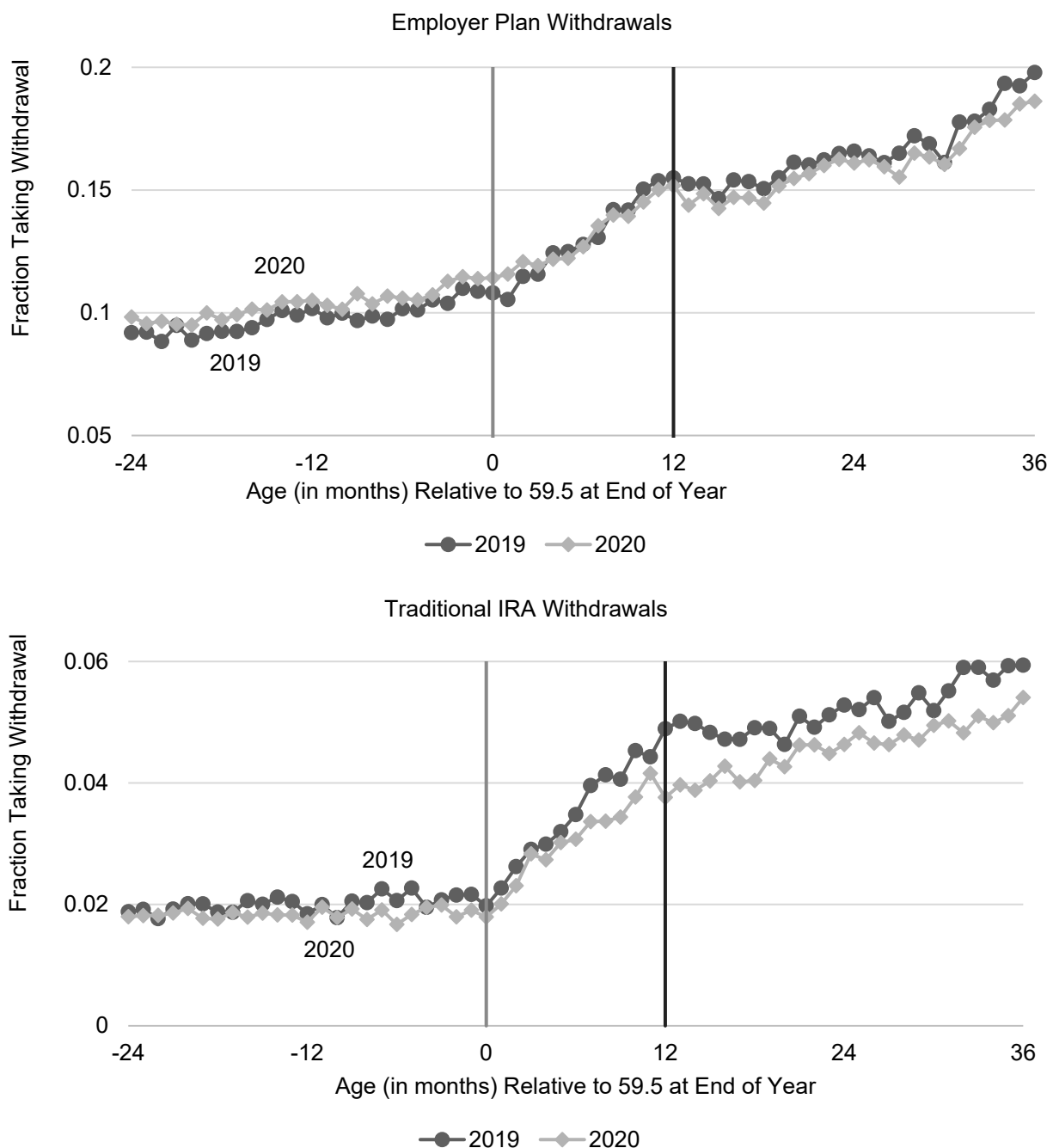


Figure 8. Probability of taking retirement plan withdrawals by age, close to age 59½

Notes: This figure plots the mean value of a dummy for taking any withdrawal from a workplace retirement plan (top panel) or IRA (bottom panel) as a function of monthly age, relative to 59½, separately by year. An individual with monthly age one attains 59½ in December of the given year, while an individual with monthly age zero attains 59½ in January of the subsequent year. Withdrawals are derived from Form 1099-R and exclude rollovers and Roth conversions. All dollar amounts are adjusted to 2020 price levels.

Source: Authors' calculations based on a 5 percent random sample of IRS records derived from tax returns and information returns.

Table 1. Characteristics of those taking retirement plan distributions close to \$100,000 in 2020

	Bunchers	Non-bunchers	Non-bunchers Reweighted
Median AGI in 2019	\$129,000	\$31,000	\$129,000
Share with nonzero business income in 2019	0.199	0.15	0.242
Wage share of income in 2019	0.748	0.71	0.551
Share with UI in 2020	0.232	0.199	0.141
Share with business loss in 2020	0.186	0.063	0.104

Notes: Column 1 reports characteristics of those age 20-58 taking distributions of approximately \$100,000 in 2020. Column 2 reports characteristics for all other individuals aged 20-58. In column 3, we report characteristics for the sample in column 2 except that we reweight the sample in order to match the distribution of 2019 AGI of those in column 1. Business income refers to income reported on Schedules C, E, and F. All dollar amounts are adjusted to 2020 price levels.

Source: Authors' calculations based on a 5 percent random sample of IRS records derived from tax returns and information returns. All dollar amounts are adjusted to inflation using the chained CPI and expressed in 2020 dollars.