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Early Withdrawals from Retirement Accounts During the Great Recession

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Abstract

Early withdrawals from retirement accounts are a double-edged sword, because withdrawals reduce retirement resources, but they also allow individuals to smooth consumption when they experience demographic and economic shocks. Using tax data, we show that pre-retirement withdrawals increased between 2004 and 2010, especially after 2007, but early withdrawal rates are substantial (relative to new contributions) in all of those years. Early withdrawal events are strongly correlated with shocks to income and marital status, and lower-income taxpayers are more likely to experience the types of shocks associated with early withdrawals and more likely to have a taxable withdrawal when they experience a given shock.

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1. Introduction

Defined contribution (DC) pensions have rapidly become the dominant form of employer-sponsored retirement plan in the private sector, and they are becoming increasingly important in the public sector as well.[1] Since the onset of the Great Recession and the subsequent period of slow economic growth, the fraction of working-age families with evidence of self-directed retirement accounts and the typical balances for those families with such accounts have declined. Those trends are potentially attributable to loss of employer-sponsored pension coverage at job separation, depressed participation rates for those who are offered coverage, lower contribution rates by employers and employees who choose to participate, and poor returns on investments. The other crucial behavioral decision potentially affecting self-directed retirement accounts, and the subject of this paper, is the "leakage" from retirement accounts that occurs when participants take early withdrawals.

Early withdrawals from retirement accounts are a double-edged sword. On the one hand, early withdrawals directly reduce retirement resources, and that may be contributing to the recent declines in self-directed coverage and account balances. On the other hand, early withdrawals allow individuals to smooth over demographic and economic shocks, and many younger people would not voluntarily contribute to retirement accounts in the first place if they knew they would be unable to access their funds in an emergency. This tradeoff underlies a key provision in the rules governing early retirement account access. Funds are generally accessible for early withdrawal, but a ten percent penalty on top of the regular income tax liability applies for most withdrawals made by taxpayers younger than 59½.

[1] See, for example, Clark and Sabelhaus (2009) or Clark, Craig, and Sabelhaus (2011) for a perspective on evolving pension coverage in the public sector, including recent decisions by some state and local governments to move towards defined contribution plans. Although most public employees still have a defined benefit base in their pension plans, the increasing importance of add-ons like the federal Thrift Savings Plan reinforces the fact that voluntary and self-directed pensions are becoming more important in the public sector as well.

The issue of early withdrawals from retirement accounts (in particular the failure to rollover pension distributions at job change) has been addressed in previous papers.[2] However, the importance of pre-retirement withdrawals is underscored by recent economic turmoil. The Great Recession was associated with significant shocks to employment, household balance sheets, and incomes, and the subsequent economic recovery has been slow and incomplete. These are exactly the sorts of economic shocks that might lead participants to access their retirement accounts, and thus the era of the Great Recession is a useful period for studying pre-retirement withdrawals. If behavioral responses to economic shocks are going to undermine a voluntary and self-directed retirement system, that causation should be evident in recent years.

Recent trends in self-directed retirement accounts and pension coverage for families in their accumulation phase underscores the importance of evaluating the role of early withdrawals during the past few years. For single individuals younger than 55, and for couples where the older of the head or spouse is younger than 55, data from the Survey of Consumer Finances (SCF) show a substantial decline in real retirement account balances between 2007 and 2010.[3] Also, as shown in the next section, both the SCF and Statistics of Income (SOI) indicate that fewer younger families are either participating in any type of current employer-sponsored pension (either self-directed DC or more traditional defined-benefit (DB) plans) or have balances carried forward from previous employer-sponsored coverage or IRA contributions.

Measuring the extent to which pre-retirement withdrawals may be contributing to the deterioration of self-directed retirement accounts is problematic because of data limitations.

[2] See, for example, our prior work on retirement account withdrawals, in Bryant (2008), Bryant, Holden, and Sabelhaus (2011), Sabelhaus (2000), and Sabelhaus and Weiner (1999). Other research that analyzes pre-retirement withdrawal behavior includes Amromin and Smith (2003), Burman, Coe, and Gale (1999), Chang (1996), Copeland (2009a, 2009b), Engelhardt (2002, 2003), Hurd and Panis (2006), and Poterba, Venti, and Wise (2007).

[3] Two recent papers look at trends in retirement account balances and coverage using data from the Survey of Consumer Finances; see Bricker, Kennickell, Moore, and Sabelhaus (2012) and Munnell (2012).

Surveys like the SCF are good at capturing the flow of contributions to pensions and the balances in 401(k)-type pensions and IRAs, and also for measuring "regular" pension income, such as the life annuities traditionally out paid by DB plans. However, events like rollovers, cash-outs, and early withdrawals are relatively rare, so analysis with a limited number of observations comes with substantial sampling variability. It is also likely that respondent perception may be affecting reporting of pension flows. Indeed, as shown later in this paper, one piece of evidence about respondent perceptions and reporting problems comes from the tax data itself. Information returns (Forms 1099R and 5498) indicate that gross distributions for taxpayers under age 55 are under-reported on Form 1040 by about twenty percent.

Analyzing early withdrawals using information returns comes with other complications, however. Form 1099R shows all distributions from qualified retirement accounts, and the various distribution codes make it possible to broadly characterize the distribution event.[4] In addition, Form 5498, which tracks contributions to IRAs, makes it possible to observe when taxpayers receive a (potentially taxable) distribution, but then avoid the tax and early withdrawal consequences by rolling the money into another qualified account within the allowed period. At the end of the day, however, there is no direct indicator in the information returns about whether a given pension distribution is actually "regular" income from a DB plan, as opposed to what we are trying to measure, which is early withdrawals.[5] Given the inability to directly separate withdrawals and cash out of lump-sum distributions from regular pension income, the analysis

[4] One type of event not captured in any tax reporting is job separation where the employee leaves the funds in their former employer's qualified plan.

[5] Sabelhaus and Weiner (1999) try to overcome the problem of distinguishing regular payments from lump sum distributions using the Form 1099R code for "full" versus "partial" distribution. That approach breaks down when an early withdrawal is made that does not exhaust an account, such as a partial IRA withdrawal. In the data used here, something like half of the distributions are "partial," which is much too high to be the non-DB share of distributions. This finding motivates an alternative strategy of looking at recurring versus single-event distributions (to be pursued in future work, as discussed at the end of this paper) for distinguishing regular payments from lump sum distributions.

here is focused on age groups less than 55, for whom regular DB payments are likely to be only a small fraction of total distributions.[6]

The top line number for studying early withdrawals from retirement accounts is the concept of a "gross" distribution. Gross distributions are all flows originating from qualified retirement plans for any reason. In 2010, about one-fourth of the taxpayers younger than 55 who had evidence of current pension coverage or retirement balances from past contributions experienced a gross distribution. Among those taxpayers experiencing a gross distribution, two-thirds of the tax payers had a taxable distribution, and about forty percent had a penalized distribution. In terms of dollars, about forty-three percent of the gross distribution amounts were taxable in 2010, and about twenty percent of the gross distributions were penalized.

Using the ratio of taxable to gross distributions as a measure of retirement account "leakage," one can say that in 2010 about two-thirds of taxpayers experiencing a gross distribution received at least some of the available funds as an early withdrawal, and just over forty percent of gross distribution amounts leaked out of retirement accounts.[7] This is consistent with the existing literature in the sense that we observe leakage for *most taxpayers* when a gross distribution event occurs but *most dollars* are preserved (rolled over to another qualified account) when a gross distribution event occurs. Using SCF data for 2010 to put these flows in perspective, total taxable withdrawals in 2010 were 1.4 percent of total labor income and 2.9 percent of account balances for the younger than 55 age group, and equal to almost half the value

[6] Although disentangling regular payments from lump sum distributions is problematic for taxpayers 55 and older, it is worth noting that the trend in taxable distributions for ages 55-59 and 60-64 in the 2004 to 2010 period are similar to those shown here for the younger than 55 age group.

[7] These percent leakage estimates are biased upwards because the tax data does not capture all of the events which lead to the possibility of leakage. In particular, if an employee separates and leaves their funds in their former employer's plan, there is an option to take an early withdrawal that is clearly not being exercised. As discussed at the end of this paper, one strategy to pursue in future work involves directly identifying job separations and thus potential distributions using the employer identification numbers on Form W2.

of total new contributions for that age group. Thus, at least in 2010, early withdrawals are quantitatively significant in terms of the impact on the overall retirement accumulation process.

The first set of questions motivating this paper concern whether early withdrawal behavior changed substantially in the period during and following the Great Recession. To study this, we use SOI cross-sections for 2004 through 2010. We expect that early withdrawals might have risen because the opportunity for access to funds increased, that is, more job separations in the latter period may have led to more gross distributions. Or, early withdrawals may have risen because the propensity to cash-out a given gross distribution or initiate a withdrawal increased. In fact, we find that the share of taxpayers with evidence of pension coverage experiencing gross distributions did increase between 2004 and 2010, and the ratio of taxable to gross distributions even more so, but the trends seem fairly modest relative to the base. The lack of a substantial trend in early withdrawal activity only serves to underscore the fact that early withdrawals (at least among the under 55 population) are important in every year from 2004 through 2010.

The second set of questions motivating this paper concern the possible factors associated with early withdrawals, in particular, the effects that demographic and economic shocks have on the probability of observing a taxable withdrawal. Two particular shocks are considered here. First, a taxpayer is said to have experienced a negative marital shock if they are a non-joint filer who was a joint filer within the past two years, or a joint filer who had a different co-filer in one of the past two years. Second, a taxpayer is said to have experienced an income shock if their non-pension income (AGI less taxable pensions, per-capita to adjust for shifts between joint and single filing) fell by more than ten percent from the prior year value. In 2010, approximately five percent of taxpayers under age 55 with evidence of pension coverage or retirement accounts experienced a negative marital shock, and just over twenty percent experienced an income shock.

Marital and income shocks both increase the likelihood of observing taxable withdrawals, even after controlling for age, filing status, presence of children, and the level of income itself. The effects of the shocks are strong in two sets of logistic regressions, each using different income level controls. The first set of regressions has dummies for deciles of current income (again, AGI less taxable pensions) and the second set of regressions uses dummies for deciles of a three year average (current plus two lags) of the same income measure. The regressions have full interactions between income levels and the two types of shocks, and the results indicate that income shocks are particularly noteworthy in terms of distributional consequences. Lower income taxpayers with evidence of pension coverage or retirement accounts are much more likely to have experienced income shocks, and slightly more likely to have a taxable withdrawal given that they experience the shock. This finding may help to explain why account balances at retirement for lower-income families are relatively small. That is, for any given level of contributions, lower-income families are more likely to experience leakage along the way.

The Great Recession raised the visibility of early withdrawals from retirement accounts as a potential public policy issue, but the circumstances also serve to remind us that not every pre-retirement withdrawal is a bad thing. Indeed, prior research has shown that the possibility of making emergency withdrawals is an important consideration underlying the decision to participate in the plan in the first place, and how much to contribute given the decision to participate.[8] In other words, the alternative to allowing pre-retirement withdrawals is not necessarily higher overall retirement account balances, because contributions may well have been lower in that counterfactual world.[9]

[8] See, for example, Munnell, Sundén, and Taylor (2000).
[9] For a general discussion of the policy issues surrounding withdrawals in the overall context of retirement plan design, see Congressional Research Service (2009), and Butrica, Zedlewski, and Issa (2010).

2. Measuring Early Withdrawals from Retirement Accounts

Self-directed retirement accounts became widespread during the past few decades. Most contributions to self-directed accounts occur through 401(k) and other types of workplace saving plans, but distributions from employer-sponsored plans are often rolled directly into Individual Retirement Accounts (IRAs) at job separation. Thus, there are three main routes through which pre-retirement leakage can occur. The first route is in-service withdrawals from active 401(k)-type plans, the second route is failure to rollover distributions from qualified plans at job separation, and the third route is withdrawals from IRAs or other qualified accounts that are associated with some past job, individual contributions, or rollover.

There is no single data source well-suited for studying flows into and out of retirement accounts, and data on early withdrawals is particularly problematic. The best survey data source for studying household-level retirement plan contributions and account balances in the U.S. is the triennial Survey of Consumer Finances (SCF), and the SCF also does a good job tracking "regular" pension income from DB-type plans.[10] However, the relatively low frequency of early withdrawal activity means that studying the dominant form of leakage (the failure to rollover "cash settlements" from prior jobs) with the relatively few observations in the SCF would involve substantial sampling variability. Also, potential problems with respondent recall and/or interpretation about the meaning of pension distributions seem to lead to reported gross and taxable distributions for pre-retirees that are below values found in the SOI tax data.

The data used to analyze early withdrawals in this paper comes from the SOI cross-section data files for the period 2004 to 2010. In order to capture and properly characterize

[10] One interesting observation about IRA withdrawals in the SCF speaks to more general problems associated with measuring retirement income in other household surveys. In 2004 the SCF questions about IRA withdrawals were moved from the income section to the IRA balances section, and the reported withdrawal amounts jumped dramatically. From 2004 onward the amount of IRA withdrawals in the SCF is orders of magnitude higher than in other household surveys.

retirement plan distributions, we match information returns associated with retirement plan distributions (Form 1099R) and contributions to IRAs (Form 5498) to the main Form 1040 data set. In principle, if taxpayers always filled in Form 1040 properly, the information returns are not necessary, because the key distinctions for what follows are whether a given gross distribution is ultimately taxable, and if it is taxable, whether it is also penalized.

In practice, based on Form 1099R information returns, taxpayers under the age of 55 fail to record about 20 percent of gross distributions in any given year on Form 1040.[11] Most of that non-reporting is inconsequential from a tax perspective, because (for example) a direct rollover to another qualified account has no implications for current-year taxes. It is worth noting that taxpayers also fail to report on Form 1040 about 6 percent of (what we infer to be) taxable distributions from Form 1099R, which may be an indicator of non-compliance.

Tracking of gross distributions for a given year is the starting point for the analysis of early withdrawals below (Table 1). In 2010, $1,281 billion was paid out of qualified plans, of which, $241 billion went to taxpayers under age 55. Not surprisingly, the lion's share of pension distributions went to people over the age of 55, and most of those distributions (94 percent of returns and 67 percent of dollars) are taxable in the current year. Those distributions include payments from traditional DB plans and withdrawals from IRAs or employer-sponsored accounts, so this measure is effectively capturing all forms of qualified retirement income.

The focus of this paper is on early withdrawals, so we concentrate on the group of taxpayers younger than 55. Of the $241 billion we estimate was paid out in gross distributions in 2010, 43 percent was taxable in the current year, and 20 percent was subject to penalty. The gap between the taxable and penalized amounts arises because there are situations in which taxpayers

[11] Throughout the paper taxpayer age is taken to be the actual age for single filers, and the older of the two ages on joint returns.

under the age of 55 can access funds without penalty, including certain hardship situations, new home purchase, and education. However, we cannot rule out the possibility that some of these distributions are from DB plans or inherited accounts where penalties would not apply.

Among the 12.4 million taxpayers younger than 55 who received gross distributions in 2010, 6.4 million had non-taxable distributions, and 8.1 million had taxable distributions. Obviously the sum of taxable and non-taxable returns (14.5 million) exceeds the number of returns with gross distributions, but that is because many returns have partially taxable distributions. Given receipt of a gross distribution, many taxpayers chose to rollover part of the balance, but also to cash-out part of the distribution.

Are these early withdrawal rates quantitatively important? In order to benchmark the withdrawal rates we focus on the group of taxpayers for whom early withdrawals may be an option, the reference group referred to throughout this paper as "having evidence of pension coverage" either past or present. In the SOI tax data, evidence of coverage comes from the presence of gross distributions on Form 1099-R or Form 1040, checking of the "pension coverage" box on Form W2, and IRA contributions on Form 5498. Given that definition, the SOI shows that 56 percent of taxpayers under the age of 55 had evidence of coverage or retirement account balances of some kind in 2010.

One can construct a comparable measure of pension evidence using the SCF. Families are flagged as having evidence of pension coverage if they carry a balance in an IRA account, if they reported a withdrawal from a current or future pension plan including 401ks and IRAs, reported a cash settlement in the survey year or the year prior, if the household reports current pension coverage, or if the household reports receiving income from a pension plan. In 2010, the SCF shows that 53 percent of families under age 55 had evidence of coverage. Indeed, the

patterns of coverage in the SOI and SCF are comparable across age sub-groups (less than 35, 35 to 44, and 45-54) and over the six year period 2004 to 2010 (Figure 1).

In 2010, the SOI shows that about one-fourth of the taxpayers younger than 55 who had evidence of current pension coverage or retirement balances from past contributions experienced a gross distribution. Among those taxpayers experiencing a gross distribution, two-thirds of the tax payers had a taxable distribution, and about forty percent had a penalized distribution. In terms of dollars, about forty-three percent of the gross distribution amounts were taxable in 2010, and about twenty percent of the gross distributions were penalized.

Using the ratio of taxable to gross distributions as a measure of early withdrawal propensity one can say that in 2010 about two-thirds of taxpayers experiencing a gross distribution received at least some of the available funds as an early withdrawal, and just over forty percent of gross distribution amounts leaked out of retirement accounts. These results are consistent with the existing literature in the sense that the SOI shows at least some leakage for *most taxpayers* when a gross distribution event occurs but at the same time *most dollars* are preserved (rolled over to another qualified account) when a gross distribution event occurs.

Using SCF data for 2010 to put these flows in perspective, total taxable withdrawals in 2010 were 1.4 percent of total labor income for the younger than 55 age group. Taxable distributions in the SOI summed to 2.9 percent of retirement account balances in 2010. Perhaps most telling, taxable distributions summed to almost half the value of total new contributions for the less than 55 age group; for every dollar that was contributed according to the SCF, 45 cents came out as a taxable distribution according to the SOI. Thus, at least in 2010, early withdrawals are quantitatively important in terms of the effect on the overall retirement accumulation process.

3. Early Withdrawals in the Era of the Great Recession

According to both SOI and SCF data, evidence of current pension coverage or retirement account balances for the population younger than 55 has trended down in recent years (Figure 1). This trend is potentially attributable to factors such as the loss of employer-sponsored pension coverage at job separation, depressed participation rates for those who are offered coverage, lower contribution rates by employers and employees who choose to participate, and poor returns on investments. The results of the last section suggest that early withdrawals may also be a quantitatively important part of the story, at least in 2010. In this section we consider trends in early withdrawals across the period leading up to, during, and subsequent to the Great Recession, using data from 2004 through 2010. We do see evidence of increased early withdrawal activity after 2007, but the dominant impression is one of substantial early withdrawal rates throughout the entire period.

There are two distinct channels of causality that may have led to an increase in early withdrawal activity. Early withdrawals might have risen because the opportunity for access to funds expanded if increased job separations in the latter period led to an increase in the incidence of gross distributions. Or, early withdrawals may have risen because the propensity to cash-out a given gross distribution or take a withdrawal increased. Evidence for the first possibility would generally show up as an increase in gross distributions, and evidence for the second possibility would generally show up as an increase in the ratio of taxable to gross distributions.

Early withdrawal activity trended upwards in the 2004 to 2010 period, and there is evidence for both increased opportunity to take withdrawals and increased propensity to access funds given the opportunity (Table 2 and Table 3). Both increases are best described as modest, however, and the increases in gross distributions are slow and steady over the six year period,

which is not consistent with changing economic circumstances after the onset of the Great Recession. There is some evidence that the propensity to cash out a given gross distribution did increase after 2007, however.

In 2004, 21.2 percent of taxpayers younger than 55 with evidence of pension coverage or retirement account balances experienced a gross distribution, and that fraction grew to 23.8 percent in 2010 (Table 1). The increase was slow and steady over the period, however, with 22.2 percent of taxpayers in the relevant group experiencing a gross distribution in 2007, the last full year before the Great Recession. In terms of dollars, the ratio of gross distributions to AGI grew from 3.9 percent in 2004 to 4.7 percent in 2010, but again, almost half of that increase occurred before the recession began (Table 2).

The time pattern of taxable withdrawals is different, however, especially when benchmarked against gross distributions in order to characterize how behavior with respect to accessible funds might have changed. In 2004, 63.0 percent of taxpayers failed to preserve at least part of their gross distribution in qualified accounts, and 37.4 percent of the dollars were taxable. Both of those ratios fell modestly between 2004 and 2007, by which time only 61.9 percent of taxpayers with gross distributions took at least some of the money in taxable form, and 34.7 percent of the dollars were taxable. Both ratios then increased with the onset of the recession, and by 2010, the (aforementioned) ratios of taxable to gross distributions were 65.2 percent for the number of returns, and 43.0 percent for the amount in dollars.

A cursory glance at the numbers suggests that although there was increased early withdrawal activity after 2007, those changes are best described as modest. In part this is because we are starting from a position of substantial early withdrawal activity in 2004, so a few percentage points increase does not seem dramatic. Thus, it is helpful to put these trends in early

withdrawals in perspective by characterizing the overall effect on the retirement account accumulation process.

SOI tax data is useful for studying early withdrawals, but the data are limited in terms of studying contributions and account balances, so we once again turn to the SCF in order to put the trends in perspective. The SCF collects data on both employer and employee contributions to DC-type pension plans, and overall contribution amounts in the data benchmark quite well against available aggregate control totals (Form 5500, federal TSP, and other sources). There are three SCF surveys that overlap the SOI data period, in 2004, 2007, and 2010. Thus, we can construct a measure of "net contributions" in each year using the contribution amounts from the SCF and the taxable withdrawal amounts from the SOI.

Net contributions to self-directed retirement accounts fell substantially for all age groups younger than 55 in the 2004 to 2010 period, with much of the decline coming after 2007 (Table 4). The numbers are presented relative to SCF labor income, which includes both wages and salaries but also regular draws from businesses in which the respondent self-reports at least part ownership. The overall net retirement contribution rate for the less than 55 age group fell from 2.5 percent of labor income in 2004 to 2.3 percent in 2007 and 1.7 percent in 2010. Viewed differently, taxable withdrawals were 45 percent of new contributions in 2010, and 30 percent in 2004. The decline in net contributions is attributable to both lower contributions and increased withdrawals, with most of the withdrawal change occurring after 2007. Finally, the apparent effect of the Great Recession on early withdrawal rates is evident for all three age groups, which suggests there is an important role for economic shocks in terms of explaining early withdrawal behavior.

4. Factors Associated with Early Withdrawals

The uptick in early withdrawals from retirement accounts after 2007 suggests that economic shocks may be playing an important role in the decision by younger families to tap into their retirement resources. In this section we investigate that proposition directly, by constructing a measure of micro-level "income shocks," and showing that measure is strongly associated with early withdrawals. We also construct a measure of negative "marital shock," and show that too has a quantitatively important effect on taxable withdrawals. These effects hold even after controlling for the level of income and basic demographics, and interactions between the shocks, income levels, and the effects of shocks on taxable withdrawals come together to help to explain why lower-income families are less likely to ultimately accumulate retirement balances for any given level of contributions.

Constructing measures of income and marital shocks obviously requires changes over time, and we adopt a new strategy for measuring those changes using tax data. We begin with the same SOI cross-section data used to study trends in the last section—focusing for now on just the year 2010—and then access the Compliance Data Warehouse (CDW) master file in order to get the lagged values for incomes and other variables needed to construct the shocks for the taxpayers in the sample. Advantages of this approach (relative to building a panel and tracking taxpayers over time) include maintaining a representative cross-section in the reference year (2010 in this case) and being able to look at changes over time from the perspective of both the primary and (on joint returns) secondary filers. The sample we use has roughly 115,000 observations for the relevant population.

The specific income shock measure constructed for these experiments is a decline in (non-pension) AGI by 10 percent or more between 2009 and 2010. Because we are working

across a population with some single filers and some joint filers, we construct a per-capita (actually, per-filer) income measure for the purpose of computing changes. The per-capita income measure excludes taxable pensions, because we want to capture the event that triggers a taxable withdrawal event. In the SOI data, just over 20 percent of the less than 55 population with evidence of pension coverage or retirement accounts experienced the income shock generated by these criteria (Table 4). For comparison, the same rough percentage of the population we are studying in the SCF reported their current income was 10 percent or more below their "normal" income in 2010.

The specific marital shock measure constructed for this analysis is trying to capture recent divorce, separation, or widowing. Non-joint filers in 2010 who filed jointly in the two years prior to 2010 and joint filers who filed with a different co-filer in the two years prior to 2010 are characterized as having experienced a negative marital shock. Using those criteria, we find about 6 percent of the population we are studying experienced a negative marital shock (Table 4).[12] Again, we can compare the overall incidence of marital shocks to self-reported values from the SCF, and we find that the fraction of the population we are studying who report being divorced, widowed, or separated within the past two years is very close.

Before investigating the role of shocks in explaining taxable withdrawals, it is useful to first look at how the shocks vary with income levels. The first column in each panel of Table 4 shows the incidence of income and marital shocks by current (per-capita, non-pension) income. The incidence of income shocks is greatly skewed towards the bottom, which makes sense, because taxpayers who experienced a large reduction in (non-pension) income during the past year are obviously more likely to show up at the bottom of the current (non-pension) income distribution, even if they offset their reduced income by taking a taxable withdrawal. The

[12] On joint returns, either the primary or secondary could have experienced a negative marital shock.

incidence of marital shocks is much more balanced across income groups, though again the fraction experiencing a marital shock is largest for the lowest income group.

The correlation between income shock and current-year income level motivates an alternative income classifier for both looking at the distribution of shocks and to use as an alternative control variable for income levels in the withdrawal equations estimated below. The alternative measure is a three year average of income (same per-capita non-pension measure) including the current year and two lag values. As when measuring income change, the three-year average accounts for changes in within-person filing status by dividing any joint return values by two. For example, a single person in 2010 with AGI of $25,000 who was married in 2009 and had AGI of $50,000 would show up in this measure as having experienced no change.

The average income classifier does shift more of the income shock incidence away from the bottom of the distribution, but it is still clear that lower-income families were more likely to have experienced income shocks than the middle of the distribution, by a factor of almost two to one. Interestingly, the incidence of negative income shocks in 2010 for the highest income decile exceeds the incidence in the middle of the distribution, especially when taxpayers are classified using the three-year average income. The distribution of marital shocks by income changes only slightly under the new classifier.

These observations about the relationship between incidence of shocks and income levels are important for two reasons. First, if experiencing income and/or marital shocks leads to increased early withdrawal activity, and shocks are more likely to be experienced by particular income groups, that will help explain why taxable withdrawals differ across income groups. Second, it is possible there is an additional correlation between the probability of shock *response* and income *level* given that a shock occurs, for example, lower income taxpayers may be more

likely than higher-income taxpayers to respond to a given shock by accessing their retirement accounts. Exploring both possibilities requires clarity about the income classifier being used to make the inference.

The framework used to disentangle the possible inter-relationships between income levels and the various shocks is a logistic regression of taxable withdrawal incidence on some basic controls, income levels, and income interacted with both shocks. The population is, as above, taxpayers under the age of 55 with evidence of pension coverage or retirement account balances. The basic controls are six dummies for age and filing status (less than 35, 35 to 44, and 45 to 54, interacted with joint and non-joint filing), presence of kids (home and away from home separately), and a full set of interactions between dummies for ten income deciles and the two shocks. The regressions are estimated first using the current income concept, and then again using the three-year average measure.[13]

The income and shock measures constructed using lagged data from the CDW are strongly correlated with the probability of a taxable withdrawal (Table 6 and Table 7). In 2010, 16 percent of tax units overall in the population being studied had taxable withdrawals, but among those experiencing neither a marital or income shock, the predicted incidence from the logistic equation based on the current income classifier is 12 percent. Among those experiencing just the income shock, the predicted incidence of early withdrawal is 28 percent, and among those experiencing just the marital shock, the overall predicted incidence is 17 percent. The predicted incidence for taxpayers experiencing both shocks is 27 percent, suggesting slight negative correlation in the responses.

[13] Regression results are available from the authors upon request. Not surprisingly, given the large sample size, everything is highly significant.

The goal of interacting the shock measures with income was to investigate differential responses across income groups. Absent any shocks, taxpayers in the lowest income decile are more likely than others to take an early withdrawal, at a predicted incidence of 15 percent (relative to 12 percent for the entire population). The lowest income group is almost much more likely than other income groups to take a taxable withdrawal when they experience an income shock, at 35 percent. However, the effect of income shocks is consistent and powerful across all income groups, with the predicted incidence of taxable withdrawals more than doubling for every group except the highest income decile when income shocks occur.

Although marital shocks also raise the probability of withdrawal, the overall effect is more muted, and the relative effects across income groups are similar. For all but the highest income decile, marital shocks alone raise withdrawal probabilities by a factor of about 1.5. The effect of concurrent income and marital shocks is dominated by the income shock, and thus the joint-shocks column looks much like the just income shock column.

The results are more muted when looking at withdrawal responses across taxpayers classified by the three-year average income measure. Predicted withdrawals absent any shocks are much flatter across income deciles, though the pattern is still one of higher withdrawal rates at lower incomes. This carries through to the shock-response columns. As before, the relative effects of the shocks is similar across income groups, with income shocks more than doubling withdrawal probabilities and marital shocks raising probabilities by a factor of about 1.5. Also, as with the current income classifier, the top income decile is the least responsive to shocks, which is expected given that taxable withdrawals are being used to fund current purchases, and higher-income families are less likely to need retirement funds to meet those needs.

5. Conclusions

Early withdrawals from retirement accounts increased during the Great Recession and its aftermath, but to some extent the trend seems muted because early withdrawal activity was substantial in every year between 2004 and 2010. For families headed by someone younger than age 55, about 45 percent of total new contributions to retirement accounts in 2010 were offset by early withdrawals, but that number was 30 percent in 2004, and some of that increase is attributable to declining contributions. The analysis here of factors associated with early withdrawals in 2010 suggests that propensities to receive cash-outs or to take taxable withdrawals is higher for lower-income families, because lower-income families are much more likely to experience the sorts of shocks that lead to withdrawals and slightly more likely to take a withdrawal when they experience those shocks. These findings may help to explain why the observed cross-section distribution of retirement account balances—even within the covered population, and relative to contributions—is skewed towards higher income families.

The finding that early withdrawals are strongly correlated with income shocks seems at odds with the finding that early withdrawals did not surge in the Great Recession, because the presumption is that many more families experienced negative income shocks after 2007. One possibility is that the idiosyncratic income shocks affecting families with pension accounts are present to a large extent in all of the years 2004 to 2010, and thus one important next step in this research agenda is estimating the distributions of income and marital shocks and the logistic response equation for those earlier years, and comparing to the 2010 results. It may be that recession-related income shocks differentially affected non-covered families (almost half of the under 55 tax filing population is uncovered), but one cannot rule out the possibility that taxable withdrawals *given income shocks* actually went down during the Great Recession.

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Figure 1. Evidence of Retirement Accounts or Pension Coverage, Ages <55

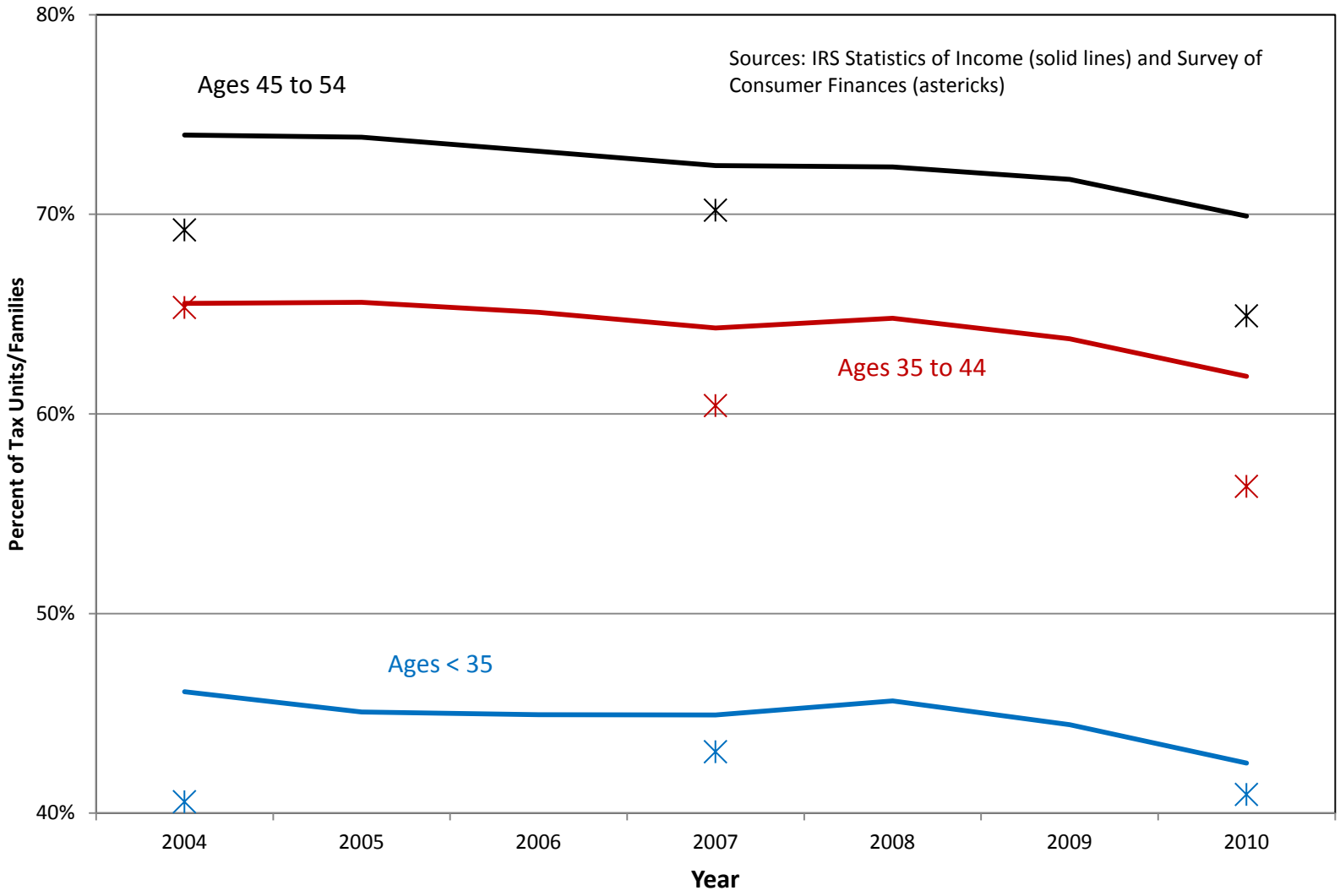

Table 1. Gross, Taxable, and Penalized Retirement Account Distributions, 2010

	All Returns		Ages < 55		Ages 55+	
	Millions of Returns	**Billions of Dollars**	**Millions of Returns**	**Billions of Dollars**	**Millions of Returns**	**Billions of Dollars**
Gross Distributions	38.5	$1,281.2	12.4	$241.0	26.1	$1,040.2
- Non Taxable Distributions	18.0	466.7	6.4	134.3	11.6	332.4
Direct rollovers to other qualified accounts	4.0	292.4	2.3	92.5	1.7	199.8
Indirect rollovers to other qualified accounts	0.5	37.5	0.3	10.9	0.2	26.6
Non-taxable distributions from Roth accounts	0.3	4.1	0.1	0.5	0.2	3.6
Return of after-tax contributions to qualified accounts	9.2	57.1	1.5	11.1	7.7	46.0
Section 1035 exchanges	0.3	22.3	0.1	2.6	0.2	19.7
Other non-taxable distributions	1.1	27.0	0.2	6.0	0.9	20.9
= Taxable Distributions	32.5	804.4	8.1	104.3	24.4	700.0
Non-Penalized	29.3	746.6	5.2	57.1	24.1	689.6
Penalized	5.7	57.7	4.9	47.3	0.8	10.5
Addendum:						
Taxable as a Percent of Gross	*85%*	*63%*	*65%*	*43%*	*94%*	*67%*
Penalized as a Percent of Gross	*15%*	*5%*	*39%*	*20%*	*3%*	*1%*

Source: IRS Statistics of Income. Age based on older of primary or secondary for joint returns, excludes dependent filers.

Table 2. Incidence of Pension and IRA Distributions, 2004 to 2010, Ages <55

	2004	2005	2006	2007	2008	2009	2010
Number of Tax Units	**87.7**	**88.7**	**90.1**	**93.0**	**91.9**	**90.6**	**92.8**
Tax Units with Evidence of Retirement Accounts or Pension Coverage	**52.4**	**52.6**	**53.0**	**54.2**	**53.9**	**52.2**	**51.6**
Percent of all Tax Units	*59.8%*	*59.3%*	*58.8%*	*58.3%*	*58.7%*	*57.7%*	*55.6%*
Tax Units with Gross Distributions	**11.1**	**11.1**	**11.6**	**12.0**	**12.3**	**12.1**	**12.3**
Percent of all Tax Units	*12.7%*	*12.5%*	*12.9%*	*13.0%*	*13.4%*	*13.3%*	*13.2%*
Percent of Tax Units with Retirement Accounts or Pension Coverage	*21.2%*	*21.1%*	*21.9%*	*22.2%*	*22.8%*	*23.1%*	*23.8%*
Tax Units with Taxable Distributions	**7.0**	**7.0**	**7.1**	**7.5**	**7.4**	**7.5**	**8.0**
Percent of all Tax Units	*8.0%*	*7.9%*	*7.8%*	*8.0%*	*8.0%*	*8.3%*	*8.6%*
Percent of Tax Units with Retirement Accounts or Pension Coverage	*13.4%*	*13.3%*	*13.3%*	*13.7%*	*13.7%*	*14.4%*	*15.5%*
Percent of Tax Units with Gross Distributions	*63.0%*	*63.1%*	*60.9%*	*61.9%*	*60.1%*	*62.3%*	*65.2%*
Tax Units with Penalized Distributions	**4.2**	**4.0**	**4.2**	**4.5**	**4.6**	**4.7**	**4.8**
Percent of all Tax Units	*4.7%*	*4.5%*	*4.7%*	*4.9%*	*5.0%*	*5.2%*	*5.2%*
Percent of Tax Units with Retirement Accounts or Pension Coverage	*7.9%*	*7.7%*	*7.9%*	*8.4%*	*8.5%*	*9.1%*	*9.3%*
Percent of Tax Units with Gross Distributions	*37.3%*	*36.4%*	*36.3%*	*37.6%*	*37.5%*	*39.2%*	*39.2%*

Source: IRS Statistics of Income.

Notes: All tax unit counts are reported in millions, age based on older of primary or secondary for joint returns, excludes dependent filers.

Table 3. Dollar Amounts of Pension and IRA Distributions, 2004 to 2010, Ages <55

	2004	2005	2006	2007	2008	2009	2010
Total Gross Distributions	**$175.6**	**$187.3**	**$208.6**	**$226.0**	**$212.3**	**$192.7**	**$239.1**
Percent of Total Adjusted Gross Income	3.9%	3.9%	4.1%	4.2%	4.1%	4.0%	4.7%
Total Taxable Distributions	**$65.8**	**$68.0**	**$73.9**	**$78.5**	**$81.8**	**$82.4**	**$102.9**
Percent of Total Adjusted Gross Income	1.5%	1.4%	1.5%	1.5%	1.6%	1.7%	2.0%
Percent of Gross Distributions	37.4%	36.3%	35.4%	34.7%	38.6%	42.8%	43.0%
Total Penalized Distributions	**$29.5**	**$30.8**	**$34.9**	**$39.7**	**$42.1**	**$42.0**	**$46.8**
Percent of Total Adjusted Gross Income	0.7%	0.6%	0.7%	0.7%	0.8%	0.9%	0.9%
Percent of Gross Distributions	16.8%	16.4%	16.7%	17.6%	19.8%	21.8%	19.6%

Source: IRS Statistics of Income.

Notes: All tax unit counts are reported in millions, age based on older of primary or secondary for joint returns, excludes dependent filers.

Table 4. Net Contributions to Retirement Accounts, 2004, 2007, and 2010, Ages <55

	2004	2007	2010
All Tax Units/Families Ages <55			
Retirement Contributions as a Fraction of Labor Income	3.5%	3.4%	3.2%
- Taxable Distributions as a Fraction of Labor Income	1.0%	1.1%	1.4%
= Net Contributions as a Fraction of Labor Income	2.5%	2.3%	1.7%
Tax Units/Families Ages 45-54			
Retirement Contributions as a Fraction of Labor Income	3.8%	3.8%	3.6%
- Taxable Distributions as a Fraction of Labor Income	1.0%	1.1%	1.4%
= Net Contributions as a Fraction of Labor Income	2.7%	2.7%	2.2%
Tax Units/Families Ages 35-44			
Retirement Contributions as a Fraction of Labor Income	3.6%	3.4%	3.1%
- Taxable Distributions as a Fraction of Labor Income	1.5%	1.6%	2.1%
= Net Contributions as a Fraction of Labor Income	2.1%	1.8%	1.0%
Tax Units/Families Ages <35			
Retirement Contributions as a Fraction of Labor Income	2.9%	2.6%	2.4%
- Taxable Distributions as a Fraction of Labor Income	0.8%	0.9%	1.2%
= Net Contributions as a Fraction of Labor Income	2.1%	1.7%	1.3%

Sources: IRS Statistics of Income and Survey of Consumer Finances.

Notes: Age based on older of primary or secondary for joint returns, excludes dependent filers.

Table 5. Distribution of Income and Marital Shocks Across Income Groups 2010, Ages <55

Income Decile	Percent with Income Shocks Tax Units Sorted by: Current Year Income	Percent with Income Shocks Tax Units Sorted by: Three Year Average Income	Percent with Marital Shocks Tax Units Sorted by: Current Year Income	Percent with Marital Shocks Tax Units Sorted by: Three Year Average Income
1	57.3%	33.9%	7.8%	6.0%
2	33.4%	26.9%	5.9%	6.7%
3	24.4%	23.0%	5.7%	5.9%
4	20.9%	22.2%	5.6%	5.7%
5	16.2%	19.1%	5.6%	6.5%
6	13.7%	18.2%	5.4%	6.2%
7	12.6%	16.4%	5.6%	5.3%
8	12.2%	17.2%	5.4%	5.8%
9	11.2%	16.8%	5.6%	5.5%
10	13.3%	21.4%	5.6%	4.5%
All	21.5%	21.5%	5.8%	5.8%

Source: Statistics of Income

Notes: Income shocks and income for sorting based on per capita AGI less taxable pensions. Population is all tax units with evidence of pension coverage or retirement accounts. Income shock is defined as a decline of 10 percent or more below the previous year value. Marital shock is defined as a movement from joint to non-joint filing or filing with a different co-filer within past two years.

Table 6. Early Withdrawal Rates by Current Year Income Decile and Shock Status, 2010, Ages <55

Income Decile	All Tax Units	Neither Income or Marital Shock	Just Income Shock	Just Marital Shock	Both Income and Marital Shocks
1	27%	15%	35%	25%	38%
2	18%	12%	29%	18%	29%
3	18%	12%	32%	18%	33%
4	16%	13%	28%	13%	21%
5	15%	12%	30%	12%	22%
6	15%	12%	30%	19%	31%
7	13%	11%	25%	15%	23%
8	13%	11%	28%	19%	33%
9	13%	12%	26%	14%	22%
10	12%	11%	16%	20%	20%
All	16%	12%	28%	17%	27%

Source: Statistics of Income

Notes: Income shocks and income for sorting based on per capita AGI less taxable pensions. Population is all tax units with evidence of pension coverage or retirement accounts. Income shock is defined as a decline of ten percent or more relative to the prior year value. Marital shock is defined as a movement from joint to non-joint filing or joint filing with a different co-filer within past two years. Withdrawal rates shown are based on a logistic equation controlling for age, filing status, presence of children, dummies for income deciles, and full interactions between income and marital shocks and income decile dummies. Estimated parameters available upon request.

Table 7. Early Withdrawal Rates by Three Year Average Year Income Decile and Shock Status, 2010, Ages <55

Income Decile	All Tax Units	Neither Income or Marital Shock	Just Income Shock	Just Marital Shock	Both Income and Marital Shocks
1	19%	13%	28%	22%	33%
2	17%	12%	29%	16%	28%
3	17%	12%	32%	13%	26%
4	17%	12%	33%	18%	35%
5	16%	12%	32%	14%	28%
6	16%	12%	32%	16%	30%
7	15%	12%	32%	17%	33%
8	14%	11%	27%	20%	33%
9	15%	11%	30%	20%	36%
10	13%	11%	21%	15%	20%
All	16%	12%	30%	17%	30%

Source: Statistics of Income

Notes: Income shocks and income for sorting based on per capita AGI less taxable pensions. Population is all tax units with evidence of pension coverage or retirement accounts. Income shock is defined as a decline of ten percent or more relative to the prior year value. Marital shock is defined as a movement from joint to non-joint filing or joint filing with a different co-filer within past two years. Withdrawal rates shown are based on a logistic equation controlling for age, filing status, presence of children, dummies for income deciles, and full interactions between income and marital shocks and income decile dummies. Estimated parameters available upon request.