

## **Lecture Notes 7: Saving Incentives**

(reference: Poterba, Venti and Wise, "How Retirement Saving Programs Increase Saving," JEP 1996.)

A 1996 volume of the JEP included this paper by Poterba, Venti & Wise (PVW) detailing the argument for government-funded saving incentives and a competing paper by Engen, Gale & Scholz (EGS) arguing against saving incentives. In the next two classes we'll review and discuss this heated and influential debate.

### **Growth of IRAs and 401(k)s**

IRAs became available to all employees in the US after 1982. Annual IRA contributions were \$5 billion in 1981, and increased to \$38 billion by 1986.

TRA86 limited tax-deductibility of contributions for families with incomes > \$40,000/yr. By 1994, only \$7.7 billion was contributed to IRAs.

401(k)s were only available to employees whose firms offered them. 401(k) contributions were roughly 0 at the start of the '80s, and they increased to \$63 billion by 1992, with 25% of families contributing.

TRA86 increased the contribution ceiling from \$30,000 to \$7000 for 1987, and the ceiling was indexed to inflation thereafter.

By 1992, contributions to these two plans implemented in the early '80s were \$81 billion, and contributions to traditional employer-provided plans were \$ 64 billion. PVW ask whether the rapid rise in saving incentive account values represents new savings.

## **The problem with determining the amount of new saving induced by saving incentives**

(excerpted from PVW 1996) ‘The key impediment to determining the saving effect of IRA and 401(k) plans is saver heterogeneity. Some people save and others don’t, and the savers tend to save more in all forms.... Thus, a continuing feature of our analyses has been the use of different methods to control for heterogeneity.’

PVW use several approaches to control for saver heterogeneity, and based on their findings they conclude that much of IRA and 401(k) contributions represent new saving.

## **Following households over time at the outset of the IRA program**

Venti and Wise (1995) (VW) follow households over 2 waves of the SIPP, and observe changes in savings when saving incentive program participation changes.

VW find that there is little change in other financial asset saving when households either begin or stop contributing to IRAs. When families who didn’t contribute in 1984 began to contribute in 1985, their non-IRA financial saving declined by only \$193 from 1984-5. Since the typical family IRA contribution saving increase was \$2413 in 1985, this decline in other financial asset saving seems small.

Additionally, median accumulated financial assets before first IRA contribution was \$4000. The families’ typical savings clearly had not been as great as their initial IRA contributions.

In 1992, VW use SCF data from 1983 and 86 to compare non-IRA assets of contributors as their IRAs accumulate. Table 1 summarizes their results.

Median non-IRA financial assets for the group (comprised of contributors only) were \$9,400 in 1983. From '83 to '86, median non-IRA financial assets grew from \$9,400 to \$13,500, a greater increase than would be predicted based on age, income and rate of return alone. The median value of IRA assets increased from \$1,000 to \$7,000 over the same period. VW conclude that the new IRA savings do not represent substituted saving that would have occurred absent the IRAs.

PVW note that Table 1 uses the same data employed by Gale and Scholz (1994). We will return to the comparison of these studies later in our discussion.

### **Within-group comparisons**

PVW (1994, 1995) group households according to measures of saving propensity. They take IRA contribution and 401(k) contribution and/or eligibility as measures of saving propensity.

PVW use SIPP data on IRA, 401(k) and other financial assets observed in 1984, 1987 and 1991. The groups have similar demographic characteristics (eg age, income) over the 3 waves, and would thus be expected to have similar asset balances without differing lengths of exposure to the saving incentives characterizing the groups.

Table 2 reports asset amounts by group over the period of observation. Consider families with IRAs who are ineligible for 401(k)s. Their total financial assets grew from \$20,686 to \$27,094 from '84 to '91, but their non-IRA assets were virtually unchanged, at \$13,098 in '84 and \$13,355 in '91.

Similarly, families with IRAs who were eligible for 401(k)s show an increase in median total financial assets from \$37,882 to

\$44,432, and no decline in non-IRA/401(k) financial assets, which went from \$16,881 to \$17,212.

The overall pattern observed by PVW is a marked increase in IRA and 401(k) assets, with no noticeable reduction in other financial asset saving.

PVW also consider savings patterns for families that did not have IRAs or 401(k)s. Among those with no IRAs who didn't participate in 401(k)s, median financial assets declined from \$1060 to \$939 over the period. Among those with no IRAs who were ineligible for 401(k)s, median financial assets went from \$1261 to \$1210 over the period.

PVW note that these non-participating groups differ systematically from those considered in Table 2. They consider the overall distribution of assets in 1984 and 1991, and find that higher levels of total financial assets in 1991 than in 1984 were evident throughout the asset distribution among IRA and 401(k) participants, and across the distribution there was no marked change in non-IRA/401(k) assets from 1984 to 1991.

There was a fall over time at all points in the asset distribution of non-participants.

PVW conclude that the data on SIPP groups over time indicates an increase in IRA/401(k) saving without an offsetting decrease in non-IRA/401(k) financial assets.

### **Criticism of EGS 1994: composition fallacy**

PVW note that EGS look at the savings of two groups: (a) all 401(k) participants and (b) IRA participants not eligible for 401(k)s.

EGS find that the total financial assets of all 401(k) participants fall from '87 to '91, and that the total financial assets of non-401(k) eligible IRA participants increase over the period.

PVW argue that their approach of comparing savings behavior *within* participation groups over time is preferable to the EGS approach of comparing the changes over time for a participation group *between* groups.

PVW argue that the composition of the treatment group, 401(k) participants, to a control group of IRA participants in EGS is invalid, as IRA holders are a far more select group of savers than are all 401(k) participants. The 401(k) participation rate among households has been as high as 60%, while the IRA participation rate never topped 16%. Thus, PVW claim that we should expect baseline saving for the two groups to differ substantially.

Additionally, PVW argue that all of the change in total financial assets for the IRA-only group comes from increases in their IRAs. There was virtually no change in their non-IRA assets over the period. PVW claim that EGS use changes in IRA values to demonstrate a lack of a 401(k) effect on saving.

Finally, PVW report that the composition of the 401(k) eligible group changed over the period. In 1987, those with IRAs were 47.6% of the group, while in 1991 they were 37.1%. Since IRA savers generally more, this composition effect may be driving the decrease in savings among 401(k) savers.

### **401(k) eligibility as an experiment**

If workers whose firms offer 401(k)s are similar to those whose firms do not, then this eligibility experiment allows us to compare the savings of similar households with and without 401(k)s.

PVW report that early in the program, in 1984, the ratio of median non-IRA, non-401(k) assets of eligibles to ineligibles was 1. This is cited as evidence that households in both groups had similar saving behavior at the start of the program.

By 1987, the eligible-ineligible total financial asset ratio was 1.62, and by 1991 it was 2.22. Table 3 shows median total financial assets of eligibles and ineligibles by income category. The large difference in total financial assets reported is due to 401(k) holdings; there is virtually no difference in non-401(k) financial assets between the groups

PVW conclude that this demonstrates a substantial effect of 401(k)s on the accumulation of financial assets.

EGS criticism of the 401(k) experiment: Recall that EGS argue that employees who find employers that offer 401(k)s differ systematically in saving propensity from those who don't.

PVW respond by arguing that EGS use a single variable in a regression to control for income across the sample, while PVW look at income by interval, and that EGS cite only a statistically insignificant difference in median financial assets of \$173 between eligibles and ineligibles.

### **Cohorts and the Effects of Retirement Saving Programs**

VW (1996) compare individuals who are demographically similar, except that they reach the same age in different calendar years. The time difference is intended to isolate the effect of different lengths of exposure to the saving incentive programs at the same age.

Table 4 illustrates VW's results. The mean financial assets, in 1991 \$'s and controlling for income, age, education and marital

status, for those reaching age 60-64 in 1984 was \$42,250. For those reaching 60-64 in '91 it was \$50,419. The increase is accounted for almost entirely by personal retirement saving, which goes from \$5,118 to \$14,156 from '84 to '91.

Looking only at families who participated in retirement saving programs, median total financial assets went from \$34,975 to \$50,182. Median retirement plan assets for the group went from \$8,171 to \$22,148, and other financial assets decreased only slightly (\$22,983 to \$21,528) over the period.

PVW conclude that retirement saving vehicles have substantially increased real savings over the period, with little evidence of offset in non-saving incentive plan financial saving.

PVW believe that the cohort analysis is the most convincing of the manners of controlling for saver heterogeneity, as it is not susceptible to the problems of systematic saving propensity differences among 401(k) eligibles and ineligibles, or the problem of IRA participants choosing to open IRA accounts because of a new intention to save. The cohort estimates consider participants and nonparticipants together and compare families who differ on in the year at which they reach a given age.

PVW note the potential problem of differences in the saving propensities of cohorts 5 years apart. They argue that this is implausible, given that they observe no cohort effects in non-retirement plan saving and in the saving of nonparticipants.

Finally, note that PVW 1996 includes a general comparison of their results and those of EGS (pp106-111), which I recommend to you.