

Long-Run Changes in Tax Expenditures on 401(k)-Type Retirement Plans

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*The findings, interpretations and conclusions expressed in this paper are entirely the authors and do not necessarily represent the views of the US Department of the Treasury.

Retirement Tax Expenditures

- Retirement expenditures are measures to be among the costliest
 - tax deferral of contributions to retirement accounts
 - tax deferral of account earnings
 - Additional tax credit to low and middle income households (Saver's Credit)
- Tax expenditure on 401(k)-type plans is largest of retirement tax expenditure

Why Retirement is Different

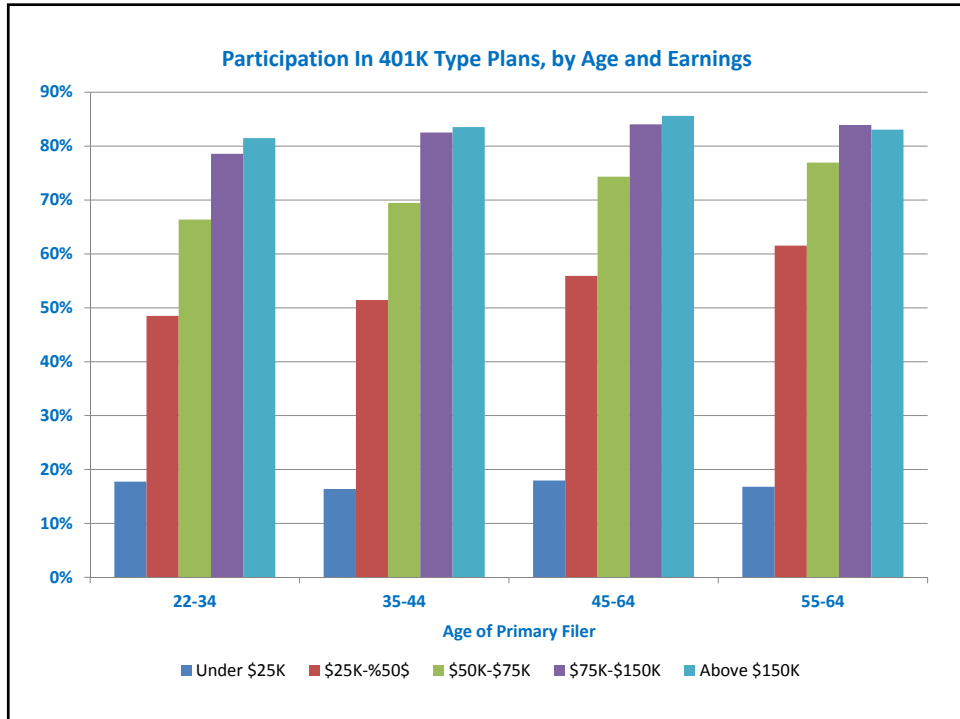
- Unlike many tax expenditures, tax revenue is eventually collected when 401(k)-type accounts are distributed
 - Retirement tax preferences are often considered a consumption tax rather than a tax expenditure
- Retirement tax expenditure measures foregone revenue from contributions and earnings deferral less revenue from distributions
 - Rollovers from 401(k) plans to IRAs make it difficult to track the cost of the deferral
 - Distributions and contributions are from different cohorts
 - DC plan contributions are outpacing distributions, which, along with short budget windows, make expenditure seem costlier

What we do

- Goal of paper is to show the measurement issues with retirement tax expenditures due to its long-run nature
 - Compare differences in estimates when time horizon is extended past budget window
 - Highlight sensitivity of cost estimates to assumptions regarding the future
 - Think of issues in the context of a policy change
- Demonstrate that slightly different assumptions can produce broad range of cost estimates over a long-horizon
- Important to consider when exploring changes in retirement tax expenditures to fill budget gaps

Measuring the Flow of Money

- To gain a sense of the cost of tax-preferences for 401(k)-type plans, we simulate revenue flows over time under simplifying assumptions
 - We use the 2008 CWHS sample of tax returns and match their contributions from W2 forms
 - We impute employer contributions based on age, gender, income, and employee contributions using the SIPP data



Mean Contributions Primary+ Secondary Filers (Conditional on Contributing), by Earnings

| Total Earnings | 401(k) | 403(b) | SEP | 457(b) | Roth 401(k) | Roth 403(b) |
|--|------------------|-----------------|----------------|-----------------|----------------|----------------|
| Less than \$25,000 | 782 | 1,523 | 580 | 1,096 | 937 | a. |
| \$25,000 to \$49,999 | 2,003 | 2,370 | 1,905 | 2,364 | 1076 | 2,990 |
| \$50,000 to \$74,999 | 3,665 | 3,592 | 2,973 | 3,226 | 1942 | 1,990 |
| \$75,00 to \$149,999 | 6,679 | 4,945 | 5,323 | 5,042 | 3640 | 3,230 |
| \$150,000 or more | 15,002 | 10,654 | 5,798 | 9,902 | 8344 | 11,699 |
| Total | 4,800 | 4,445 | 3,608 | 4,067 | 3127 | 4,078 |
| Total Contributions (Primary + Secondary) | \$170.1 B | \$28.1 B | \$0.5 B | \$13.0 B | \$2.1 B | \$0.2 B |

a. – Too few observations to report value

Tracking 2008 Contributions

- We follow the government's cost from a single year's contribution (2008)
 - Track costs from contributions made in 2008 until distributed in retirement
- Assumptions
 - People retire at age 65
 - Distribute the balance at retirement as an annuity over ten years
 - For example – A 60 year old person in 2008 would accumulate earnings for 5 years and then distribute the total balance over 10 years in equal payments
 - Tax rates are fixed at 2008 levels

Measuring Components of Revenue Over Time

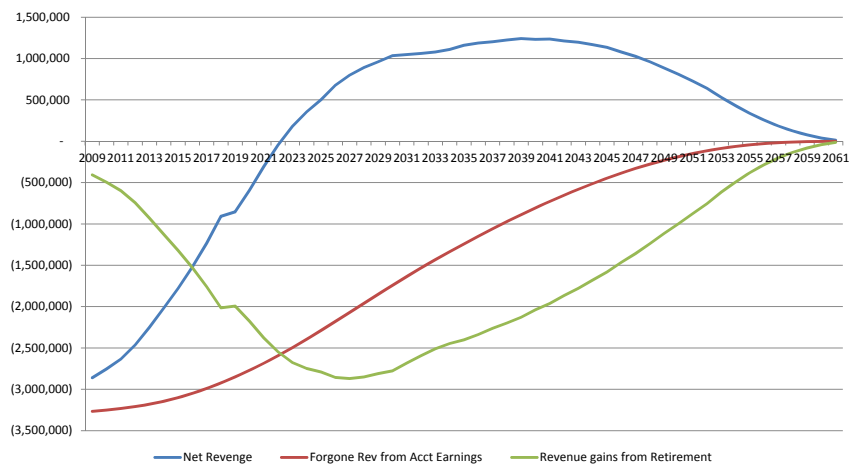
- Immediate loss in income tax revenue in 2008

$$L_{2008} = [\text{Employer} + \text{Employee Contributions}] * mtr$$
- Tax loss due to deferral of earnings on contribution (pre-retirement) at time t (after 2008)

$$\text{Deferral}_t = L_{2008} * (1+r)^{(t-1-2008)*r}$$
- Revenue collected due to distributions

$$R_t = \text{Distributions}_t * mtr$$

Example: Net Present Value Revenues From 2008 Contributions, 2009 - 2061
All Filers, Rate of Return = 4%, 4% Discount Rate



Net Present value-Tax Expenditure over Different Time Horizon

| Year | Revenue NPV | Revenue |
|------------------|--------------------|--------------------|
| 2008 | -\$84.9 Bil | -\$84.9 Bil |
| 2009-2013 | -\$13.0 Bil | -\$14.5 Bil |
| 2009-2018 | -\$20.4 Bil | -\$24.6 Bil |
| 2009-2061 | \$8.8 Bil | \$-84.9 Bil |
| 2008-2061 | -\$76.1 Bil | 0 Bil |

Table 2: Tax Expenditure: Net Present Value of 401(k)-type plans Using 2008 Contributions
 2008 Marginal Tax Rates Held Constant, (Millions \$)

| Rate of Return (%) | Discount Rate (%) | | | | |
|--------------------|-------------------|---------|---------|---------|---------|
| | 0 | 2 | 4 | 6 | 8 |
| 0 | 0 | 30,502 | 48,215 | 59,018 | 65,911 |
| 2 | 0 | 39,078 | 59,761 | 71,166 | 77,689 |
| 4 | 0 | 51,675 | 76,132 | 87,835 | 93,380 |
| 6 | 0 | 70,689 | 99,970 | 111,297 | 114,785 |
| 8 | 0 | 100,129 | 135,590 | 145,171 | 144,701 |

Net Present Value for Different Marginal Tax Rate Assumptions (\$ Million)

| Rate of Return - Discount Rate | Discount rate = 4% | | | Rate of Return = 4% | | |
|--------------------------------|--------------------|---------------------------|----------------------|---------------------|---------------------------|----------------------|
| | MTR constant | MTR changes in Retirement | MTR changes with Age | MTR constant | MTR changes in Retirement | MTR changes with Age |
| 0 | 48,215 | 53,715 | 53,715 | 0 | 21,881 | 27,814 |
| 2 | 59,761 | 66,848 | 67,684 | 51,675 | 65,731 | 69,427 |
| 4 | 76,132 | 85,449 | 87,865 | 76,132 | 85,449 | 87,865 |
| 6 | 99,970 | 112,431 | 117,825 | 87,835 | 94,219 | 95,871 |
| 8 | 135,590 | 152,473 | 163,488 | 93,380 | 97,901 | 99,079 |

Possible Policy Changes to Limit 401(K)-type plans Expenditure

- Limit in 2008 was \$15,500 for individual and overall contribution limit was \$44,000
- For people 50 and over, catch-up contributions limit is \$5,000
- Potential Policy: Cap all (employer + employee) contributions at \$10,000

Figure 1: Fraction of Contributors Made Worse off by Imposing a \$10,000 Cap on Total Contributions

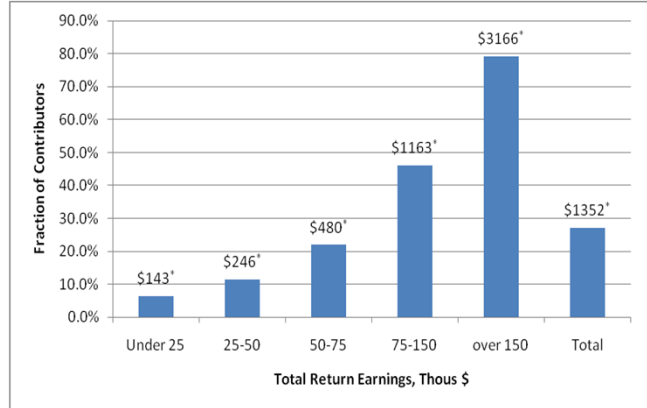


Table 6: Change in Net Present Value of 401(k)-type plans when Limiting 2008 Total Contributions to \$10,000 (\$ Million)

| Rate of Return (%) | Discount Rate (%) | | | | |
|--------------------|-------------------|---------|---------|---------|---------|
| | 0 | 2 | 4 | 6 | 8 |
| 0 | -5,284 | -9,856 | -12,687 | -14,513 | -15,736 |
| 2 | -7,287 | -12,543 | -15,524 | -17,275 | -18,335 |
| 4 | -10,331 | -16,392 | -19,434 | -20,962 | -21,711 |
| 6 | -15,038 | -22,023 | -24,935 | -25,983 | -26,181 |
| 8 | -22,430 | -30,423 | -32,835 | -32,961 | -32,212 |

- 2008 Marginal Tax Rates Held Constant; Average Marginal Tax Rate Post-Retirement

Policy considerations

- Potential Behavior when Capping contributions
 - Taxpayers transferring funds from 401(k)-type plans to non-taxable account
 - Shifting from DC to DB
 - How would states react?
- Behavioral considerations could also apply to alternative policy options such as moving to a credit

Conclusions

- Because the tax expenditure on 401(k) type plans is a deferral and not an exclusion, reducing the tax expenditure in the current period also reduces the positive stream of revenue in the future
 - This additional loss in revenue occurs outside the budget horizon and therefore can be overlooked
- Lowering retirement savings today could have adverse effects on other portions of the budget
(e.g. increased dependence on Medicaid)
- Lowering the contribution limits to retirement accounts primarily impacts high income people