

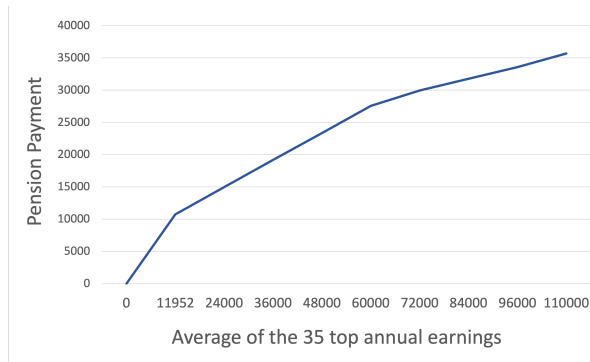
Reforming US SS: No Quarter Credits Limit

Ole Agersnap and Francisco Cabezon

October 19, 2023

US Social Security: Pensions

- ▶ Year earnings pay a SS tax (12.4%) with a cap (\approx \$100k)
- ▶ When you reach retirement age (62-65) you can retire.
- ▶ Pension is given by a concave function of the average of your top 35 years earnings:



US Social Security: Pensions

- ▶ But to receive your pension, there is an extra requirement: to have more than 40 quarter credits at retirement.
- ▶ Quarter Credit: awarded to annual earnings (y_t) that are above a limit (L_t). Maximum of 4 per year.
- ▶ Number of credits (qc_t) earned in year t :

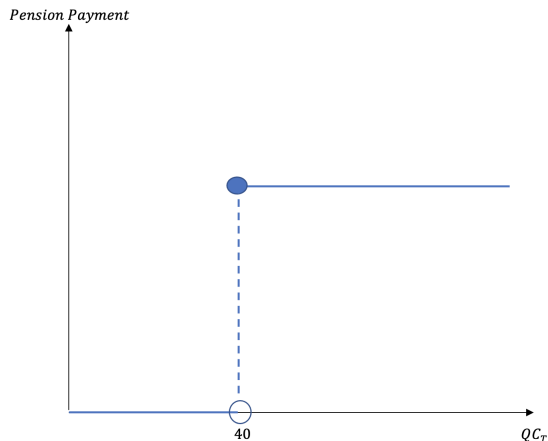
$$qc_t = MIN \left\{ \frac{y_t}{L_t}, 4 \right\}$$

- ▶ And the number of quarter credits (QC_T) at retirement are given by the sum of you earned during your active life:

$$QC_T = \sum_{t=1}^T qc_t$$

US Social Security: Pensions

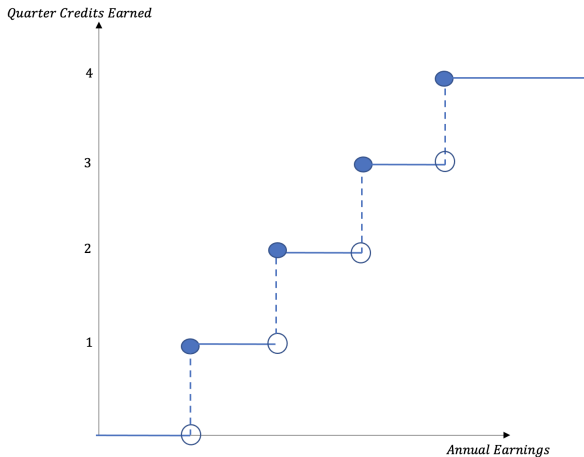
- ▶ How does pension payment look with respect to accumulated quarter credit:



- ▶ Large discontinuity in pension payment at 40 QC.

US Social Security: Pensions

- ▶ How are quarter credit are accumulated?



- ▶ Discontinuity in 1, 2, 3 and 4 QC limits.

US SS: Reform

- ▶ Proposal: Eliminate the 40 QC requirement, make pension payment universal.
- ▶ To evaluate we need two things:
 1. Who would receive the transfer? (Recipients of Mechanical Transfer)
 2. How earnings would respond to the change? (Behavioral Response)

US SS: Data

- ▶ SSA administrative panel data: 1% random sample of all SSN issued until 2006.
- ▶ Variables:
 - ▶ Demographics: Sex, DoB.
 - ▶ Earnings: Annual earnings since 1951 until 2006.
 - ▶ Quarter credits earned in each year since 1951.
 - ▶ Quarter credits accumulated before 1951.

US SS: Reform

- ▶ Proposal in the data:

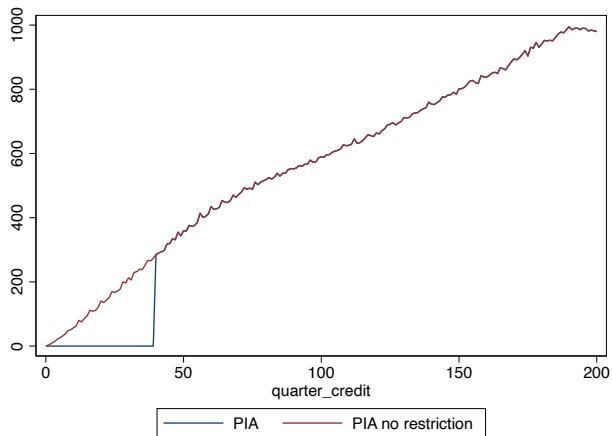


Figure: Average Pension Payment per accumulation of Quarter Credits

- ▶ Difference in PV for the average worker at 39 QC is \$67.820.

Reform: Behavioral Response

- ▶ Fiscal Externality of proposal is given by behavioral response.
- ▶ No QC requirement, less incentive to generate earnings, less SS tax payment.
- ▶ Discontinuities allow to use bunching.
- ▶ Two types of discontinuities:
 1. At quarter credit level: 39 vs 40.
 2. At earnings limit to earn quarter credit.
- ▶ With bunching we can compute local elasticity, which is the relevant one for our proposal.

Reform: Behavioral Response

- ▶ Bunching at 40 quarter credits.

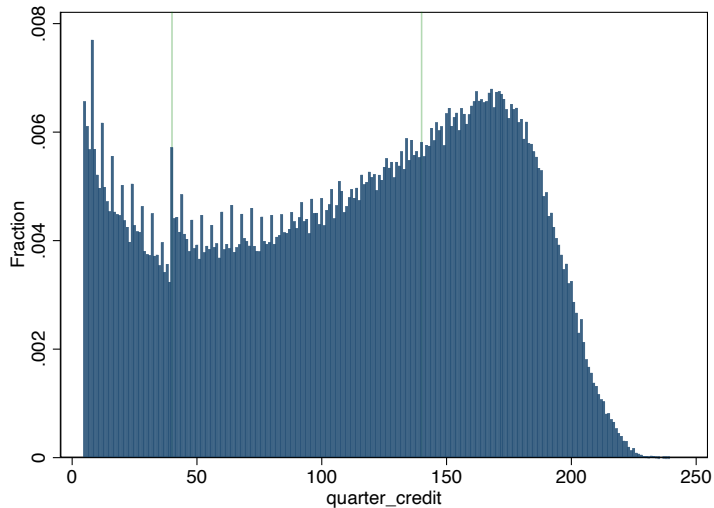


Figure: Distribution of Accumulated Quarter Credits at retirement

Reform: Behavioral Response

- Bunching at 40 quarter credits for both male and females.

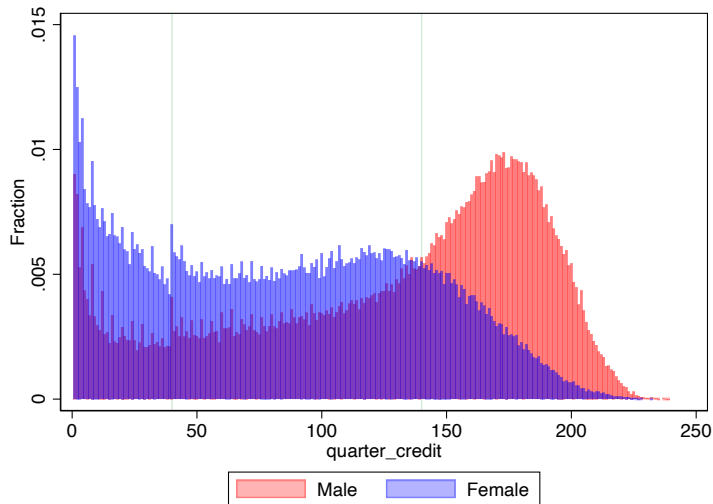


Figure: Distribution of Accumulated Quarter Credits at retirement splitted by sex

Reform: Behavioral Response

- ▶ Bunching at wage for those older than 60 and QC between 30 and 40:

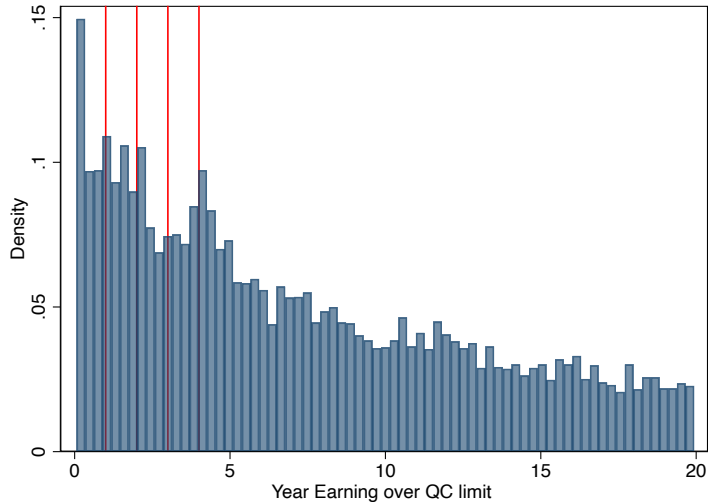


Figure: Wage Bunching for those older than 60 years old and QC between 30 and 40

Reform: Behavioral Response

- ▶ No wage bunching for those younger than 60:

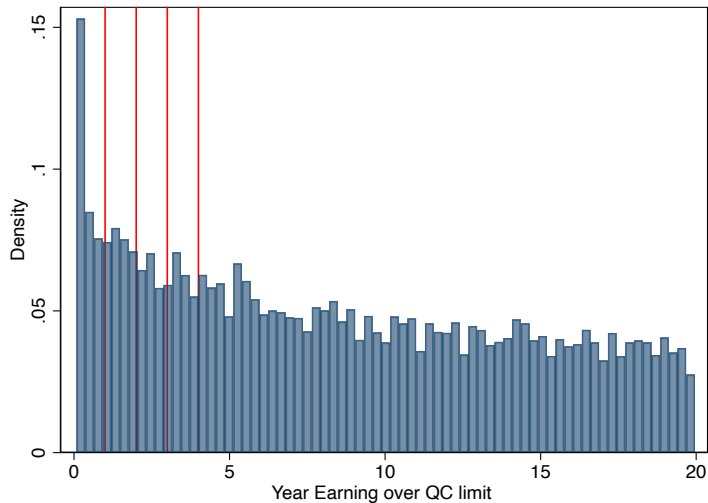


Figure: Wage Bunching for those younger than 60 years old and between 30 and 40 QC

Reform: Behavioral Response

- ▶ No wage bunching for those with more than 40 QC:

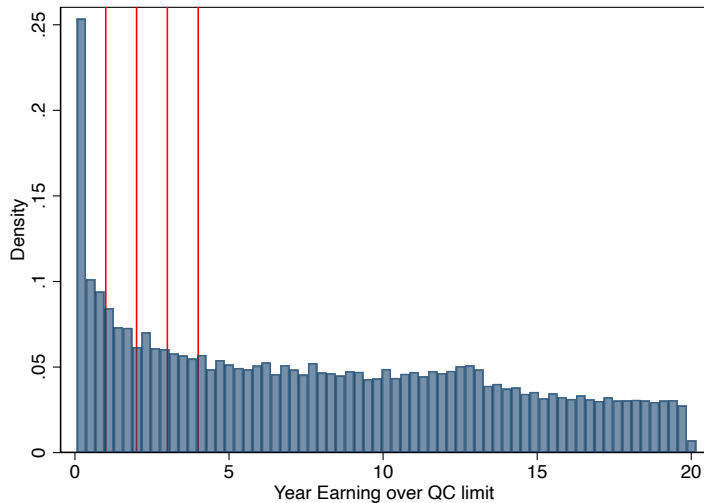


Figure: Wage bunching of those older than 60 and with more than 40 QC

Reform: Behavioral Response

- ▶ No (less?) wage bunching for those with less than 20 QC:

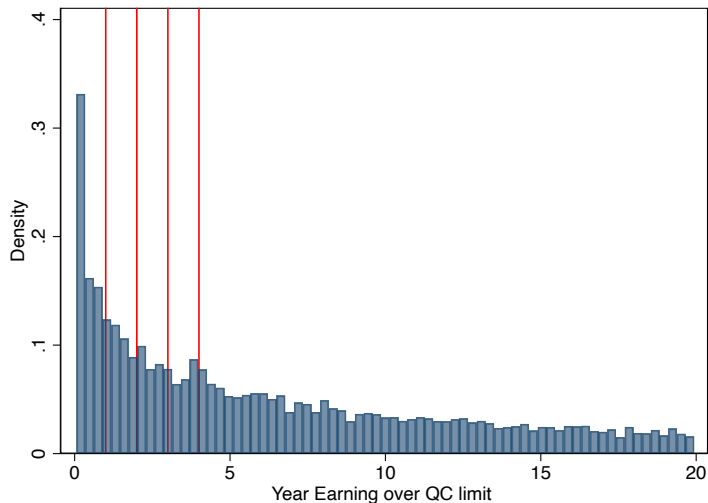


Figure: Wage Bunching for those older than 60 years old and less than 20 QC

Reform: Behavioral Response

- ▶ No (less?) wage bunching for those with less than 20 QC:

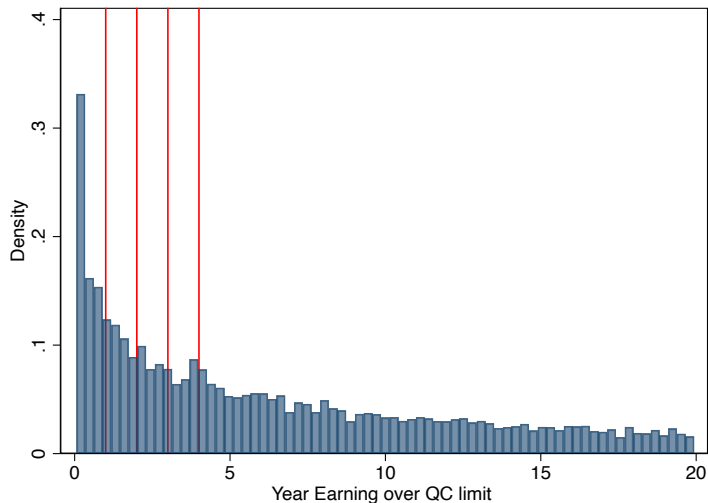


Figure: Wage Bunching for those older than 60 years old and less than 20 QC

Reform: Receivers of Transfer

- ▶ Is $(\$1+FE)$ on government pocket more socially desirable than \$1 extra dollar in the pocket of people below the cut-off?
- ▶ Who have less than 40 QC?
 1. Low income
 2. Females

Reform: Receivers of Transfer

- ▶ Stylized facts:
 - ▶ Women aged 80 and older had the highest poverty rate among elderly (13.5%, 18.6% for those living alone).
 - ▶ Poor among elderly women aged 65 and older: 4.3% of married women, 13.9% of widows, 15.8% of divorced women, and 21.5% of never-married women.
 - ▶ Elderly poverty by race: 6% of whites, 18.6% African American.

Reform: Receivers of Transfer

- Positive earnings distribution by accumulated quarter years (4 QC):

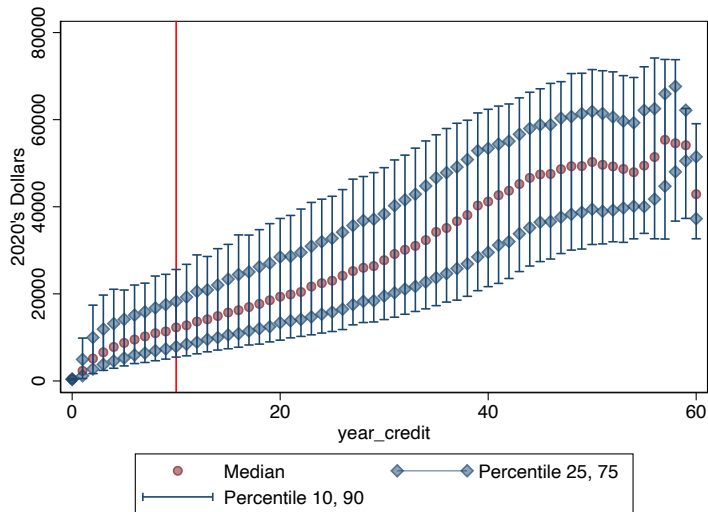


Figure: Distribution of positive earnings for each level of quarter credits at retirement.

Reform: Receivers of Transfer

- ▶ Extensive or intensive margin?
- ▶ Years of positive earnings:

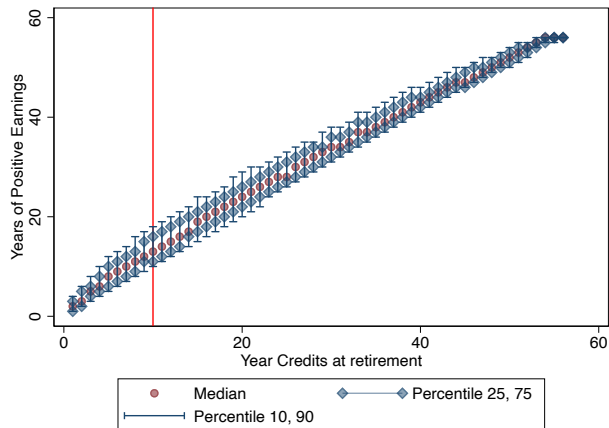


Figure: Distribution of number of years with positive earnings by each level of quarter credits at retirement.

Reform: Receivers of Transfer

- ▶ Extensive or intensive margin?
- ▶ Quarter credits accumulated by years of positive earnings:

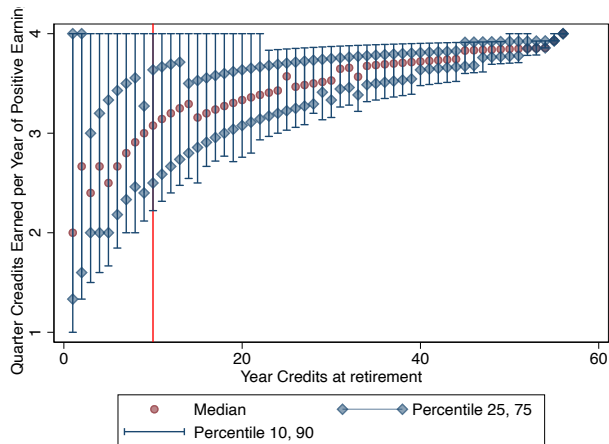


Figure: Distribution of QC earned by year of positive earnings by each level of quarter credits at retirement.

Reform: Receivers of Transfer

- ▶ Further characterization through surveys. (SIPP-SSA, PSID, etc)

Alternative Approach

- ▶ Gender Gap on Pension Payment Generated by Policy.
- ▶ Female gender gap in pension payment: 40%
- ▶ Three components:
 1. Less earnings
 2. Less amount of positive earnings
 3. 40 QC restriction: 64% of the workers below the cut-off are females.