

NTA accounts by subgroups in Mexico

Iván Mejía-Guevara
Department of Demography, UC Berkeley
imejia@demog.berkeley.edu

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SES definition

- ▶ Turra-Queiroz(2006):

 - group 1: 0-4 years of education

 - group 2: 5-8 years of education

 - group 3: 9-11 years of education

 - group 4: 12+ years of education

- ▶ Mexico (Mejía)

 - group 1: 0-6 years of education (elementary school - 'primaria')

 - group 2: 7-9 years of education (junior high - 'secundaria')

 - group 3: 10-12 years of education (high school - 'preparatoria')

 - group 4: 13+ years of education (university or college - 'profesional'; graduate - 'maestría o doctorado')

SES definition...

instruction (in Spanish)	grade	equivalence	years of instruction
ninguno	0	none	0
preescolar	1-3	none	0
primaria	1-6	elementary school	1-6
secundaria	1-3	junior high	7-9
preparatoria	1-3	high school	10-12
normal	1-4	university or college	>12
carrera técnica	1-4	high school or college*	10-12 or >12
profesional	1-6	university or college	>12
maestría	1-4	graduate	>12
doctorado	1-3	graduate	>12

* 'high school' is assigned if the person finished junior high education and 'college' if high school accomplished.

Population adjustment (post-stratification)

$$F_p(x) = \frac{pop_a(x)}{pop_s(x)}$$

$F_p(x)$: sampling fraction for population age x ,

$pop_A(x)$: actual population age x ,

$pop_S(x)$: sampling population age x .

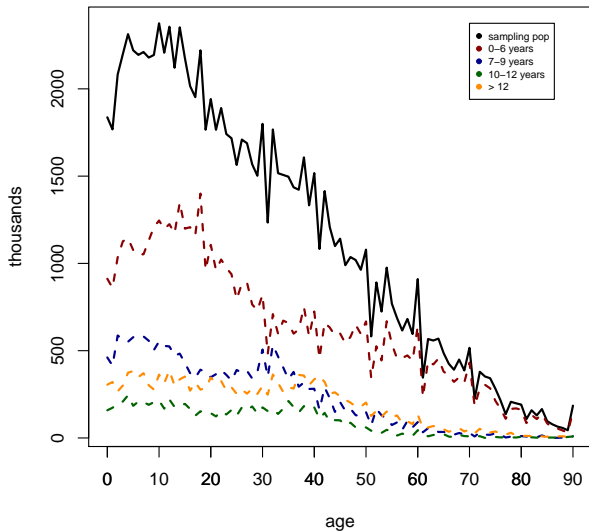
Subgroups population:

$$pop_A^k(x) = pop_S^k(x) * F_p(x)$$

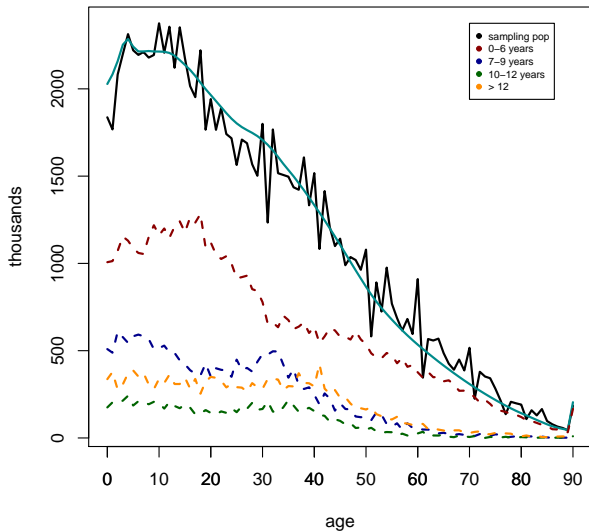
$pop_A^k(x)$: actual population age x for the subgroup k ,

$pop_S^k(x)$: sampling population age x for the subgroup k .

Sampling population and subgroups: Mexico 2004



Actual population and subgroups: Mexico 2004



NTA age profiles

$$\bar{y}(x) = \frac{\sum_{i=1}^{n(x)} W_i(x) y_i(x)}{\sum_{i=1}^{n(x)} W_i(x)},$$

$\bar{y}(x)$: mean value by age for NTA account y ,

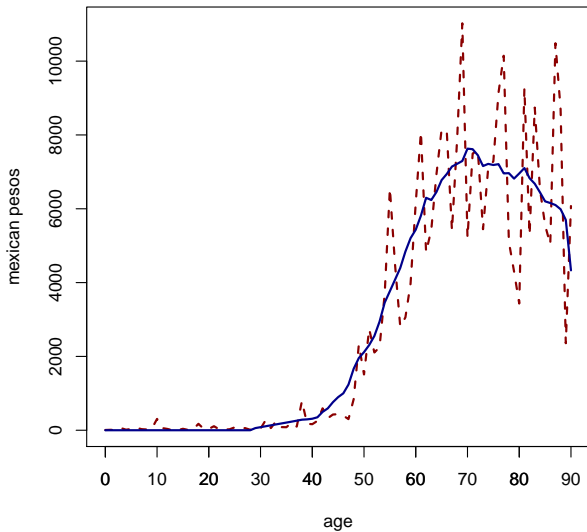
$y_i(x)$: NTA accounts for an individual i age x ,

$W_i(x)$: sampling weight for the subgroups of age x ,

$N_x = \sum_{i=1}^{n(x)} W_i(x)$: sampling weight for the subgroups of age x .

NTA age profiles: public pensions

tgsoa 2004



NTA age profiles by subgroups

$$\bar{y}_d(x) = \frac{\sum_{i=1}^{n_d(x)} W_{id}(x) y_{id}(x)}{\sum_{i=1}^{n_d(x)} W_{id}(x)},$$

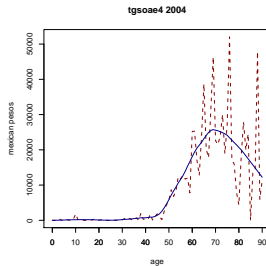
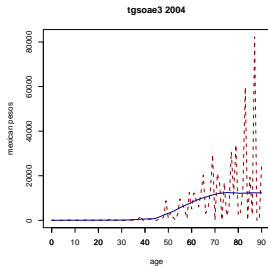
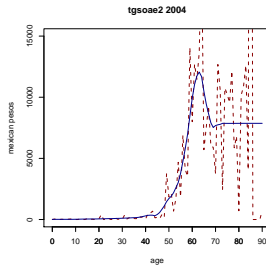
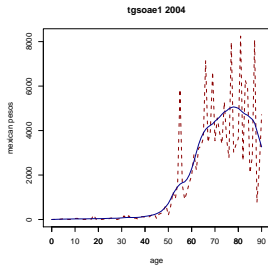
$\bar{y}_d(x)$: mean value by age for NTA account y in the subgroup d ,

$y_{id}(x)$: NTA accounts for an individual i age x that belongs to the subgroup d ,

$W_{id}(x)$: sampling weight for the individual i in the subgroup d of age x ,

$N_{xd} = \sum_{i=1}^{n_d(x)} W_{id}(x)$: total individuals in the subgroups d of age x .

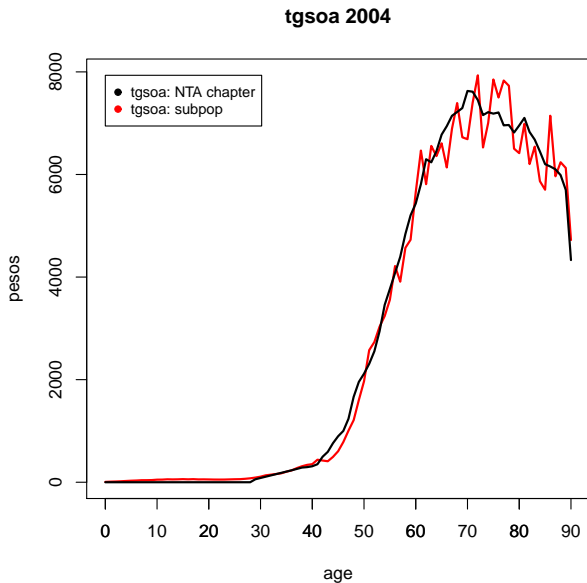
NTA age profiles by subgroups...



NTA age profile: weighted mean by subgroup

$$\bar{y}(x) = \sum_{d=1}^D \frac{N_{dx}}{N_x} \bar{y}_d(x),$$

Weighted subgroups vs. original age profile: pub. pensions



Adjustment of subgroup age profile to the original age profile

$$F_p(x) = \frac{\text{prof}_A(x)}{\text{prof}_S(x)}$$

$F_p(x)$: sampling fraction of the age profile,

$\text{prof}_A(x)$: actual age profile,

$\text{prof}_S(x)$: subpopulation age profile (weighted mean).

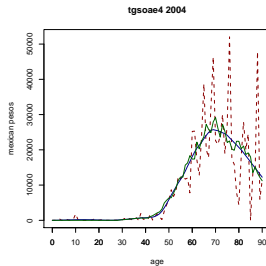
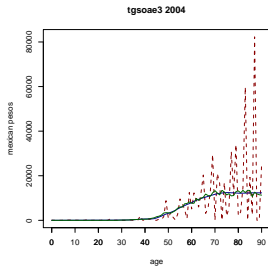
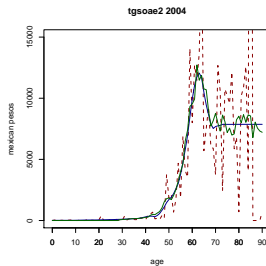
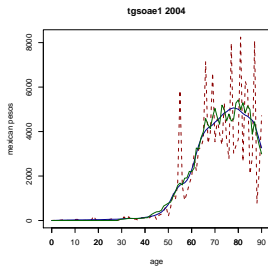
Subgroups age profile adjustment:

$$\text{prof}_A^k(x) = \text{prof}_S^k(x) * F_p(x)$$

$\text{prof}_A^k(x)$: final age profile for the subgroup k ,

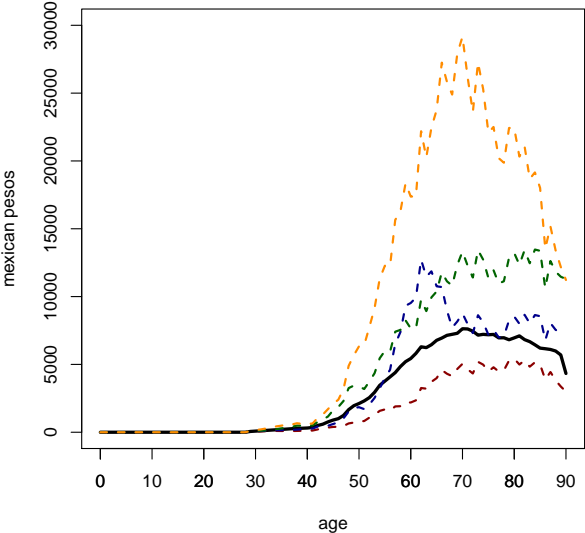
$\text{prof}_S^k(x)$: age profile for the subgroup k .

Adjustment by subgroup...

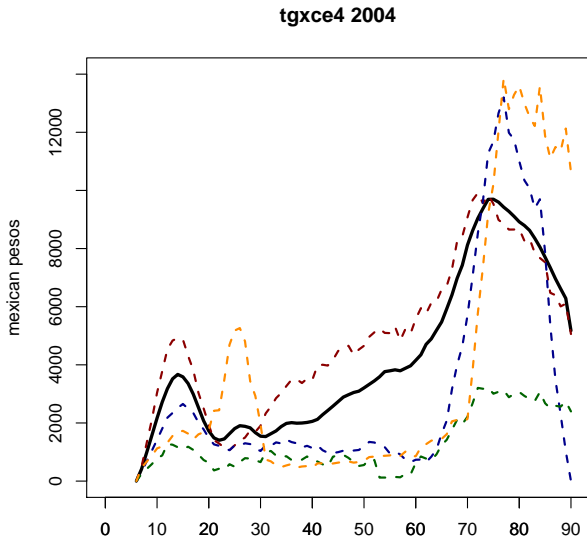


Final PENSION age profiles by subgroup

tgsoa 2004

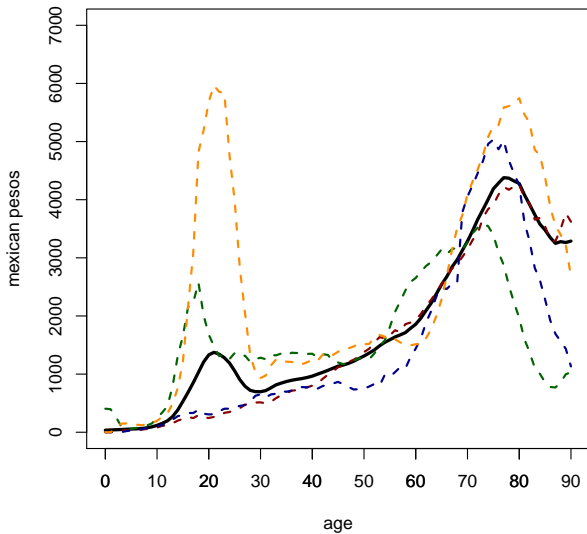


Public cash transfers by subgroups (Oportunidades and PROCAMPO)

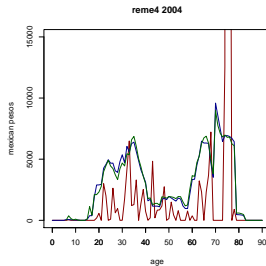
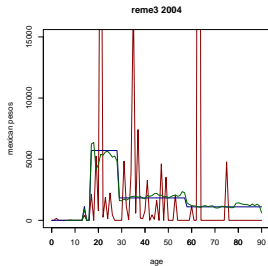
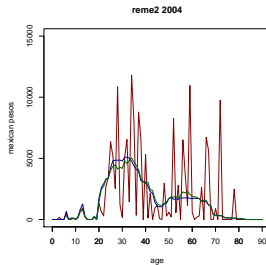
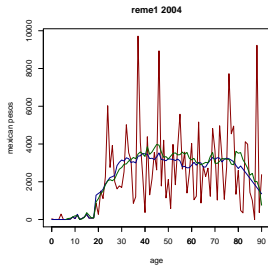


Inter household (inflows) transfers by subgroups

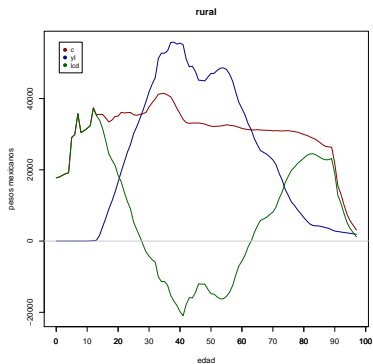
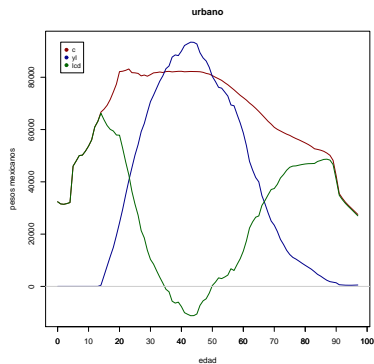
tfbie4 2004



Bad sample in subgroups: remittances by subgroups



Lifecycle deficit by geographic stratification (2004)



Lifecycle deficit by socioeconomic index (2004)

