Grandfathers Matter Too: The Effect of a Transfer Program for the Elderly in Mexico on the School Enrollment of Children

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ABSTRACT

Using Mexican data from ENIGH, we find that public transfers paid to elderly men have a positive impact on the school enrollment of children age 6 to 18, whereas those paid to elderly women have no significant effect.

JEL codes: *I2, J1*

Keywords: *School enrollment, old-age public transfers, intrahousehold allocation*

1. Introduction

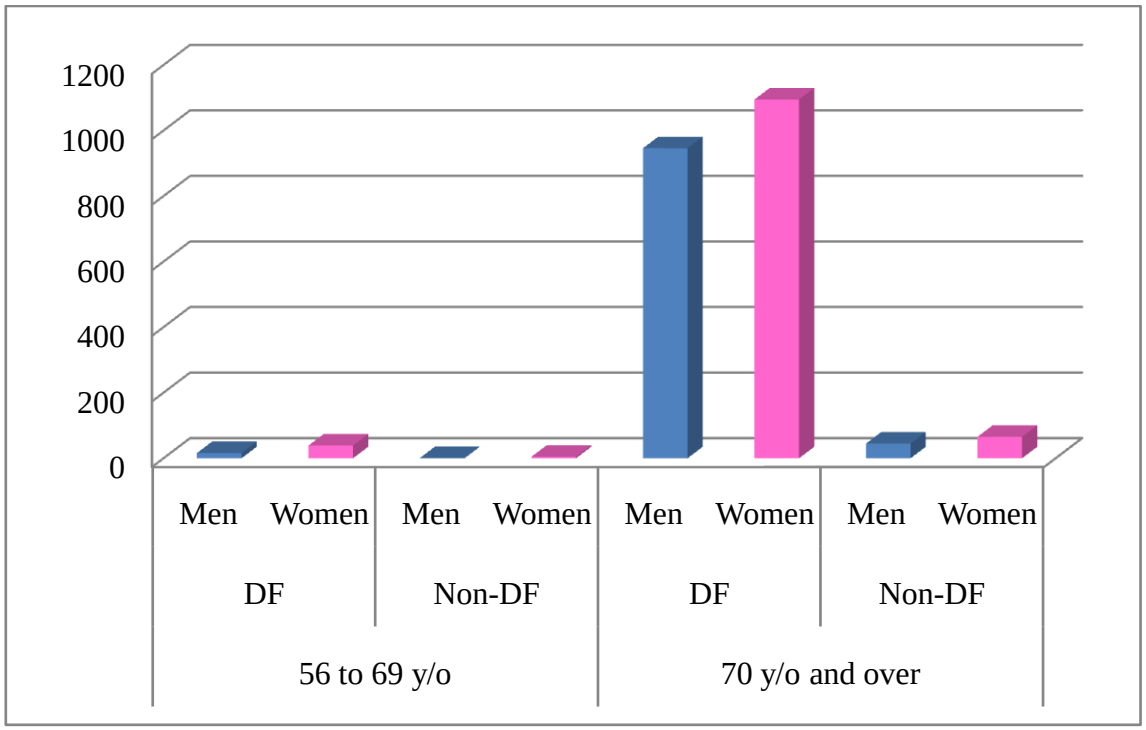
We exploit the introduction of a cash transfer program for individuals age 70 and older in Mexico City, *Pensión Alimentaria para Adultos Mayores* (Nutrition Transfer for Senior Adults), to test whether the recipient's gender affects children's school enrollment. With data from the ENIGH 2004, 2006 and 2008 rounds, we compare the school enrollment of children living in households with and without age-eligible men and women in Mexico City after the program's implementation. We find that for children age 6 to 18, living with a male beneficiary has a positive effect on school enrollment, whereas living with a female beneficiary has no significant effect. Thus, in contrast with some previous studies, transferring resources to men can also have a positive effect on children's outcomes.

2. The Nutrition Transfer for Senior Adults Program (PAAM-DF)

PAAM-DF is a state-wide program –announced in 2001, but fully operational until 2003 – that pays a cash transfer of about 75 USD per month to individuals age 70 and older who live in Mexico City (Distrito Federal, DF). The transfer is conditioned exclusively on age and having at least three years of residence in DF.

Figure 1 shows the average government transfers received per month by urban individuals in and outside of DF by gender and age. As expected due to PAAM-DF, government transfers received by individuals age 70 and older in DF are much larger than those received by same-age adults in other cities, and by younger adults both in and outside of DF.

Figure 1. Average monthly government transfers received by individuals age 56+



3. Data

We use the 2004, 2006 and 2008 rounds of the Mexican Household Income and Expenditure Survey (ENIGH), a nationally representative cross section survey collected every two years by the Mexican Institute of Statistics (INEGI).

We restrict our sample to children age 6 to 18 living in urban households with both a male and female adult age 55 or older. Thus, our sample has 1,091 households, of which 219 observations (20 percent are) in DF, and 1,384 individuals age 6 to 18.

Descriptive statistics are shown in Table 1. In the top panel, the mean enrollment for children ages 6 to 12, i.e. those in elementary school, is close to 100 percent. In contrast, for children ages 13 to 18, who are mostly in middle and high school, enrollment is lower. Overall, 77 percent of children in this age group in DF are enrolled in school, compared to only 70 percent of urban children in other cities.

The second panel indicates that households in our sample in DF have on average fewer boys and more girls compared to similar households outside of DF. However, these differences are small and not statistically significant. The differences in the average number of men and women age 55 and older between DF and non-DF households are even smaller, and the same holds when calculating means by finer age groups. Thus, household composition is fairly similar between both samples.

Finally, the bottom section of Table 1 shows descriptive statistics for dwelling characteristics, and once again, mean differences between DF and non-DF households are small.

Table 1. Descriptive statistics

	Mexico City (DF)			Rest of country (non-DF)		
	Mean	Std. Dev.	Obs.	Mean	Std. Dev.	Obs.
School Enrollment						
6 to 12 y/o	0.99	0.07	193	0.98	0.13	713
Boys	0.99	0.10	91	0.98	0.14	380
Girls	1.00	0.00	102	0.98	0.12	333
13 to 18 y/o	0.77	0.42	165	0.70	0.46	671
Boys	0.78	0.42	78	0.68	0.47	338
Girls	0.76	0.43	87	0.73	0.44	333
6 to 18 y/o	0.89	0.31	358	0.85	0.36	1,384
Boys	0.89	0.31	169	0.84	0.37	718
Girls	0.89	0.32	189	0.86	0.35	666
HH Members by age						
Children < 19 y/o						
Boys	0.77	0.78	220	0.87	0.88	835
Girls	0.86	0.76	220	0.81	0.92	835
> 55 y/o						
Men	1.01	0.12	220	1.02	0.14	835
Women	1.05	0.21	220	1.03	0.19	835
> 60 y/o						
Men	0.78	0.41	220	0.77	0.44	835
Women	0.65	0.51	220	0.62	0.51	835
> 65 y/o						
Men	0.54	0.50	220	0.52	0.50	835
Women	0.37	0.48	220	0.41	0.49	835
> 69 y/o						
Men	0.33	0.47	220	0.35	0.48	835
Women	0.24	0.43	220	0.27	0.44	835
> 75 y/o						
Men	0.14	0.34	220	0.17	0.38	835
Women	0.10	0.30	220	0.13	0.33	835
Other HH Characteristics						
Number of rooms	5.27	1.79	220	5.09	1.73	835
Bathroom (0,1)	0.97	0.18	220	0.93	0.25	835
No-dirt floor (0,1)	1.00	0.00	220	0.98	0.15	835

4. Empirical Specification

The outcome variable of interest is children's school enrollment. Our identification strategy is similar to that in Duflo (2000) and Edmonds (2006), but given that the PAAM program only operates in DF, we can also use non-DF observations to perform a placebo test.

Empirically, we explore if the large drop in school enrollment at age 13 for children in Mexico, which corresponds to the transition between primary and secondary school, differs around the discontinuity in age-eligibility for their co-residing senior adults at 70. Using DF observations only, we compare school enrollment for children age 6-12 with school enrollment of children aged 13-18, flexibly controlling for the child's age, in households with older men and women that are age-eligible or not, flexibly controlling for these adults' age. Because school enrollment for children under age 12 is close to 100 percent, we expect to observe program impacts only on children aged 13 to 18. And because the older adults are only eligible for the program if they are at least 70 years old, we will attribute the difference in school enrollment for children living with eligible and inelegible adults as the impact of the program on school enrollment.

The estimated regression is:

$$S_{ij} = \alpha + \pi_1 Ef_j * H_{ij} + \pi_2 Em_j * H_{ij} + \beta_1 Ef_j + \beta_2 Em_j + \beta_3 EAgef_j + \beta_4 EAgem_j + \beta_5 H_{ij} + X_{ij}\delta + u_{ij}$$

where S_{ij} is a dummy variable indicating whether child i in household j is enrolled in school; Ef_j and Em_j are dummy variables indicating if the eldest woman and man in household j is at least 70 years old, respectively; $EAgef_j$ and $EAgem_j$ are variables indicating the age of the eldest woman and man living in household j; H_{ij} is a dummy variable equal to one if child i is

age 13 or older; X_{ij} is a vector of individual and household-level characteristics, including child's age, child's gender, the number of male and female household members aged 0-3, 4-6, 7-12,13-18, 18-24, 25-44, and 45-54, and the household characteristics reported in the last section of Table 1; and u_{ij} is the error term.

The coefficients β_1 and β_2 measure the impact of co-residing men and women's eligibility for PAAM on the school enrollment of children age 6 to 12, which we expect to be close to zero. The coefficients π_1 and π_2 measure the differential impact on school attendance for children aged 13 or older, with respect to the younger ones, given that a co-residing man or woman is eligible for the PAAM benefits. We also run the same regression for urban children living outside of DF, where PAAM is not operating, as a placebo test.

4. Results

Table 2 presents the results for children age 6 to 18 in Mexico City including all the controls described aboved in the regressions. Column 1 controls linearly for the eldest co-residing man and woman's age. Columns 2, 3 and 4 further control for second, third and fourth degree polynomials in the age of the eldest man and woman in the household. Finally, Column 5 controls linearly for each of the eldest adults' age and for dummies indicating whether each of them is at least 70 years old, thus letting the relationship between these variables and school enrollment to be different on each side of the age discontinuity.

In all specifications, the coefficients on male and female eligibility and the interaction of female eligibility with the dummy variable indicating whether the child is older than 12 are close to zero and not statistically significant. In contrast, the coefficient of the interaction between the dummy variable indicating if the child is older than 12 and lives with an eligible man is positive, around 0.22 throughout specifications, and statistically different from zero. These results suggest that children age 13 to 18 living in a household in which an older man

receives the PAAM benefits have a 22 percentage point higher probability of going to school. No such impact is found when children coreside with an older woman that receives the PAAM benefits. Thus, transfers paid to women have no effect on whether children go to school, whereas those paid to men have a positive effect.

Table 2. PAAM effect on school enrollment: DF

	(1)	(2)	(3)	(4)	(5)
Male >69	0.020	-0.0004	-0.039	0.004	0.011
	(0.0836)	(0.0873)	(0.0919)	(0.1005)	(0.0887)
Female>69	0.040	0.077	0.032	-0.015	0.064
	(0.0735)	(0.0815)	(0.0815)	(0.0891)	(0.0809)
Male>69 * child>12	0.218***	0.223***	0.228***	0.228***	0.222***
	(0.0805)	(0.0829)	(0.0844)	(0.0857)	(0.0844)
Female>69 * child>12	-0.048	-0.053	-0.052	-0.049	-0.053
	(0.1059)	(0.1095)	(0.1100)	(0.1102)	(0.1092)
Control for adults' age	Linear	Second deg. polyn.	Third deg. polyn.	Fourth deg. polyn.	Differential linear spread
Observations	358	358	358	358	358

Standard errors reported in parenthesis; clustered at the household level.
All regressions include all controls.
*significant at 10%, **significant at 5%, ***significant at 1%

Table 3 shows that running similar regressions for urban children outside of DF yields coefficients that are close to zero and statistically insignificant. Thus, we can reasonably attribute the effects on Table 2 to the PAAM program, and not to any other confounder affecting urban children who live with adults age 70 and older.

Table 3. Placebo test: Urban areas outside of DF

	(1)	(2)	(3)	(4)	(5)
Male >69	0.018	0.0145	0.027	0.038	0.017
	(0.0376)	(0.0390)	(0.0415)	(0.0481)	(0.0400)
Female>69	-0.037	-0.021	-0.053	-0.056	-0.019
	(0.0388)	(0.0413)	(0.0566)	(0.0635)	(0.0404)
Male>69 * child>12	0.008	0.006	0.007	0.007	0.006
	(0.0485)	(0.0485)	(0.0484)	(0.0484)	(0.0484)
Female>69 * child>12	0.072	0.072	0.075	0.074	0.074
	(0.0505)	(0.0505)	(0.0504)	(0.0504)	(0.0502)
Control for adults' age	Linear	Second deg. polyn.	Third deg. polyn.	Fourth deg. polyn.	Differential linear spread
Observations	1,384	1,384	1,384	1,384	1,384

Standard errors reported in parenthesis; clustered at the household level.
All regressions include all controls.
*significant at 10%, **significant at 5%, ***significant at 1%

6. Conclusion

This paper uses the introduction of a cash transfer program for older adults in Mexico City to test whether the public transfers given to men have different impacts on co-residing children's school enrollment than those given to women. Our results suggest that living with a male beneficiary in DF has a positive and significant effect on the school enrollment of children aged 13 to 18, whereas living with a female beneficiary does not.

It is important to stress that we do not necessarily believe that our results can be extrapolated to all Mexican households that receive government cash transfers because they might be specific to the subsample analyzed here. However, we do conclude that the general belief that money in the hands of women is more likely to have positive effects on children's outcomes should not be taken for granted.

7. References

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