

The Motives for Private Transfers: Evidence from a Transfer Program for the Elderly in Mexico

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Abstract

Transfers among households can neutralize or reinforce government redistributive efforts depending on whether they are motivated by altruism or constitute payments for services. Previous studies for developed countries find a positive or a small negative effect of recipient's income on private transfers received. As a result, these studies conclude that crowding out of private transfers by government programs is negligible and that altruism is not the primary motive for transfer behavior. However, the econometric approach in these studies fails to account for the endogeneity of recipient's income. In this paper, I address this potential source of bias by using the exogenous variation in income caused by a public transfer program for the elderly that began in Mexico City in 2001. Without controlling for the endogeneity of income, I reproduce the results of previous work. In contrast, my instrumental variables strategy yields large, negative and statistically significant income effects. My preferred estimates imply that for all urban households a one peso increase in household income leads to a decrease of 18 cents in total private transfers received. For poor households, a one peso increase in income reduces cash private transfers received by 64 cents. These findings are consistent with the altruistic model and suggest a large potential crowding out effect of public programs, particularly those targeted towards the poor.

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1 Introduction

Transfers among households are an important aspect of economic behavior. In the U.S., the gross flow of these transfers is estimated to be 63 billion dollars per year¹. In developing countries, a large proportion of households participate in transfer networks and private transfers constitute an important source of family income, especially among the poor. Understanding why households and individuals engage in transfer behavior is critical because private transfers can neutralize or reinforce government redistributive efforts depending on whether they are motivated by altruism or exchange. Altruistic transfers occur because the donor cares about the utility of the recipient, whereas transfers motivated by exchange aim at compensating the recipient for providing services to the donor, like informal care or visits. Under altruism, givers can undo the effects of a transfer program for the poor by reducing their private support to poor households in response to the government intervention². In contrast, if transfers are motivated by exchange and poor families are net providers of services to other families, a government transfer program could actually increase the transfers they receive from other households.

Some studies on inter vivos transfers in the U.S. show a positive relationship between income and private transfers received, which would be consistent with exchange but not with altruism³ (Cox, 1987; Cox and Rank, 1992). Other studies find small negative effects which suggest that the potential crowding out from government programs is negligible. For instance, Cox and Jakubson (1995) estimate that the poverty rate when public transfers are eliminated and no private response occurs is only 2.3 percent greater than the poverty rate when private transfers adjust to meet the decrease in public transfers. Analyzing data from the Health

¹This figure is taken from Gale and Scholz (1994). Using data from the Survey of Consumer Finances (SCF) for the years 1983-1986, they also calculate that gifts and transfers from parents to adult children living away from home account for at least 20 percent of aggregate net wealth in the U.S.

²Barro (1974) shows that an increase in government debt, or any other forced intergenerational transfer, would have no real effect if discretionary bequests or gifts across generations are greater than zero.

³The literature on inter vivos transfers is the most relevant to this paper, but the altruistic model has been examined in other contexts. For instance, the empirical evidence on bequest behavior in the U.S. shows that parents tend to leave equal bequests to their children instead of compensating for their potential differences in income (Wilhelm, 1991; Menchik, 1980). This result contradicts the altruistic hypothesis. Altonji et al (1992) also reject this hypothesis using consumption data from the Panel Study of Income Dynamics.

and Retirement Study, McGarry and Schoeni (1995) find that moving from the lowest to the highest income category reduces annual private transfers received by approximately 3 cents per dollar⁴. Altonji et al (1997) estimate that redistributing one dollar of income from parent to child decreases the transfers received by the child by at most 13 cents. Some early studies for developing countries also obtain positive effects of income on private transfers received, like Lucas and Stark (1985) for Botswana and Cox et al (1998) for Peru, but more recent evidence shows negative income effects that are larger in absolute value than those estimated using U.S. data. Using a regression spline, Cox et al (2004) find that a marginal increase in pre-transfer income reduces private transfers between 30 to 80 percent for those in the lowest income quintile in Philippines. However, in all these studies, the endogeneity of recipient's income is a potential source of bias. Some studies look directly at the effect of specific government programs on the amount private transfers received by households in developing countries. Jensen (2003) finds that transfers from migrant children are reduced by 25 to 30% in response a large increase in pensions in South Africa. Albarran and Attanasio (2002) provide evidence of substantial crowding out of cash private transfers by Mexico's Progresa program.

The purpose of this paper is to estimate the effect of household income on the amount of private transfers received, controlling for the endogeneity of income with a public transfer program for the elderly that started in 2001 in Mexico City. The transfer from the program is relatively large and is conditioned only on the age of the individual, thus providing the exogenous variation in income that I use to instrument for total household resources. Using a sample of urban households from the National Income and Expenditure Survey (ENIGH), I estimate an instrumental variables Tobit model of the private transfers received by the household. I also estimate the effect of income on the transfers given to other households, and examine whether the income effects are different for poor households.

The main finding of this paper is that not controlling for the endogeneity of income reproduces the positive effects, or small negative effects, of income on private transfers received found in previous work. In contrast, my instrumental variables strategy yields large, negative,

⁴In McGarry and Schoeni (1985), the movement from the lowest to the highest income category corresponds to an increase of at least \$15,000 in total income. According to their estimates, this increase in income would decrease the expected annual value of transfers received by \$419.

and statistically significant income effects. My preferred estimates imply that a one peso increase in household income leads to a decrease of 28 cents in total private transfers received by households already receiving transfers and a drop in 18 cents in the expected transfers received by all urban households. The implied income elasticity of private transfers, conditioned on positive transfers received, is -0.33. For poor households, a one peso increase in income reduces cash private transfers received by 64 cents. The estimated income elasticity of private cash transfers for the poor is -0.72. These findings are consistent with the altruistic model and suggest a large potential crowding out effect of public programs, particularly those targeted towards the poor. In-kind transfers received by the poor from other households increase with income, which would be consistent with exchange, and not with altruism. Total transfers given by the poor to other households increase by 6 cents with an additional peso of income.

This paper is organized as follows. Section 2 presents the theoretical framework for analyzing the motives for private transfers. Section 3 discusses the empirical specification used in this paper. Section 4 describes the program for the elderly that is used to instrument for total income. Section 5 describes the data and defines the variables used in the estimation. Section 6 presents and comments on the results. Section 7 concludes the paper.

2 Theoretical Framework

The literature examines two motives for transfers among households: altruism and exchange. The implications of altruism are explored by Becker (1974). In the altruistic model, a benevolent individual, typically assumed to be the parent, transfers resources to her children or other family members because she cares about their well-being. Under exchange, the parent or donor makes transfers to the children as a compensation for services received from them as in Bernheim et al (1985). These services could have market substitutes, like help with home production or informal care, or could involve attention, companionship or obedience to parental rules.

Cox (1987) incorporates the two motives in a single framework and derives testable predictions about the effect of recipient's income on private transfers received under each case. In this model, two individuals, a donor and a recipient, engage in transfer behavior. The donor

cares about the well-being of the recipient, and the recipient provides services to the donor. The donor's utility function is

$$U_d = U_d(c_d, s, V(c_r, s)) \quad (1)$$

$\begin{matrix} (+) & (+) & & (+) & (-) \end{matrix}$

where c_d and c_r are the donor's and recipient's consumption levels, s is the amount of services provided by the recipient, and $V(.,.)$ is the recipient's utility function. Both utility functions increase with own consumption. The services provided by the recipient increase the donor's utility and decrease the recipient's utility. Since the donor is altruistic, $\frac{\partial U_d}{\partial V} > 0$. Both c_d and c_r are assumed to be normal goods.

The budget constraints are

$$c_d \leq I_d - T \quad (2)$$

$$c_r \leq I_r + T \quad (3)$$

where I_d, I_r are the incomes of the donor and the recipient, respectively, and T is the transfer that the donor makes to the recipient. By participating in this relationship, the recipient should receive a utility greater than or equal to the one she gets when she provides no services and consumes out of her own income only. Thus,

$$V(c_r, s) > V_0(I_r, 0) \quad (4)$$

The donor maximizes his utility by choosing s and T , subject to constraints (2)-(4)⁵. In this model, both altruism and exchange are present as motives for private transfers, but only one of them is effective at the margin depending on whether constraint (4) is binding.

Altruism dominates when constraint (4) is not binding. In this case, the recipient is strictly better off by providing services and receiving the transfer. The transfer equates the

⁵In this model, the donor dominates the agreement. As noted by Cox (1987), a bargaining model would be more general and realistic, but would not allow having the altruistic motive in the same framework.

donor's marginal utility of consumption U_c with the recipient's marginal utility from the donor's perspective $U_v V_c$. The level of services is chosen so that the marginal utility that the donor gets from them, U_s , is equal to the marginal cost of providing them for the recipient $U_v V_s$. The main predictions are

$$\begin{aligned}\frac{\partial T}{\partial I_d} &> 0 \\ \frac{\partial T}{\partial I_r} &= -1 + \frac{\partial T}{\partial I_d} < 0\end{aligned}$$

Thus, under altruism, transfers increase with donor's income and decrease with recipient's income. Keeping $(I_r + I_d)$ constant, one dollar increase in the recipient's income should cause a one dollar reduction on transfers received when the altruistic motive dominates⁶. However, an increase in I_r alone raises $(I_r + I_d)$ and, as a result, the donor would like to increase the amount of the transfer. So, the total effect of an increase in recipient's income is negative, provided that donor's consumption is normal, but less than 1 in absolute value. Total services can either rise or fall with changes in the incomes of the donor and the recipient. It is important to note that the lower the recipient's income is, the more likely it is that constraint (4) is not binding. Therefore, altruism is more likely to dominate when the recipient's income is low⁷.

The exchange motive dominates when constraint (4) is binding. In this case, $U_c < U_v V_c$ and the last dollar transferred does not equalize the marginal utilities of consumption, but compensates the recipient for providing services to the donor. Under exchange, the comparative statics⁸ are

$$\begin{aligned}\frac{\partial T}{\partial I_d} &> 0 \\ \frac{\partial T}{\partial I_r} &\leq 0\end{aligned}$$

⁶Andreoni (1989 and 1990) shows that if individuals get utility from the mere act of giving, or a "warm glow", the reduction in private transfers caused by an increase in recipient's income together with a decrease in donors income would be less than one-for-one.

⁷Cox et al (2004) verify this prediction by estimating a regression spline on data for the Philippines.

⁸For the exchange part of the model, Cox (1987) assumes that the donor's utility function is additively separable. Relaxing this assumption does not change the sign of the derivatives of interest.

In contrast with altruism, exchange allows transfers to respond positively to changes in recipient's income. An increase in I_r causes a decrease in the recipient's supply of services and an upward movement along the donor's demand for services. Let the amount of the transfer be $T = ps$, where p is the implicit price of services. An increase in recipient's income raises p and lowers s . Thus, the effect on T depends on the elasticity of the donor's demand for services. If demand is inelastic because the services provided by the recipient do not have close substitutes, the amount of the transfer could increase with recipient's income.

The predictions regarding the transfer decision are the same under both motives. In the case of exchange, a transfer takes place if the donor's reservation price for the first unit of services is greater than the recipient's supply price for the first unit of services. Since both prices increase with own income, it follows that

$$\begin{aligned} \frac{\partial \Pr(T > 0)}{\partial I_r} &< 0 \\ \frac{\partial \Pr(T > 0)}{\partial I_d} &> 0 \end{aligned}$$

Under altruism, a transfer will occur whenever the marginal utility of consumption of the donor at the endowment point is less than the marginal utility of consumption of the recipient. Since both marginal utilities are decreasing in own income, the income derivatives for the transfer decision are the same as above.

3 Empirical Specification

The relationship of interest is

$$T_h = \alpha + \beta X_h + \gamma Y_h + \varepsilon_h \tag{5}$$

where T_h represents the amount of private transfers received from other households. I alternatively use total private transfers, in-kind transfers, domestic cash transfers, remittances

from abroad, and total cash transfers as dependent variables. X_h includes household characteristics, individual characteristics of the head of household, state and year dummies. The key independent variable is Y_h , total household income excluding private transfers. The sign and magnitude of the estimated coefficient on Y_h indicates the transfer motive that dominates at the margin. However, pre-transfer income is presumably endogenous in the transfer equation. If families adjust their total income downwards precisely because they receive private transfers, for example through reductions in labor supply, the coefficient on total income would be negatively biased. On the contrary, a positive bias could arise if families receive larger assistance from both the government and other families because of an unobservable factor that makes them less capable of sustaining themselves.

In addition to the potential endogeneity of income, a considerable fraction of households do not receive any private transfers. As a consequence, T_h is a random variable that takes the value of zero with positive probability and it is continuous over strictly positive values. In this case, doing ordinary least squares on the whole sample, including observations with zero transfers received, or only on those households with positive transfers, is generally not a consistent estimator. A more adequate alternative is an instrumental variables Tobit (IV Tobit) described by the following equations:

$$T_h = \max(0, \alpha_1 + \beta_1 X_{1h} + \gamma Y_h + u_h)$$

$$Y_h = \alpha_2 + \beta_{21} X_{1h} + \beta_{22} X_{2h} + v_h$$

where (u, v) are zero-mean normally distributed and independent of X_h . In this model, Y_h is endogenous if u and v are correlated.

Identification of the model requires finding a set of valid instruments X_{2h} , that is, variables that affect total income directly, and private transfers only through the effect on the endogenous variable, so that they can reasonably be excluded from the transfer equation. The next section describes the transfer program for the elderly that I use as a source of exogenous variation in household income. The usual rank condition needed for identification is that

$\beta_{22} \neq 0$, so that the instruments are relevant in explaining the endogenous variable. The coefficient of interest is γ , which measures the effect of total pre-transfer income on the amount of private transfers received.

The econometric model is estimated using maximum likelihood (MLE). Before estimating the full model using MLE, I use the two step procedure proposed by Smith and Blundell (1986) to test for the endogeneity of total household income in the transfer equation⁹. The results vary with the type of transfers and are reported in section 6.

4 Description of the Program: Nutrition Transfer for Senior Adults

“Pension Alimentaria para Adultos Mayores” (Nutrition Transfer for Senior Adults) is a transfer program targeted at individuals 70 or older that live in Mexico City. Beneficiaries are given a debit card that can be used to purchase goods at a number of grocery stores¹⁰. The monthly transfer is about 60 dollars, which represents approximately 13 percent of median household income for households with at least one eligible person in the city, and can be accumulated every month. The transfer is not means-tested, not taxable and does not depend on previous contributions to the social security system or on any requirement other than age. The program includes free prescription drugs and free health care in the hospitals administered by the city.

The program was first announced in January, 2001. Due to resource limitations, only relatively poor neighborhoods participated in this first stage of the program. Social workers from the city government did door-to-door visits in all neighborhoods with very high, high and

⁹This procedure consists in estimating the reduced form equation of Y_h by OLS and obtaining an estimate for $\hat{\beta}_2$ and for the residual $\hat{v}_h = Y_h - X_h\hat{\beta}_2$. The second step is to estimate a standard Tobit model of T_h on X_{1h} , Y_h and \hat{v}_h . Testing the null hypothesis that the coefficient on \hat{v}_h is equal to zero with the corresponding t-statistic reported by Tobit provides a simple test of the endogeneity of Y_h . This approach does not require any particular assumption about the distribution of the reduced form of Y_h . If exogeneity of Y_h is rejected, the second-stage Tobit standard errors and test statistics are not valid, since the estimate for $\hat{\beta}_2$ is used instead of β_2 . In this case, estimating the full model by maximum likelihood gives the correct standard errors and is more efficient.

¹⁰The card must be used at authorized grocery stores, but it can be used to purchase non-food items.

medium poverty levels, enrolling age-qualifying adults regardless of household or individual income levels. Payment of transfers to about 150,000 beneficiaries started in March 2001. During the year, new enrollment applications were accepted and the number of beneficiaries increased to 250,000, which is 80% of the elderly population that have at least 3 years residing in the city according to the government's annual report for that year¹¹. In September 2002, the local government announced its intention of transforming the program into a law that guarantees the right to receive the transfer to all individuals 70 or older that have at least 5 years living in the city. At the end of that same year, the program covered almost all the elderly population in poor areas¹². In May 2003, the government announced a bill proposal to be voted for the next discussion session of the local assembly, which was approved in November of that same year. The new law establishes that all individuals 70 or older, with a minimum residence of 3 years in Mexico City, are entitled to receive a transfer no less than 50% of the legal minimum wage paid in the city, regardless of their income level.

5 Data

To estimate the effect of household pre-transfer income on private transfers received, I use the Mexican Household Income and Expenditure Survey (ENIGH) for the period 1996-2004. The survey is a nationally representative cross section collected every two years by the National Institute of Statistics (INEGI) and has detailed information on household expenditures and income from different sources. I use a sample of urban households only, because rural households might not be comparable to the group that experienced the policy change I use for identification. The final sample consists of 32,262 urban households of which 20% are in Mexico City. In the data, in-kind transfers and gifts received are reported at the household level, while income variables are observed at the individual level. In this paper, I use the household as the unit of analysis. Household total income without private transfers includes labor, rent and business income, pensions, government transfers, financial income and other non-labor income. The

¹¹Informe de Trabajo 2001, Secretaria de Salud del Distrito Federal (2001 Report of Mexico City's Health Department).

¹²Informe de Trabajo 2003, Secretaria de Salud del Distrito Federal.

survey has information on the monetary value of in-kind transfers and gifts received¹³, cash transfers received from households within the country and remittances from abroad during the past quarter. No transfers within the household are reported and no information on the characteristics of donors is provided. I calculated the monthly average for both transfers and income and divided these amounts by the consumer price index to get real values.

I can explicitly identify whether in-kind transfers come from private sources or from the government only for 2002 and 2004. For the years 1996, 1998 and 2000, I observe the good or service that households received as a transfer, but not the giver. Table A1 shows that in 2002, 82% of all in-kinds gifts and transfers received came from other households and 11% from the government¹⁴. Gifts that come almost exclusively from other households are those of alcohol, food outside the home, tobacco, personal and household care, child care, clothing, household items and other. The government's participation seems to be more important in categories such as education (18%), entertainment and culture (21%), health care (61%), home improvement (10%) and transportation (17%) as would be expected. To be able to use the years before the policy change, I defined the total in-kind transfers received from other households in each year as the sum of all those categories in which the proportion of transfers received from other families exceeded 95% in 2002. I also added food transfers, even if the proportion of these transfers that come from the government (5%) is not negligible. Another potential problem with food transfers is that they might reflect increases in government in-kind transfers after 2001 rather than an increase in transfers from other families, especially among poor households in Mexico City. I will come back to this point later.

For private transfers received in cash, I observe whether they come from other families within Mexico or from abroad. Government cash transfers are reported separately in all years and are included in total household income before private transfers. In-kind and cash transfers given to other households are also reported. I add these up for each household to estimate the effect of income on total transfers given.

¹³For each expenditure category, the survey asks whether the household received any gifts and how much would the household have spent if it had bought the gift instead of receiving it. Thus, in-kind transfers received are valued subjectively, and not at market prices.

¹⁴The remaining 7% consists of gifts or in-kind transfers provided by employers and non-profit organizations.

The independent variables used in all the estimations are household characteristics such as household size, number of children younger than 6 years old, number of children 6 to 12 years old, dummies for the presence of one and two elderly individuals and the interaction of these with a dummy for Mexico City; characteristics of the head of household such as age, years of schooling, labor force participation and dummies for whether the head is married or female; year and state dummies. A dummy for Mexico City, which for government and administrative purposes is a state called Distrito Federal is included in the state dummies¹⁵. As mentioned before, the key endogenous variable is household total income excluding any private transfers received.

In this paper, I instrument for total pre-transfer income of the household with the transfer program for the elderly described in section 4. In the early stage of this program, participation was restricted to households with elderly individuals in poor neighborhoods in Mexico City. At the end of 2003, the program was extended to all elderly residents in the city. In the data, I cannot observe neighborhood to control for this difference in participation among households in poor and non-poor neighborhoods. As a consequence, I define the instruments for total income as a dummy for one elderly individual present in the household in Mexico City in 2002, a dummy for two elderly individuals present in the household in Mexico City in the same year and similar variables for 2004. These variables capture eligibility of the household, regardless of the actual participation and transfer amounts received from the program. At the same time, since each senior individual is entitled to receive a transfer, it captures also variation in the total transfer amount the household qualifies for.

I also estimate Tobit and IV Tobit specifications on a subsample of poor households to examine whether the income effects are stronger for them given that they participated in the program from the beginning. I calculate the total household income excluding private and public support and divide this by the number of adults 19 years of age or older present in the household. I call a household “poor” if the income excluding public and private transfers per adult is less than the monthly minimum wage. Using this criterion, the sample of poor

¹⁵I cannot identify cities for any year before 2000. For those earlier years, I can only observe state and whether the household belongs to a locality of 100,000 people or more. So, I define a household as urban if it is in a locality of 100,000 people or more and control for state fixed effects in the estimation.

households has 8,060 observations, which represents roughly the lowest 25th percentile of the income distribution of all urban households.

6 Results

Table 1 shows the means and standard errors of the relevant variables for the whole sample of urban households and for the subsample of poor households. Poor households look very similar to the whole sample in terms of household size and the number of members in different age groups that they have. However, the heads of poor households are 4 years older and 3 years less educated on average. The heads of poor households also have a lower labor force participation rate (30%) compared to the whole sample (48%), they are more likely to be female (30%) and less likely to be married. About 21% of poor households have at least one elderly person, whereas only 11% of all urban households do. The average total income before private transfers for the whole sample is about 3.4 times the mean income of poor households.

Table 2 shows that 52% of all urban households and 61% of poor households report receiving transfers from other families. A higher fraction of households receives in-kind transfers, regardless of whether they are poor or not. Only 15% of all households receive cash, while 48% acknowledge receiving some goods or services from other households. Among the poor, 54% receive transfers in kind and 27% receive cash transfers from other households. Most of the cash transfers received by urban households in the sample come from within Mexico and a very small fraction of urban households reports receiving remittances from abroad. In-kind transfers from other households represent 56% of total private transfers received while cash transfers, both domestic and from abroad, represent 44% of total transfers. Poor households receive a higher fraction of their total income in private transfers. Total private transfers account for 32% of household income for the poor, compared to 7% for the whole sample. Cash transfers represent 20% of household total income for the poor, which is larger than the 12% represented by in-kind transfers. Poor households are less likely to transfer cash or goods and services to other households. About 21% of the whole sample report giving private transfers compared to only 9% among the poor.

The identification strategy relies on the exogenous increase in income experienced by households with at least one elderly individual in Mexico City after 2001. Table 3 presents the average government transfers received in each year by four different groups: households with no elderly individuals in at outside of Mexico City and households with elderly individuals in and outside of Mexico City. These government transfers do not include any social security benefits, but only cash transfer programs. The average transfers for most groups are fairly small, probably because until very recently the largest government programs in Mexico were targeted to rural households¹⁶. However, after 2000 households with elderly individuals in Mexico City experience a large increase in average government transfers compared to all the other groups, as can be seen in Figure 1. The average amount of 452 pesos per month which is close to the actual 636 pesos per month that each elderly individual was entitled to in 2002. The average amount of government transfers received by the group of qualifying households increased from 2002 to 2004, probably due to the extension of the program to all elderly city residents in 2003.

The results of testing for the exogeneity of household income without private transfers in the transfer equation vary with the type of transfer. For the whole sample, I cannot reject that income is exogenous for domestic cash transfers, remittances and total cash transfers, but I definitely reject exogeneity for in-kind transfers and for total transfers received. For the subsample of poor households, exogeneity of income is rejected for all types of transfers except domestic cash transfers.

Table 4 presents the estimated coefficients for total private transfers received using a Tobit with and without instrumental variables using the sample of all urban households. Number of children younger than 6 years old in the household has a positive effect using a regular Tobit and a negative effect on total private transfers received using IV Tobit. Number of kids 6 to 12 years old has a negative and significant effect on total private transfers received for both estimation methods. Households with a female head receive a significantly larger amount of transfers from other households. The years of education of the head have a positive and significant effect, which probably reflects that more educated people have access to better private

¹⁶Procampo and Progresa are among the largest federal cash transfer programs in Mexico and they are both targeted towards the rural sector. Progresa was extended to urban households after 2000.

networks. Labor force participation of the head of household reduces total transfers received. Households with elderly individuals receive significantly larger transfers and households with two elderly individuals receive more than households with only one. Residing in Mexico City, with or without elderly individuals, does not have a significant effect on the private transfers received.

The key result is that the coefficient on total income before transfers is positive and not significant for the Tobit without instrumental variables, which reproduces the results of some previous studies for developed countries. A positive coefficient on income is not consistent with altruism as a motive for private transfers. In contrast, properly instrumenting for total pre-transfer income gives a negative and significant coefficient, which is consistent with both exchange and altruism and implies that government transfer programs can crowd-out private aid between families.

Table 5a reports the estimated coefficient on pre-transfer income for different types of private transfers with and without using instrumental variables. As before, treating total household income as exogenous gives positive or smaller negative coefficients. For instance, for the whole sample, the coefficient on income for in-kind transfers is positive, small and significant when income is not instrumented for, but negative and significant for the IV Tobit. For the poor sample, I estimated Tobit equations for domestic cash transfers and remittances separately. For poor households, total income presents negative and significant coefficients for all the different types of transfers without using instrumental variables. However, the estimated coefficients become larger in absolute value when income is properly instrumented for. The only exception is the estimated coefficient of income for in-kind transfers received by the poor, which becomes positive and significant. A positive coefficient on income is not consistent with altruism. I tried excluding food transfers from in-kind transfers and from total transfers received because food transfers might reflect an increase in government transfers experienced after 2000 by poor households in Mexico City¹⁷. In fact, Figure 2a shows that poor households in Mexico City experienced a sharp increase in the fraction of in-kind transfers that they receive in food after

¹⁷The mayor of Mexico City decided to compensate poor households for the increase in the price of subsidized milk implemented by the federal government in 2001. In addition, I suspect that some elderly households in Mexico City might have reported the transfer from the program as a food transfer.

2002, compared to similar households in other cities. Figure 2b shows that this increase is due mostly to an increase in the government food transfers received by poor households in Mexico City in 2004. Private transfers in food received by poor households in and outside of Mexico City do not differ significantly in 2002 or 2004, as can be seen in Figure 2c. After excluding food from in-kind transfers received, the income coefficient estimated by IV Tobit is still positive and significant, but smaller. The effect of income on total transfers received excluding food is negative, but not significant.

Table 5a also reports the results for the amount of transfers given by the household. For all urban households, the effect of income is positive without using instrumental variables and becomes negative and significant in the IV Tobit estimation. This result contradicts both the altruism and exchange motives, since both predict a positive effect of the donor's income on the amount of transfers given. For poor households, properly instrumenting for income gives a larger positive and significant effect of this variable on the amount of transfers given by the household.

Table 5b reports the marginal effects of income on the probability of receiving or giving positive transfers. For the probit model without instrumenting for total income, the income effects on private transfers received are all negative and significant, and those on total transfers given are positive and significant, which is consistent with both altruism and exchange. The marginal effects obtained from the IV Tobit estimation present mostly the same sign as those from the probit estimation, but they are larger in absolute value. This implies that an increase in income decreases the probability of receiving private transfers and raises the probability of giving a transfer by more than when income is not controlled for. The transfer decision is more responsive to income once this variable is instrumented for. However, two results contradict the predictions of the model, which are the same for both motives. For all urban households, instrumenting for total pre-transfer income gives a negative and significant coefficient for transfers given. For poor households, the income effect estimated with IV Tobit is positive and significant for the private in-kind transfers received.

The first-step coefficients of the instruments are presented in Table 6. Almost all the instruments have a positive and significant effect on household income without private transfers, regardless of the sample used for estimation. Thus, the instruments are relevant to explain the

endogenous variable and have a positive effect as would be expected. The only exception is the interaction of one elderly in the household with the Mexico City dummy and the dummy for 2004 in the income equation for all urban households, which presents a negative and significant coefficient.

The coefficient on pre-transfer income obtained by Tobit, with or without instrumental variables, does not by itself tell us the magnitude of the marginal effect. This magnitude is important to infer how much a government transfer program would crowd out private sources of support for the household. In addition, the altruistic model predicts that the marginal effect of an increase in household income should be negative and large in absolute value. Thus, I calculate the marginal effects of income at the mean of the independent variables and also the following decomposition proposed by McDonald and Moffit (1980) for my instrumental variables Tobit estimates:

$$\frac{\partial E(T | X, Y)}{\partial Y} = \frac{\partial \Pr(T > 0 | X, Y)}{\partial Y} E(T | X, Y, T > 0) + \Pr(T > 0) \frac{\partial E(T | X, Y, T > 0)}{\partial Y}$$

The first term in the decomposition is the marginal effect of income on the probability of receiving positive transfers weighted by the expected value of transfers if these are positive. The second term is the marginal effect of income on the amount of transfers received for those households receiving positive transfers weighted by the probability of transfers received being positive. Thus, the decomposition above provides information on how much of the total change in the expected value of transfers received comes from a change in the probability of receiving positive transfers and how much can be attributed to a change in the amount of transfers received conditioned on receiving positive transfers. I also calculate a similar expression for the private transfers given to other households.

Table 7a presents the relevant terms of the decomposition described above for private transfers received, for the sample of all urban households and for the poor. For the whole sample, the fifth column shows that an extra peso in income reduces in-kind transfers by 14 cents, cash transfers by 1.5 cents and total transfers by 28 cents for those already receiving transfers. The effect on total transfers is large relative to previous findings for developed countries and it

is comparable to magnitudes obtained by recent studies for some developing countries. The last column shows the effect on the unconditional expected value of transfers received. An additional peso of pre-transfer income reduces the expected value of in-kind transfers by 9.2 cents and 74% of this reduction comes from a decrease in the transfers received by those already receiving positive in-kind transfers. For cash transfers, the effect is negative but very small and mostly composed by a reduction in the probability of receiving such a transfer. The effect of an increase in income on the expected value of total transfers received is to decrease them by 18 cents and most of this effect can be attributed to a reduction in the amount of total transfers received for those households receiving transfers.

For poor households, a one peso increase in income raises the expected value of in-kind transfers conditioned on receiving positive transfers by 19 cents and the unconditional expectation by 35 cents. In contrast, a similar increase in income reduces domestic cash transfers by 36 cents and remittances by 52 cents for poor families receiving positive transfers. Total cash transfers are reduced by roughly 64 cents both for those above the limit and for all poor households, which constitutes a large negative effect. Most of the fall in cash transfers for these households comes from a decrease in the probability of receiving positive transfers rather than from a drop in the amount received if above the limit. For total transfers received the income effect is an increase of 16 cents. Excluding food from in-kind transfers results in a smaller positive income effect of 16 cents per additional peso. In this case, the marginal effect on total transfers is a reduction of 24 cents per additional peso of income for all poor households. The results for cash transfers received, which are measured more accurately than in-kind transfers received in my data, suggests a large potential crowding out effect of public programs among the poor and are consistent with altruism, which predicts that the negative effect of recipient's income on transfers received should be close to 1 in absolute value. Most of the large negative effects on total transfers received by the poor are due to a reduction in the probability of receiving any transfers.

Table 7b reports the decomposition of marginal effects for transfers given to other households. The negative effect of income on transfers given for the sample of all urban household contradicts both altruism and exchange, but it is small in magnitude. According to my estimates, an increase in income would reduce the expected value of transfers given by 2 cents.

For the poor, a one peso increase in income raises transfers given by 6 cents, and most of this effect is due to an increase in the probability of making a transfer.

Table 8 shows the income elasticities calculated at the means of pre-transfer income for the whole sample and for the poor. For all urban households, the income elasticity of total private transfers received is -0.33. For the poor the income elasticity of cash transfers is -0.72.

For all urban households, the income elasticity of transfers given is -0.13. As mentioned before, this negative elasticity contradicts both altruism and exchange. For the poor, the income elasticity of transfers given is 0.63.

7 Conclusion

Understanding transfer behavior among households is important because private transfers can neutralize or reinforce government redistributive efforts depending on whether they are motivated by altruism or exchange. Previous evidence for the U.S. suggests that crowding out of private transfers by government programs is negligible and that altruism is not the primary motive for transfer behavior. Evidence for developing countries suggests larger negative effects. However, existing studies fail to account for the endogeneity of household pre-transfer income, which could seriously bias their estimates. In this paper, I address this endogeneity by using the exogenous variation in income caused by a public transfer program for the elderly that started in 2001 in Mexico City. I estimate an instrumental variables Tobit model on a sample of urban households and examine whether the effects are larger for the poor.

The main finding of this paper is that not controlling for the endogeneity of total income reproduces the results of previous work, i.e. the estimated coefficient of income on the transfer equation is either positive, or negative but small. In contrast, my instrumental variables strategy yields large, negative and statistically significant income effects. My preferred estimates imply that a one peso increase in household income leads to a decrease of 28 cents in total private transfers received by households already receiving transfers and a drop in 18 cents in the expected transfers received by all urban households. For all urban households, the reduction in total private transfers is mostly due to a decrease in the amount received by those households

with positive transfers. The implied income elasticity of private transfers, conditioned on positive transfers received, is -0.33. For poor households, a one peso increase in income reduces cash private transfers received by 64 cents, implying an income elasticity of -0.72. Total transfers without food received by the poor decrease by 24 cents per additional peso of income. The reduction in private transfers received by the poor is mostly due to a decrease in the probability of receiving a transfer. These findings are consistent with the altruistic model and suggest a large potential crowding out effect of public programs, particularly those targeted towards the poor. In-kind transfers received by the poor from other households increase with income, which would be consistent with exchange but not with altruism. However, this positive effect becomes smaller after excluding food transfers, which possibly reflect an increase in government transfers for the poor in Mexico City after 2001. Total transfers given by the poor increase by 6 cents per additional peso of income and they decrease by 2 cents for the whole sample. For all urban households, the negative income effect on transfers given contradicts both motives for private transfers examined in this paper, but it is small in magnitude.

The possibility of implementing a similar program for the elderly at the national level is currently being debated in Mexico. My results suggest that the extension of the program can have an important crowding-out effect on the cash private support received by poor households nationwide. As a consequence, the program would not be completely effective in increasing the incomes of the elderly, but could end up benefiting the donors of these households instead. For instance, my estimates for poor urban households imply that an additional peso of income reduces the remittances they receive from abroad by 14 cents. However, remittances could decrease more if rural elderly households are incorporated into the program, because these households receive an important fraction of their cash private transfers from the United States. Moreover, a survey carried out by the Mexican Central Bank reveals that the main recipients of remittances are the migrants' parents, who are more likely to be elderly. Thus, the burden of supporting the poor elderly in rural areas, which is currently borne in part by individuals working abroad, could be partially shifted towards the residents of Mexico as a result of the extension of the program.

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Table 1
Descriptive Statistics

	All		Poor	
	Mean	S.E.	Mean	S.E.
Household size	4.03	0.011	4.03	0.024
Number of kids less than 6 years old	0.46	0.004	0.47	0.009
Number of kids 6-12 years old	0.58	0.005	0.52	0.009
Number of adults 19-69 years old	2.36	0.007	2.38	0.016
Characteristics of the head of household				
Female head	0.22	0.002	0.30	0.005
Age	45.20	0.085	49.64	0.207
Years of education	9.42	0.028	6.33	0.047
Labor force participation	0.48	0.003	0.30	0.005
Married head	0.62	0.003	0.53	0.006
Dummy for 1 elderly individual in the household	0.09	0.002	0.17	0.004
Dummy for 2 elderly individuals in the household	0.02	0.001	0.05	0.002
Dummy for at least one elderly individual in the household	0.11	0.002	0.21	0.005
Dummy for at least one elderly individual in the household in Mexico City	0.03	0.001	0.05	0.002
Mexico City dummy	0.20	0.002	0.19	0.004
Total household income without private transfers	8460.98	68.648	2463.58	19.02
Total household income with private transfers	8733.80	68.755	3092.02	25.59
Total government transfers received	26.64	1.903	41.87	3.22
Private transfers received				
In-kind transfers	353.58	5.897	365.74	9.87
Domestic cash transfers	215.36	6.327	498.00	20.55
Remittances	57.46	3.740	130.45	9.83
Total cash transfers	272.82	7.354	628.44	22.63
Total transfers received	626.40	9.958	994.18	26.98
Private transfers given				
In-kind transfers	109.48	6.506	13.72	1.51
Cash transfers	124.94	5.241	12.19	1.02
Total transfers given	234.42	8.718	25.91	1.85
Number of observations	32,242		8,060	

Source: Author's calculations using a nationally representative sample of urban households from the National Income and Expenditure Survey for Mexico (ENIGH), for the years 1996, 1998, 2000, 2002 and 2004. Households are classified as "poor" if their monthly income per adult is less than or equal to one monthly minimum wage. An "elderly individual" is a person who is age 70 or older. Household income and transfers are in real pesos per month. Nominal values were deflated using the Mexican Consumer Price Index (INPC).

Table 2
Transfer Behavior among Households

	All	Poor
Proportion of households receiving private transfers		
In-kind transfers	0.48	0.54
Domestic cash transfers	0.13	0.27
Remittances	0.02	0.05
Any cash transfers	0.15	0.31
Any transfer	0.52	0.61
Proportion of households giving private transfers		
In-kind transfers	0.10	0.04
Cash transfers	0.15	0.05
Any transfer	0.21	0.09
Private transfers as a fraction of total household income		
Transfers received		
In-kind transfers	0.04	0.12
Domestic cash transfers	0.02	0.16
Remittances	0.01	0.04
Total cash transfers	0.03	0.20
Total transfers	0.07	0.32
Transfers given		
In-kind transfers	0.01	0.005
Cash transfers	0.01	0.005
Total transfers given	0.03	0.01
Number of observations	32,232	8,060

Source: Author's calculations using a nationally representative sample of urban households from the National Income and Expenditure Survey for Mexico (ENIGH), for the years 1996, 1998, 2000, 2002 and 2004. Households are classified as "poor" if their monthly income per adult is less than or equal to one monthly minimum wage. Household income and private transfers are monthly values.

Table 3
Average Monthly Government Transfers Received by the Household

Year	Not Elderly, Mexico City	Not Elderly, Not Mexico City	Elderly, Mexico City	Elderly, Not Mexico City
1996	10.69	4.06	0	0.6
1998	13.54	8.09	31	7.31
2000	11.3	24.11	0	4.95
2002	33.34	15.47	452.48	8.76
2004	40.32	25.39	514.76	15.52
Number of observations	23,104	5,617	886	2,655

Source: Author's calculations using a nationally representative sample of urban households from the National Income and Expenditure Survey for Mexico (ENIGH), for the years 1996, 1998, 2000, 2002 and 2004. Households are classified as "elderly" if they have at least one member who is age 70 or older. "Not elderly" households have no members over the age of 70. Government transfers are in real pesos per month. Nominal values were deflated using the Mexican Consumer Price Index (INPC). The group of households affected by the transfer program after 2001 is the one labeled as "Elderly, Mexico City".

Figure 1

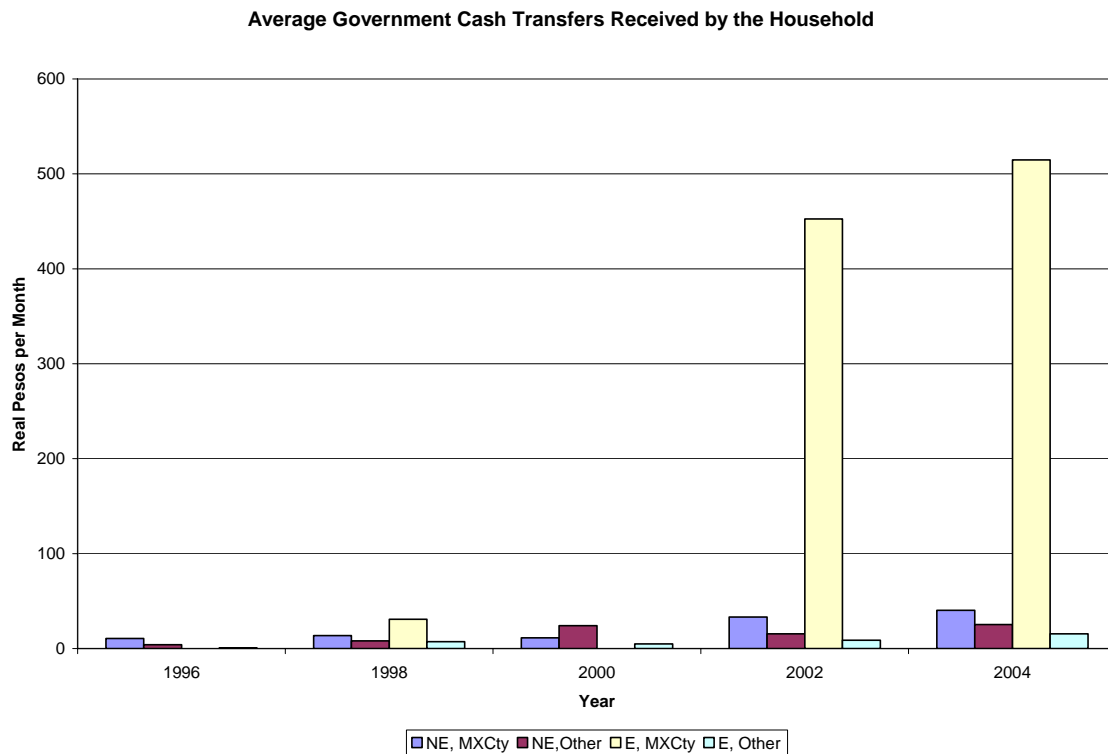


Table 4
Tobit and IV Tobit Estimation
Dependent Variable: Total Private Transfers Received
All Urban Households

	Tobit	IV Tobit
Household size	-68.94 (21.80)	262.23 (60.37)
Number of kids<6	70.88 (30.36)	-403.62 (73.44)
Number of kids 6-12	-63.13 (31.18)	-410.04 (65.61)
Number of adults 19-69	-59.09 (28.01)	1124.09 (88.38)
Female head	732.51 (50.31)	404.96 (164.28)
Age of head	-21.19 (1.46)	51.69 (7.93)
Head's education	10.05 (3.83)	739.46 (53.16)
Head's LFP	-1136.41 (63.11)	-349.60 (177.24)
Married head	-240.24 (44.06)	59.35 (112.36)
Household income before private transfers	0.002 (0.002)	-0.79 (0.04)
1 elderly individual dummy	325.77 (78.37)	572.83 (226.89)
2 elderly individuals dummy	1135.59 (144.43)	1352.73 (333.60)
1 elderly *Mexico City	233.39 (133.64)	27.77 (189.98)
2 elderly*Mexico City	180.05 (248.76)	-142.82 (311.37)
Mexico City dummy	-29.32 (162.70)	59.05 (197.29)
Number of observations	32,232	32,232

Sample: All urban households. Estimation: Maximum Likelihood. All estimations include state and year dummies. Standard errors, clustered at the state level, are in parentheses. An “elderly individual” is a person who is age 70 or older. Household income and transfers are in real pesos per month. The key endogenous variable is total household income before private transfers. The instruments are the interactions of a dummy for one or two elderly individuals in the household, a dummy for Mexico City and a dummy for the years after the program started. Nominal values were deflated using the Mexican Consumer Price Index (INPC).

Figure 2a

Fraction of In-Kind Transfers Received in Food
Poor Households

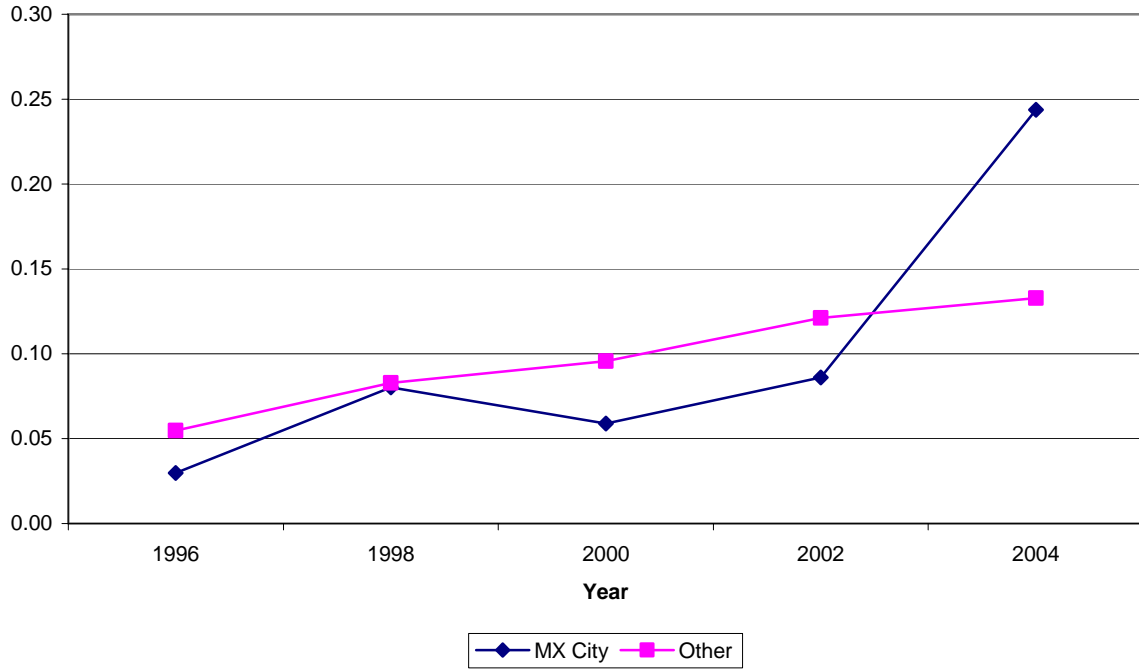


Figure 2b

**Average Government Food Transfers
Poor Households**

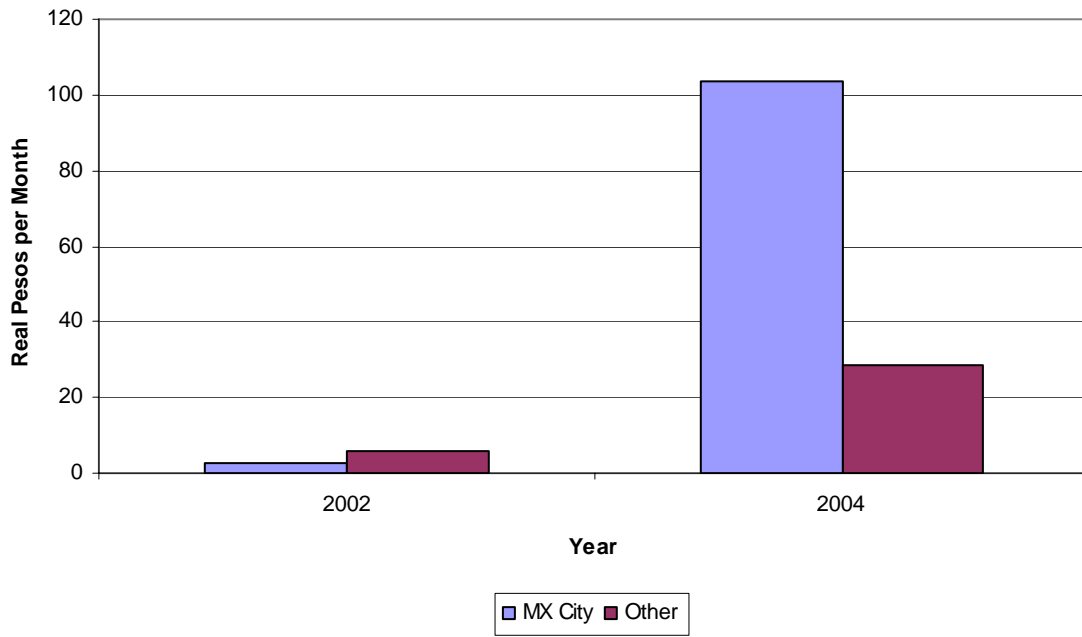


Figure 2c

**Average Private Food Transfers
Poor Households**

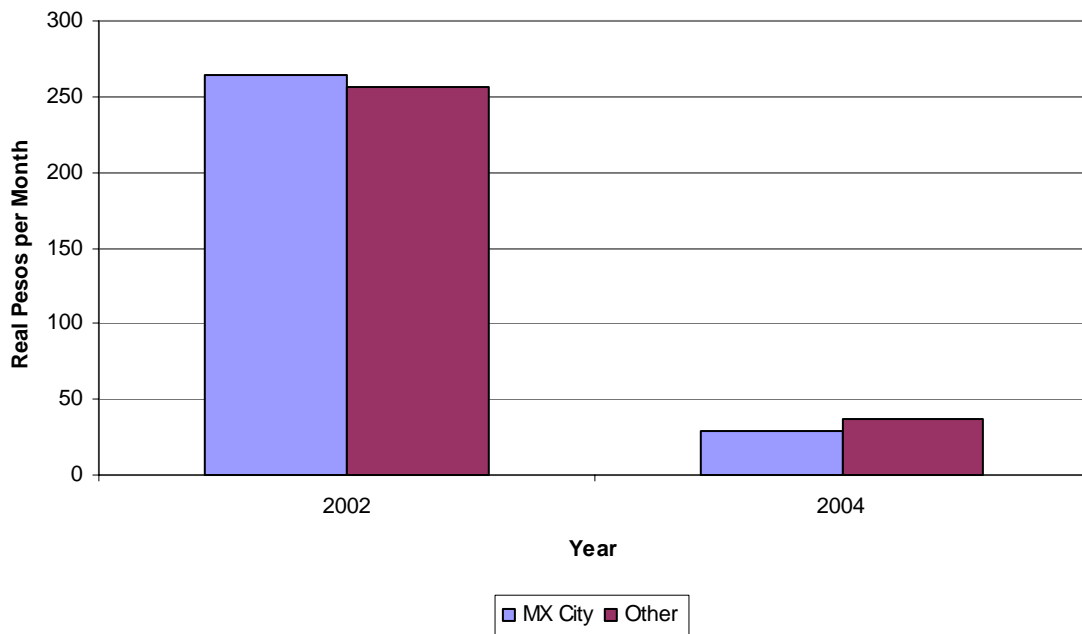


Table 5a
Amount of Private Transfers: Income Coefficients

	Tobit	IV Tobit
All households		
In-kind transfers received	0.005 (0.001)	-0.414 (0.063)
Total cash transfers	-0.085 (0.007)	- -
Total transfers received	0.002 (0.002)	-0.785 (0.037)
Total transfers given	0.086 (0.002)	-0.165 (0.003)
Poor households		
In-kind transfers received	-0.16 (0.02)	1.01 (0.22)
Domestic cash transfers	-1.52 (0.06)	-1.68 (0.40)
Remittances	-1.74 (0.19)	-4.39 (0.65)
Total cash transfers	-1.68 (0.06)	-2.69 (0.42)
Total transfers received	-0.93 (0.04)	0.36 (0.57)
In-kind transfers excluding food	-0.18 (0.02)	0.57 (0.19)
Total transfers received excl.food	-1.03 (0.04)	-0.59 (0.51)
Total transfers given	0.07 (0.01)	0.74 (0.07)

Estimation: Maximum Likelihood. All estimations include state and year dummies. Standard errors, clustered at the state level, are in parentheses. Households are classified as "poor" if their monthly income per adult is less than or equal to one monthly minimum wage. The key endogenous variable is total household income before private transfers. The instruments are the interactions of a dummy for one or two elderly individuals in the household, a dummy for Mexico City and a dummy for the years after the program started. Household income and transfers are in real pesos per month. Nominal values were deflated using the Mexican Consumer Price Index (INPC).

Table 5b
Transfer Decision: Marginal Effects of Income

	Probit	IV Tobit
All households		
In-kind transfers received	-5.78×10^{-7} (0.00)	-3.3×10^{-5} (0.00)
Total cash transfers	-5.10×10^{-6} (0.00)	- -
Total transfers received	-1.09×10^{-6} (0.00)	-3.4×10^{-5} (0.00)
Total transfers given	6.55×10^{-6} (0.00)	-1.1×10^{-5} (0.00)
Poor households		
In-kind transfers received	-4.3×10^{-5} (1×10^{-5})	2.4×10^{-4} (1×10^{-5})
Domestic cash transfers	-1.2×10^{-4} (0.00)	-1.3×10^{-4} (2×10^{-5})
Remittances	-1.4×10^{-5} (0.00)	-4.3×10^{-5} (2×10^{-5})
Total cash transfers	-1.4×10^{-4} (1×10^{-5})	-2.2×10^{-4} (2×10^{-5})
Total transfers received	-8×10^{-5} (1×10^{-5})	4.7×10^{-5} (3×10^{-5})
In-kind transfers excluding food	-4.5×10^{-5} (1×10^{-5})	1.4×10^{-4} (1×10^{-5})
Total transfers received excl.food	-9.8×10^{-5} (1×10^{-5})	-7.7×10^{-5} (3×10^{-5})
Total transfers given	1.3×10^{-5} (0.00)	1.5×10^{-4} (1×10^{-5})

Estimation: Maximum Likelihood. All estimations include state and year dummies. Standard errors, clustered at the state level, are in parentheses. Households are classified as "poor" if their monthly income per adult is less than or equal to one monthly minimum wage. The table reports the marginal effect of household income before private transfers on the probability of receiving or giving positive transfers. The instruments for income in the IV Tobit are the interactions of a dummy for one or two elderly individuals in the household, a dummy for Mexico City and a dummy for the years after the program started. Household income and transfers are in real pesos per month. Nominal values were deflated using the Mexican Consumer Price Index (INPC).

Table 6
 Instruments in First Step IV Tobit
 Dependent Variable: Household Income Before Private Transfers

	All	Poor
One elderly×Mexico City×2002	802.52 (130.05)	190.16 (49.72)
One elderly×Mexico City×2004	-654.17 (265.19)	339.19 (29.41)
Two elderly×Mexico City×2002	2341.06 (95.75)	882.08 (37.20)
Two elderly×Mexico City×2004	570.93 (227.26)	846.44 (35.43)
Number of observations	32,232	8,060

Estimation: Maximum Likelihood. All estimations include state and year dummies. Standard errors, clustered at the state level, are in parentheses. Household income is in real pesos per month. Nominal values were deflated using the Mexican Consumer Price Index (INPC). Households are classified as “poor” if their monthly income per adult is less than or equal to one monthly minimum wage. An “elderly individual” is a person who is age 70 or older. The instruments are the interactions of a dummy for one or two elderly individuals in the household, a dummy for Mexico City and a dummy for the years after the program started.

Table 7a
Marginal Effects of Income on Private Transfers Received

	Change in Pr (t>0)			Change in t for households with t>0			
	dPr(t>0)/dY	E(t t>0)	dPr(t>0)/dY × E(t t>0)	Pr(t>0)	dE(t t>0)/dY	Pr(t>0) × dE(t t>0)/dY	dE(t)/dY
All households							
In-kind	-0.000033	730.11	-0.024	0.480	-0.143	-0.068	-0.092
Cash*	-0.000004	1839.01	-0.007	0.150	-0.015	-0.002	-0.009
Total	-0.000034	1187.50	-0.040	0.520	-0.276	-0.144	-0.184
Poor households							
In-kind	0.000240	674.72	0.162	0.542	0.347	0.188	0.350
Domestic cash	-0.000130	1842.06	-0.239	0.270	-0.358	-0.097	-0.336
Remittances	-0.000043	2689.06	-0.116	0.049	-0.523	-0.025	-0.141
Total cash	-0.000220	2044.09	-0.450	0.307	-0.629	-0.193	-0.643
Total	0.000047	1587.39	0.075	0.626	0.133	0.083	0.158
In-kind w/o food	0.000140	671.62	0.094	0.453	0.175	0.079	0.173
Total w/o food	-0.000077	1652.81	-0.127	0.564	-0.199	-0.112	-0.240

Marginal effects calculated at the mean of the independent variables using the results of IV Tobit and the decomposition for Tobit models proposed by McDonald and Moffit (1980): $dE(t)/dY = d\text{Prob}(t>0)/dY \times E(t|t>0) + \text{Prob}(t>0) \times dE(t|t>0)/dY$. The marginal effect of income on the expected value of private transfers received is the sum of the marginal effect of income on the probability of receiving private transfers multiplied by the expected value of transfers conditioned on receiving positive transfers, and the marginal effect of income on the expected value of transfers for those households that receive positive transfers multiplied by the probability of receiving positive transfers. Households are classified as "poor" if their monthly income per adult is less than or equal to one monthly minimum wage.

Table 7b
Marginal Effects of Income on Private Transfers Given

	Change in Pr (t>0)			Change in t for households with t>0			
	dPr(t>0)/dY	E(t t>0)	dPr(t>0)/dY × E(t t>0)	Pr(t>0)	dE(t t>0)/dY	Pr(t>0) × dE(t t>0)/dY	dE(t)/dY
All households							
Total given	-0.000011	1091.161	-0.012	0.2148	-0.03776	-0.008	-0.020
Poor households							
Total given	0.0001538	300.44	0.046	0.08622	0.1419879	0.012	0.058

Marginal effects calculated at the mean of the independent variables using the results of IV Tobit and the decomposition for Tobit models proposed by McDonald and Moffit (1980): $dE(t)/dY = d\text{Prob}(t>0)/dY \times E(t|t>0) + \text{Prob}(t>0) \times dE(t|t>0)/dY$. The marginal effect of income on the expected value of private transfers given is the sum of the marginal effect of income on the probability of giving private transfers multiplied by the expected value of transfers conditioned on giving positive transfers, and the marginal effect of income on the expected value of transfers for those households that give positive transfers multiplied by the probability of giving positive transfers. Households are classified as "poor" if their monthly income per adult is less than or equal to one monthly minimum wage.

Table 8
Income Elasticity of Private Transfers

	All	Poor
Transfers received		
In-kind transfers	-0.32	0.66
Domestic cash transfers	-0.07	-0.45
Remittances	-	-0.52
Total cash transfers	-	-0.72
Total transfers	-0.33	0.13
In-kind transfers excluding food	-	0.40
Total transfers excluding food	-	-0.21
Transfers given		
Total transfers	-0.13	0.63
Mean income before private transfers	8460	2463

Elasticities calculated at the mean of the independent variables using the results of IV Tobit. Households are classified as "poor" if their monthly income per adult is less than or equal to one monthly minimum wage.

Table A1
In-Kind Transfers Received by Consumption Category

	All	Poor
Food	0.08	0.11
Alcohol	0.004	0.001
Food outside the home	0.39	0.33
Tobacco	0.00	0.00
Subsidized food	0.00	0.00
Public transportation	0.03	0.02
Household cleaning supplies and services	0.01	0.01
Personal Care	0.02	0.02
Education	0.07	0.07
Child care	0.001	0.001
Entertainment	0.01	0.01
Housing and utilities	0.03	0.06
Clothing	0.06	0.06
Furniture and household appliances	0.005	0.004
Health care	0.15	0.19
Home improvement	0.02	0.02
Electronics	0.01	0.01
Transportation	0.04	0.03
Other	0.08	0.04

Source: Author's calculations using a nationally representative sample of urban households from the National Income and Expenditure Survey for Mexico (ENIGH), for the years 1996, 1998, 2000, 2002 and 2004. The table reports the proportion that in-kind transfers received in each consumption category represent in total in-kind transfers received by the household. Households are classified as "poor" if their monthly income per adult is less than or equal to one monthly minimum wage.

Table A2
In-kind Transfers by Source in 2002

	Government	Other Households
Food	0.05	0.93
Alcohol	0.01	0.99
Food outside the home	0.02	0.98
Tobacco	0.00	1.00
Subsidized food	0.00	0.00
Public transportation	0.00	0.00
Household cleaning supplies and services	0.01	0.97
Personal Care	0.01	0.98
Education	0.18	0.63
Child care	0.02	0.98
Entertainment	0.21	0.76
Housing and utilities	0.03	0.95
Clothing	0.00	0.99
Furniture and household appliances	0.01	0.99
Health care	0.61	0.32
Home improvement	0.10	0.89
Electronics	0.01	0.98
Transportation	0.17	0.78
Other	0.02	0.97
Total	0.11	0.82

Source: Author's calculations using a nationally representative sample of urban households from the National Income and Expenditure Survey for Mexico (ENIGH), for 2002. The table reports the fraction of in-kind transfers in each consumption category that come from the government or from other households. The remaining 7 percent of total in-kind transfers received comes from employers and private institutions.