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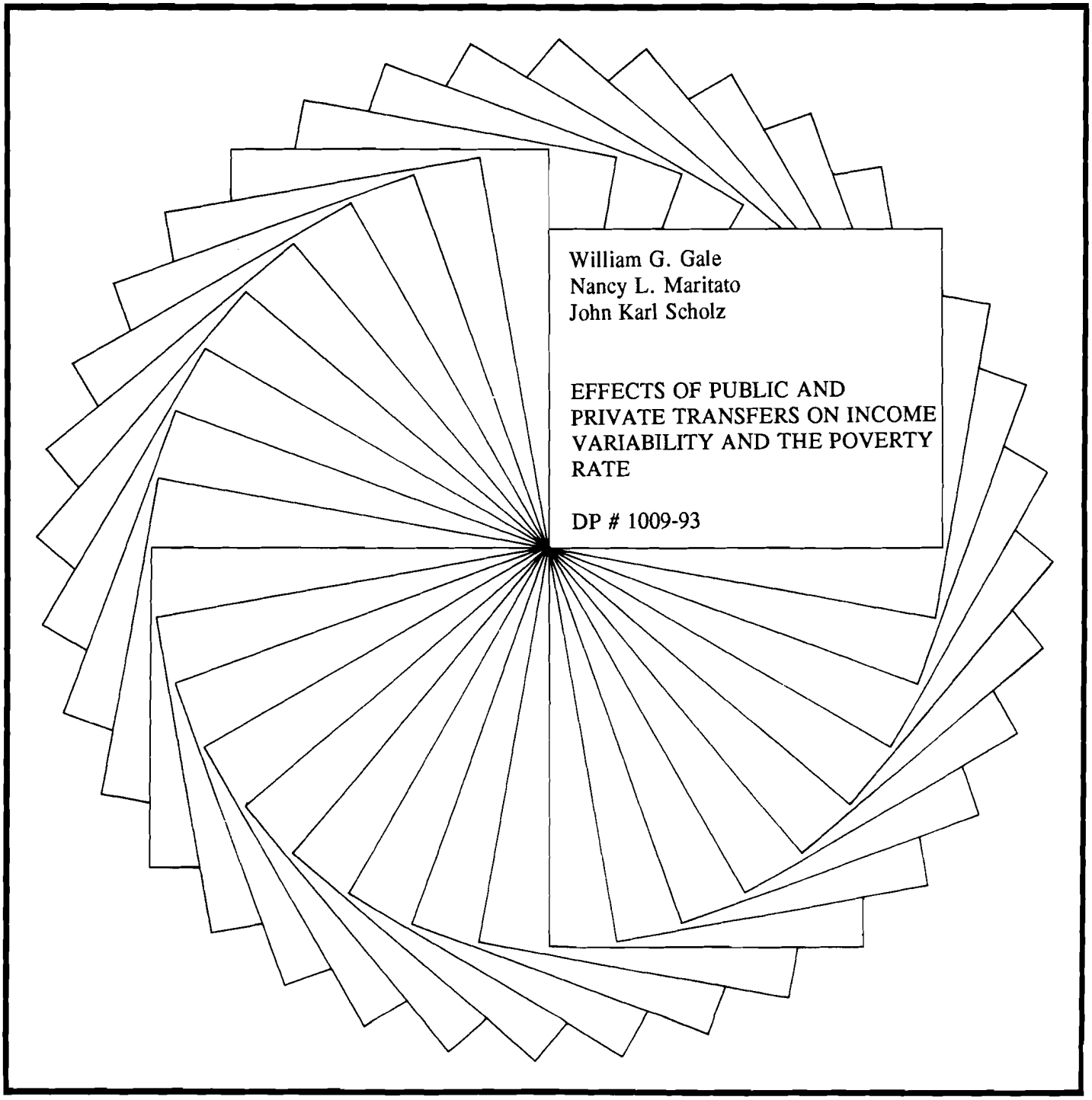

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EFFECTS OF PUBLIC AND PRIVATE TRANSFERS ON INCOME VARIABILITY AND THE POVERTY RATE

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Effects of Public and Private Transfers on Income Variability and the Poverty Rate

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Abstract

The principal goals of public assistance programs include reducing the incidence of poverty and reducing the variability of household income. In this paper, we examine the extent to which private interfamily transfers would either offset or amplify the effects of changes in public transfers. Our estimates suggest that reductions in public transfer programs would raise the poverty rate and income variability; private transfers would rise as well, but would offset only a small portion of the reduction in public assistance.

Effects of Public and Private Transfers on Income Variability and the Poverty Rate

I. INTRODUCTION

The principal goals of public assistance programs include reducing the incidence of poverty and reducing the variability of household income (see Lampman [1984] for a detailed discussion.) This paper examines the extent to which private interfamily transfers--cash or other forms of assistance given from one family to another--potentially would offset or amplify the effects of changes in public transfers.

Currently, at least three hypotheses regarding the interaction between public and private transfers are popular. One is that private transfers do not respond at all to changes in public transfers; all of the studies of the effects of AFDC surveyed by Danziger, Haveman, and Plotnick (1981, Table 6) assume this to be the case. The second hypothesis assumes the presence of widespread "altruistic" linkages across households (Barro 1974; Becker 1974; Roberts 1984). In this framework, changes in public transfers to a given household are fully offset by shifts in private transfers. The third hypothesis is that private transfers are the means of payment for goods and services provided by other family members (Bernheim, Schleifer, and Summers 1985; Cox 1987). In this case, the effects of shifts in public transfers on private transfers are indeterminate, but could very well be positive. This last theory is intriguing in that it implies that private transfers can amplify, rather than offset, the effects of changes in public transfers.

These three hypotheses have different implications for the effectiveness of antipoverty programs. Nevertheless, few attempts have been made to understand why one family might give money to another family that receives or was receiving public transfers. Studies that examined the motivations behind private transfers have focused on changes in a household's earned or asset income.[1] The results of these studies may not apply to antipoverty programs, however, since private

transfers may well respond differently to changes in earned or asset income than to changes in public assistance benefits.

Lampman and Smeeding (1983) examine broad trends in private interfamily transfers and public transfers since 1929. They find that, to at least some extent, private transfers appear to offset changes in public transfers in the aggregate data. They conclude, however, that "much additional work is needed to establish these conclusions more firmly" (p. 59).

Cox and Jakubson (1989) analyze the interactions between public and private transfers received by households surveyed in the President's Commission on Pension Policy (PCPP). Their findings are consistent with the no-response and exchange hypotheses, and lead to the encouraging conclusion that antipoverty programs are effective both in reducing the poverty rate (from 18.0 percent to 9.9 percent in their sample) and in raising the average income in the lowest quintile (from $1,093 to $2,662). The study is important because it provides empirical evidence in the context of a well-reasoned model on the relation between public assistance and private transfers on a household level.

Nevertheless, there are some important caveats to Cox and Jakubson's results. First, because the PCPP is a cross-section, the presence of unobservable family-specific effects can contaminate the findings. (This issue is discussed further below.) A second issue arises because the PCPP omits data on unemployment compensation and worker's compensation. To the extent that private transfers are targeted at households experiencing unemployment or work-related injuries, the results may be biased. In addition, the PCPP provides scant data on the characteristics of the donors of transfers. Because of these caveats, the interactions between public and private transfers and their net effects on the poverty rate and variability of income remain open questions.

Scheoni (1992) examines similar issues using data from the 1988 wave of the Panel Study of Income Dynamics (PSID). He finds significant offsets between unemployment compensation and

private familial support. As described below, use of the PSID resolves the last two problems noted above, but his study uses only one cross-section of data from the PSID.

Rosenzweig and Wolpin (1990, 1992a, 1992b) use panel data to address several issues related to transfers. They find an important inverse relationship between the level of government assistance and the likelihood of receiving a private transfer. They also find that controlling for family-specific effects has important implications for understanding transfer behavior.

Section II describes the data source used below (the Panel Study of Income Dynamics), documents some characteristics of transfers and recipients, and compares the results to data from other surveys. Section III examines dynamic aspects of private transfer receipts, and compares public and private transfer patterns. Section IV describes the underlying model used as a basis for the econometric estimates. Section V presents the basic empirical results on private transfer motives and on interactions between private and public transfers. Section VI uses these results to simulate the effects on poverty rates and income variability of reducing public transfers and allowing private transfers to adjust.

Section VII describes some important caveats to the research and discusses directions for further study. Because we view the analysis as preliminary in certain important respects, these caveats are significant. While the descriptive sections present new results that exploit the panel aspects of the data set, the principal concern is that, like several previous authors, our regression results have utilized cross-sectional analysis. As noted above, such analysis should be viewed with caution. Extending the formal estimation to incorporate panel aspects of the data is an important task for future research.

II. DATA

This paper employs data from the Panel Study of Income Dynamics (PSID). The PSID contains detailed information on public and private sources of household income.[2] Since 1975, the PSID has collected data on cash received by the household from relatives. The survey also asks if a respondent's housing is a gift or if it is paid for by a person outside the immediate family unit, and if so, what the rental value of the housing is. We include transfers of cash and provision of housing in our definition of intergenerational private transfers.[3] Although the PSID does not ask for the specific source of transfers received, the vast majority of inter vivos transfers (transfers between living people) involve parents giving to their children.[4] Accordingly, the transfers we examine may be thought of as reflecting primarily parent-to-adult-child transfers.

The PSID also includes "split-offs," people who were recorded as children in earlier surveys but who are recorded as household heads or spouses in later surveys.[5] By combining data on split-offs and their parent households and examining public and private transfers received by the split-offs, the PSID provides detailed information about both the donor and recipient households.

An important preliminary step is to verify the reliability of the transfer data and provide background information on the characteristics of private transfers and of recipients. Appendix Table A compares PSID transfer data in 1979 and 1983–1985 to data on similar items for the same years reported in studies using other surveys. (For consistency, our descriptive results and formal estimates below use data from these years.) PSID transfer data match information in other surveys in several important respects, but appear to understate aggregate transfers received by about half relative to one survey (the SCF).

Detailed data on intergenerational transfer patterns in the PSID for 1984 are presented in Table 1. About 8.5 percent of households reported receiving transfers; the average transfer size among recipients was $2,120. The probability of receiving a transfer generally falls with the age of

TABLE 1

Private Transfer Data from the 1984 PSID, for All Households and by Age of Household Head and Household Income (N=6,140)

	Percentage of Households that Received Transfers	Mean Amount of Transfers Received, Averaged over All Households	Mean Amount of Transfers Received by Recipient Households	Percentage of Total Dollar Amount of Transfers Received[a]
All households	8.5	$181.3	$2,120	100.0
Age of household head				
18–24	26.4	465	1,961	18.1
25–34	10.8	246	2,279	36.7
35–44	7.4	150	2,028	18.3
45–54	3.3	106	3,163	8.5
55–64	3.2	80	2,520	7.8
65 and older	6.4	125	1,951	10.4
Household income				
$0–$10,000	19.6	375	1,916	34.1
$10,000–$20,000	13.1	239	1,819	28.6
$20,000–$35,000	4.8	140	2,933	20.2
$35,000–$50,000	2.6	91	3,466	11.3
$50,000–$100,000	1.9	45	2,379	4.4
$100,000 +	3.6	18	511	1.4

Note: Private transfers include cash and provision of housing.

[a]Percentages may not add to 100 due to rounding.

the household head, with a slight increase after age 65. Average amounts received among recipients rise with age, peaking in the 45–54 age group. About 74 percent of the total dollar amount of private transfers received accrue to people under age 45. The probability of receiving a transfer also falls with household income, with a slight increase among those with incomes over $100,000. Average transfer amounts among recipients are generally higher in higher-income groups. Most transfers are received by households with incomes under $50,000. Similar patterns hold for 1979 and are reported in Appendix Table B.

Mean characteristics in 1984 for the whole sample, private transfer recipients, and households in poverty are presented in Table 2. Relative to the sample as a whole, recipient households have younger heads, lower incomes, are less likely to own their home, more likely to have a female head, and more likely to be black. Private transfer recipients are also more likely to receive public nonretirement income transfers.[6]

Poor households are more likely to receive public transfers than the overall sample. Perhaps surprisingly, they are also almost four times more likely than average to receive a private transfer. Average public and private transfer amounts are larger for poor households than for households in the overall sample. Similar patterns for 1979 are presented in Appendix Table C.

III. DYNAMIC CHARACTERISTICS OF PRIVATE TRANSFERS

Most previous studies of transfer data and motives have used cross-sectional data sets.[7] However, many of the most basic descriptive questions concerning transfer motives and the interactions between public and private transfers involve dynamic considerations that can only be addressed through panel data. Difficulties in inferring dynamic behavior from cross-sectional data have been demonstrated by Jianakoplos, Menchik, and Irvine (1989) and Hurd (1987), among others.

TABLE 2
Mean Characteristics of Households in 1984 PSID

Characteristic	Whole Sample	Private Transfer Recipients	Households in Poverty
Age of household head	45.7	37.7	34.8
Years of schooling of household head	12.8	12.6	11.7
Female head	29.6%	49.9%	50.0%
Married head	58.6%	31.2%	24.5%
Black	11.9%	17.1%	43.1%
Income	$30,732	$16,730	$1,608
Financial asset income	$2,790	$750	$-5,520
Own home	61.7%	24.4%	28.3%
Private cash transfers			
Probability of receipt	.054	0.630	.200
Mean amount, conditional upon receipt	$1,647	$1,646	$2,163
Private housing transfers			
Probability of receipt	.035	0.413	.134
Mean amount, conditional on receipt	$2,625	$2,624	$2,054
Private transfers--total			
Probability of receipt	.085	1.000	.313
Mean amount, conditional upon receipt	$2,120	$2,120	$2,261
Public transfers[a]			
Probability of receipt	.188	.314	.551
Mean amount, conditional upon receipt	$2,574	$2,457	$2,931
Sample size	6,140	587	240

[a]Public transfers include AFDC, food stamps, Supplemental Security Income, unemployment compensation, and worker's compensation.

This section exploits the panel nature of the PSID to examine some dynamic aspects of transfer behavior.[8] Table 3 shows that households who received private transfers in 1978 or 1983 are roughly 3.5 times more likely than average to receive private transfers in the following year. Persistence lasts over longer periods as well. Additional calculations not shown in the table indicate that households who received private transfers in 1979 were more than twice as likely as an average household to have received a private transfer in 1984. Persistence in public transfers is even stronger. Among households that received nonretirement public transfers in 1978 or 1983, 69 percent also received such transfers the following year.

Some relations between changes in household characteristics and changes in public and private transfers are documented in Table 4 for 1983–1984 and Appendix Table D for 1978–1979. For example, the first row of Table 4 shows that among people whose labor income fell from 1983–1984, 80.3 percent received no changes in transfers; of those whose labor income fell and transfers did change, 60.7 percent experienced increases in transfers. The first column indicates that most households do not experience changes in transfers received from year to year. The obvious reason why is that, in any given year, the majority of households do not receive private transfers. The second column, however, shows that among households who did receive private transfers, those whose incomes rose and whose heads became employed were less likely to see an increase in private transfers than were households whose incomes fell or whose heads became unemployed.

Altruism models assume that reductions in recipients' income are associated with increases in private transfers and vice versa, holding parents' income constant. Exchange models contain the possibility, but not the requirement, that increases in households' income may be associated with increases in transfers received. Thus, the private transfer results in Table 4 and Appendix Table D appear consistent with both models.

TABLE 3

Transfer Receipt among PSID Households, 1979 and 1984

Sample	Probability Received Private Transfers in 1979	Probability Received Public Transfers in 1979
Whole sample, 1978	.101	.242
Received private transfer in 1978	.359	-
Did not receive private transfer in 1978	.068	-
Received public transfer in 1978	-	.696
Did not receive public transfer in 1978	-	.101
	Probability Received Private Transfers in 1984	Probability Received Public Transfers in 1984
Whole sample, 1983	.120	.262
Received private transfer in 1983	.446	-
Did not receive private transfer in 1983	.070	-
Received public transfer in 1983	-	.688
Did not receive public transfer in 1983	-	.101

Note: Private transfers include cash and provision of housing; public transfers include AFDC, food stamps, Supplemental Security Income, unemployment compensation, and worker's compensation.

TABLE 4

Percentage of PSID Households with Changes in Amounts of Transfers Received, 1983-1984, by Household Characteristics

Characteristic	Private Transfers[a]		Public Transfers[b]	
	Percentage of Households with No Changes	Percentage of Recipient Households with Changes >$0	Percentage of Households with No Changes	Percentage of Recipient Households with Changes >$0
Labor income fell	80.3	60.7	64.1	67.6
Labor income rose	81.9	42.1	71.1	42.3
Income fell	80.5	64.4	58.8	71.5
Income rose	81.4	40.4	70.3	39.4
Income/needs fell	79.6	62.9	62.6	57.2
Income/needs rose	82.0	40.6	68.6	49.4
Newly married	82.4	40.0	64.5	47.9
Newly single	66.2	57.3	62.1	55.2
Newly employed	64.8	42.4	36.1	22.1
Newly unemployed	61.7	65.7	35.5	65.4
Public income fell	74.7	47.6	-	-
Public income rose	79.3	52.2	-	-

[a]Private transfers include cash and provision of housing.

[b]Public transfers include AFDC, food stamps, Supplemental Security Income, unemployment compensation, and worker's compensation.

Additional information on private transfer motives may be obtained by comparing the relative responses of public and private transfers to changes in income. The public transfer system may be thought of as altruistic because transfer payments received by households are, in general, inversely related to a household's income, and because there are no obvious exchange or strategic considerations. If the public transfer system were markedly more altruistic than private transfers (i.e., if private transfers were dominated by exchange considerations), the numbers in the fourth column in Table 4 and Appendix Table D should be larger than the corresponding numbers in the second column for reductions in income (or becoming unemployed) and should be smaller than the corresponding numbers in the second column for increases in income (or becoming employed).

This is, in general, not the case. True, households whose labor income and overall income fell were more likely to see an increase in public transfers than in private transfers, suggesting that the public transfer system may be more altruistic than the private transfer system. However, households whose income measures increased or whose heads became employed were also more likely to see an increase in public transfers than in private transfers. This suggests that the public transfer system is less altruistic than the private system. Thus, data on changes in income do not provide any compelling evidence that private transfers are predominantly exchange-oriented.

A finding of particular interest to the effects of public and private transfers on poverty is that reductions in income-to-needs ratios[9] are met with as strong of a response from private transfers as from public transfers.

IV. MODELING PUBLIC AND PRIVATE TRANSFERS

In order to examine these issues more formally, this section describes a model of transfer behavior. The model was originally developed by Bernheim, Schleifer, and Summers (1985) and Cox

(1987) and extended to include public transfers by Cox and Jakubson (1989), and is only briefly summarized here.

Consider a parent household and a household headed by the adult child of that parent. The parent derives utility from his/her own consumption, services provided by the adult child, and the adult child's utility. The adult child derives utility from his/her own consumption and (negatively) from services provided to the parents (s). Parents are constrained by their income; adult children are constrained by their earned income plus transfers received from the parent (T) plus public transfers received. The parent chooses s and T to maximize his/her own utility, subject to the constraint that his/her child is at least as well off as when $s=T=0$. If the choice of s and T leaves the child better off than when $s=T=0$, the altruism model holds on the margin. Otherwise, the exchange model holds.

Cox (1987) and Cox and Jakubson (1989) implement this model empirically using a generalized tobit framework. The first stage estimates probit models of transfer receipt for each household of the form

$$
\begin{aligned}
& t^* = Zb + e, \\
(1) \qquad & t=1 \text{ if } t^* > 0, \\
& t=0 \text{ if } t^* <= 0,
\end{aligned}
$$

where $t=1$ indicates that a transfer was received, e is a normally distributed error term, and Z is a vector of characteristics of the (potential) donor and (potential) recipient, including income sources and demographic factors.

In the second stage, the level of transfers received (T) is estimated for households that receive positive transfers, correcting for selection bias:

(2) $$T = Xc + \lambda M + u,$$

where X is a vector of characteristics of the donor and recipient, M is the inverse Mills ratio estimated from (1), and u is an error with zero mean.

Both the altruism and exchange models predict that increases in parents' income (more generally, resources) should raise the probability of a transfer occurring and the size of the expected transfer, given that a transfer occurs. Increases in children's income, both models predict, should reduce the probability of receiving a transfer.

One qualitative distinction between the two models is that the coefficient on child's earnings or public transfer income in (2) should be negative in the altruism model, but could be either negative or positive in the exchange model.[10] For this reason, Cox (1987) and Cox and Jakubson (1989) do not use the tobit specification. However, if the estimates on children's public and private income sources are of the same sign (and negative) in the two stages, the further restrictions imposed by the tobit model may be tested.

The pure altruism model implies an additional, sharper distinction: the effect of raising children's income by a dollar and lowering parents' income by a dollar should be to reduce private transfers by a dollar (see Cox 1987).

V. ESTIMATES

To estimate the equations described above, we developed a data set with information on matched pairs of split-offs and parents. A household qualified as a split-off if either the head or spouse were listed as a child in another household in an earlier year. To minimize reporting errors, we excluded split-off households if the head was 45 or older or if the age difference between the parent and child was less than 16 or greater than 41. These selection criteria provided a sample of

1,807 matched pairs of split-off households and parent households in 1984. Mean characteristics of this sample are presented in Appendix Table E.

The regressions include various sources of private and public income for the split-offs: labor income, financial asset income, and public nonretirement income. The latter consists of four categories: AFDC; other welfare income, including food stamps and Supplemental Security Income; unemployment compensation; and worker's compensation. Whether a household owns its own home is also included in the regressions. Holding financial asset income constant, owning a home is likely to signify increased wealth.

The exchange model implies that demographic considerations may affect transfer choices through their effect on the supply of services. To account for this possibility, the regressions include marital status, whether the head is female, the number of children under age 5, and the number of children between 5 and 18. Female adult children provide more assistance to parents than males; married households have been estimated to provide less assistance (see the citations in Cox 1987). Families with children under age 5 may find it more difficult to provide services to parents than families with older children.

Cox (1990) shows that transfers are often targeted at borrowing-constrained households. We include permanent income variables to account for this possibility, including the variables above and education, age, and race. Data for parents include income, age, education, and marital status.[11]

Table 5 shows the results of two probit estimates of the probability of an adult child receiving a transfer from his or her parents. As both the altruism and exchange models suggest, increases in children's income reduce the likelihood of a transfer, while increases in parents' income raise that likelihood. Labor income for split-offs is highly significant and the estimated coefficient is very close to that estimated by Cox (1987, Table 6) when parental characteristics are included. Owning a home is also negatively and significantly associated with receiving a transfer.[12] Financial asset income is

TABLE 5

Probit Estimates of Probability of Private Transfer Receipt by Households in 1984 PSID (N=1,807)

Variable	Estimated Coefficient	T-Ratio	Estimated Coefficient	T-Ratio
Split-offs				
Labor Income	-0.339×10^{-4}	-7.331	-0.334×10^{-4}	-7.150
Financial Income	-0.122×10^{-4}	-0.678	-0.132×10^{-4}	-0.728
Public NR Income	-0.527×10^{-4}	-2.390	--	--
AFDC	--	--	-1.054×10^{-4}	-2.561
Other Welfare	--	--	-0.058×10^{-4}	-0.146
Unemployment Comp.	--	--	-1.121×10^{-4}	-1.743
Worker's Comp.	--	--	-0.227×10^{-4}	-0.483
Age	-0.009	-0.855	-0.009	-0.834
Education	0.035	1.316	0.034	1.256
Married	0.023	0.166	0.026	0.192
Female Head	0.063	0.499	0.073	0.574
Nonwhite	-0.080	-0.810	-0.082	-0.826
Own Home	-0.373	-3.322	-0.376	-3.338
Kids below 5 yrs.	0.024	0.426	0.023	0.412
Kids between 5 & 18	-0.092	-1.530	-0.089	-1.479
Parents				
Income	0.022×10^{-4}	1.704	0.022×10^{-4}	1.706
Age	-0.008	-1.222	-0.009	-1.261
Education	-0.001	-0.076	-0.002	-0.010
Married	-0.074	-0.788	-0.061	-0.651
Constant	-0.099	-0.209	-0.102	-0.217
ln L	-609.86		-607.53	

Source: Authors' computations based on 1984 PSID.

Note: Dependent variable = 1 if transfer is received, 0 otherwise. Private transfers include cash and provision of housing.

negatively but not significantly associated with the receipt of a transfer. Increases in parents' income are associated with increases in the probability of receiving a transfer, an effect significant at the 10 percent level. As in Cox (1987, Table 6), the coefficient on parents' income is much smaller than any of the coefficients on children's income.

In the first regression, receipt of public nonretirement transfer income is negatively and significantly associated with receiving a private transfer. The coefficient is larger than that on labor income. The second regression breaks down the public transfer variable into its components. The effects on private transfers of AFDC payments and unemployment compensation are negative and statistically significant at the 2 percent and 10 percent levels, respectively. Adding in variables for the number of weeks unemployed and levels of other income received, including alimony and child support, does not significantly alter these results.[13]

Table 6 reports the results of the second-stage regressions for these two specifications. No variable is statistically significant at conventional levels. The coefficients on split-offs' own resources (labor income, financial income, public income, and the home ownership dummy) are either negative, or, if positive, small and insignificant. This finding differs from that of Cox (1987) and Cox and Rank (1992), both of whom find that children's income enters positively and significantly in the second stage. The absence of significant sign reversal on the income terms in the second stage allows for the possibility of estimating the equations by tobit. The absence of statistical significance for any of the variables in Table 6 also makes tobit estimation seem desirable.

Tobit estimates for the two specifications are presented in Table 7. Since the vast majority of households do not receive a private transfer in any particular year, most of the information about transfers is contained in determining whether they are positive. Thus, it should not be surprising that the tobit estimates mirror those of the probit in Table 5. Higher labor income and owning a home are associated with lower transfers received. Higher parents' income is associated with higher transfers.

TABLE 6

Least Squares Estimates of Transfer Amounts Received by Households in 1984 PSID, Adjusted for Selection Bias (N=238)

Variable	Estimated Coefficient	T-Ratio	Estimated Coefficient	T-Ratio
Split-offs				
Labor Income	-0.361	-0.622	-0.370	-0.621
Financial Income	0.194	0.648	0.180	0.561
Public NR Income	-0.614	-0.679	--	--
AFDC	--	--	-1.356	-0.735
Other Welfare	--	--	0.068	0.181
Unemployment Comp.	--	--	-1.325	-0.652
Worker's Comp.	--	--	-0.268	-0.456
Age	-59.7	-0.324	-61.9	-0.325
Education	425.9	0.700	421.2	0.689
Married	-124.4	-0.085	-100.6	-0.064
Female Head	843.7	0.531	1047.2	0.579
Nonwhite	-2038.8	-1.267	-2077.6	-1.225
Own Home	-3693.5	-0.569	-3924.5	-0.576
Kids below 5 yrs.	353.7	0.512	390.9	0.526
Kids between 5 & 18	-938.7	-0.563	-943.5	-0.551
Parents				
Income	0.038	0.942	0.041	0.945
Age	-48.1	-0.338	-55.2	-0.364
Education	-46.9	-0.307	-36.4	-0.228
Married	-826.1	-0.555	-746.1	-0.531
Constant	-12276	-0.705	-12795	-0.698
Lambda	13349	0.650	13952	0.651
R-squared	0.121		0.114	
Mean of dependent variable	1910.6			

Source: Authors' computations based on PSID.

Note: Dependent variable = private transfers received. Private transfers include cash and provision of housing.

TABLE 7

Tobit Estimates of Private Transfer Receipt by Households in 1984 PSID (N=1,807)

Variable	Estimated Coefficient	T-Ratio	Estimated Coefficient	T-Ratio
Split-offs				
Labor Income	-0.134	-6.615	-0.131	-6.470
Financial Income	-0.007	0.109	-0.010	-0.156
Public NR Income	-0.206	-2.173	--	--
AFDC	--	--	-0.470	-2.620
Other Welfare	--	--	0.066	0.402
Unemployment Comp.	--	--	-0.046	-1.633
Worker's Comp.	--	--	-0.075	-0.378
Age	-21.9	-0.489	-21.0	-0.471
Education	190.9	1.666	182.6	1.597
Married	135.1	0.231	143.5	0.245
Female Head	438.4	0.871	497.1	0.922
Nonwhite	-665.1	-1.566	-670.6	-1.581
Own Home	-1463.2	-2.967	-1441.4	-2.984
Kids below 5 yrs.	80.1	0.336	82.6	0.344
Kids between 5 & 18	-392.5	-1.531	-375.4	-1.460
Parents				
Income	.011	1.973	0.011	1.986
Age	-16.8	-0.577	-18.0	-0.620
Education	-9.8	0.140	14.4	0.206
Married	-273.9	-0.678	-218.6	-0.541
Constant	-3108.1	-1.570	-3114.5	-1.570
Sigma	4393.9	18.9	4413	18.9
ln L	-2694.2		-2691.5	

Source: Authors' computations based on PSID.

Note: Dependent variable = private transfers received. Private transfers include cash and provision of housing.

For the split-offs, higher educational levels are associated with higher transfers and are statistically significant at approximately the 12 percent level. This could reflect either the presence of borrowing constraints or fixed effects, in that households with higher educational levels may also have received more transfers in the past (to attend school).

Public nonretirement income is negatively associated with private transfers on an overall basis (columns 1 and 2). Breaking down public income into its components shows negative and significant effects of AFDC and unemployment compensation at the 2 percent and 11 percent levels, respectively. Again, the size and significance of these variables are not appreciably affected by adding weeks unemployed or other sources of income such as alimony or child support to the regressions. The coefficient on AFDC is large relative to the coefficient on labor income.[14]

VI. SIMULATIONS

The results in the section above can be used to estimate the effects on poverty rates and income variability of removing or reducing public transfer payments. All of the estimates presented below are based on the two-stage estimates in Tables 5 and 6.

For each type of public transfer program, there are three types of households. First, there are households who did not receive money from the program; they should not have their private transfers affected when the program is removed.

Second, there are households who received money from the program, and received private transfers; they should have their private transfers changed (and typically raised) when public transfers are eliminated. To calculate the expected new level of private transfers, we use the expression for expected private transfers (given that such transfers are positive) in the second-stage regression using the original right-hand-side variables, but with the public transfer variable set to zero. Estimated

private transfers after the public transfer program is eliminated are the larger of zero and the sum of the original private transfers plus the change in expected transfers.

The third category contains households who received money from the public program, but did not receive private transfers. For these households, we proceed in three steps. The first step is to estimate how many more private transfers should occur by calculating the mean probability that households in this group receive a private transfer, using parameters estimated on the full sample and the original mean values of right-hand-side variables for the households in this group. We then do the same estimate but set the public transfer variable to zero. If positive, the difference between the two probabilities is the change in the estimated probability that a member of this group receives a private transfer when the public transfer is removed. Multiplying the change in the estimated probability by the number of households in the group provides an estimate of the number of additional transfers that will occur.

The second step is to estimate which households would receive the new private transfers by ordering the households by their estimated probability of receiving a private transfer, using the parameter estimates from the entire sample and each household's right-hand-side variables and setting the public transfer variable to zero.

The third step is to estimate the private transfer amounts for each of these households. To calculate the expected new level of private transfers, we use the expression for expected private transfers (given that such transfers are positive) in the second-stage regression using the original right-hand-side variables, but with the public transfer variable set to zero. Estimated private transfers after the public transfer program is eliminated are the larger of zero and the estimated transfer level. With private transfer adjustments determined, it is possible to examine the net effects of public and private transfers on poverty rates and income variability.

Before presenting the simulation results, we emphasize that they are partial equilibrium in character. In particular, they do not allow for any labor supply response to the change in public transfers, nor do they account for the resultant change in government's fiscal balance. Undoubtedly, they omit a host of other factors as well. Holding all of those factors constant, Table 8 shows the effects on poverty rates of eliminating public transfers. The first row presents the poverty rate when calculating each household's income (including housing transfers and food stamps), given existing public and private transfers.[15] This row also represents the poverty rate that would obtain in the sample if households were purely altruistic and public transfers were removed (and corner solutions did not matter).

The second row presents the poverty rates that would obtain after removing one or several public transfer programs and not adding in the private transfer response. These are also the rates that would occur if the "no response" model were correct. The third row presents the poverty rates that would obtain after removing public transfers and incorporating the private transfer response estimated above.

The table shows that the poverty rate, given the definition of poverty used and the particular sample of split-offs, was 15.4 percent in 1984.[16] Eliminating AFDC, other welfare income, and unemployment compensation would have raised the poverty rate to 18.26 percent if no private transfers were allowed. Incorporating the private transfer response would set the rate at 17.81 percent. That is, about 15.6 percent of the rise in the poverty rate due to the abolition of selected public transfer programs would have been offset by the rise in private transfers. This offset is roughly the same percentage when the sample is constrained to split-offs who received public transfers in 1984. By comparison, Cox and Jakubson (1989) found that private transfers would offset less than 6 percent of the increase in poverty due to reduced public transfers.[17]

TABLE 8

Simulated 1984 Poverty Rates, Given (1) Elimination of Public Transfer Programs and (2) Elimination of Public Transfer Programs Coupled with Increases in Private Transfers

Income Measure	Poverty Rate with AFDC, Other Welfare Programs,[b] and Unemployment Compensation Intact	Poverty Rate if only AFDC Is Eliminated	Poverty Rate if only Other Welfare Programs Are Eliminated	Poverty Rate if only Unemployment Compensation Is Eliminated	Poverty Rate if AFDC, Other Welfare Programs, and Unemployment Compensation Are Eliminated
Broad measure[a]	15.38	NA	NA	NA	NA
Less public transfers	NA	16.65	17.04	16.10	18.26
Plus private transfers[c]	NA	16.43	16.82	16.05	17.81
Private transfer offset[d] (%)	NA	17.3	13.2	6.9	15.6

Source: Authors' computations based on 1984 PSID.

[a]Includes labor and asset income; income from public transfers (AFDC, other welfare programs, and unemployment compensation); housing transfers; and food stamps.
[b]"Other welfare programs" include food stamps and Supplemental Security Income.
[c]Includes cash and provision of housing.
[d]Percentage of the rise in the poverty rate that would result from eliminating public transfer programs that is offset by increases in private transfers.
NA = Not applicable.

To calculate the effects of private and public transfers on income variability, we reestimated households' 1983 income assuming the abolition of selected public transfer programs and incorporating the estimated (from 1984) private transfer response. The procedure is identical to the private transfer adjustments described above, except that all of the right-hand-side variables now refer to 1983 values, and the placement of households into the three categories depends on whether they received private and public transfers in 1983.

Table 9 presents results on the effects of private and public transfers on income variability. The first column shows that removing public transfers raises the average variance of households' income by 3.3 percent. Adding in the private transfer response reduces the average variance, but only very slightly. The private transfer response would reduce by less than 2 percent the increase in average variance of household incomes caused by eliminating public transfer programs. An alternative measure of income variability is the median variance. The second column shows that removing public transfers raises the median variance by 13 percent. The effect of incorporating the private transfer response is to raise the median variance by an additional 4.5 percent. Thus, Table 9 presents a mixed set of results. Reductions in public transfer programs raise the variability of income. The induced private transfer response, however, may further increase the variability of income.

VII. CONCLUSION

This paper used data from the PSID to examine the interactions between private and public transfers and their net effects on the poverty rate and income variability. Relative to the previous literature, the paper makes two new contributions. First, comparisons of how public and private transfers respond to changes in households' characteristics allow for a weak test of private transfer motives. Private transfer responses to changes in income or employment do not appear to be

TABLE 9

Simulated Measures of Income Variability Given (1) Elimination of Public Transfer Programs and (2) Elimination of Public Transfer Programs Coupled with Increases in Private Transfers

Income Measure	Measures of Income Variance	
	Mean	Median
Broad measure[a]	6.925×10^7	6.598×10^6
Less public transfers[b]	7.154×10^7	7.484×10^6
Plus private transfers[c]	7.151×10^7	7.827×10^6

Source: Authors' computations based on 1984 PSID.

[a]Includes labor and asset income; income from AFDC, other welfare programs, and unemployment compensation; housing transfers; and food stamps.

[b]Includes transfers from AFDC, other welfare programs (see note to Table 8), and unemployment compensation.

[c]Includes cash and provision of housing.

consistently less altruistic than responses of the public transfer system. This test could be strengthened through examination of longer periods of time, using additional information on transfers rather than just whether they rose or fell, and providing formal hypothesis testing of the probabilities that public and private transfers respond differently to various events.

The second new result concerns the effects of public and private transfers on the variability of households' incomes. Although Lampman (1984) identified reducing income variability as the primary goal of public support programs, little if any analysis has examined how public and private transfers interact to affect the variability of income. The simulations indicate that public transfer programs do reduce the variability of income. If public transfers were reduced or eliminated, the private transfer response would at best reduce a small portion of the increased variability of income, and by some measures could actually increase the variability.

The regressions and the simulations follow much of the previous literature in using cross-sectional data on transfers. The results, therefore, should be interpreted with caution. There are potentially serious problems with inferring such effects from a cross-section. If unobservable family-specific effects (such as "degree of altruism") are correlated with observable characteristics, cross-sectional coefficient estimates are biased in an unknown direction (Hsiao, 1986). Altonji, Hayashi, and Kotlikoff (1992b) show how unobserved heterogeneity in cross-sections can blur the distinction between the implications of altruistic and exchange-oriented transfers. These are critical issues in interpreting the econometric results. Indeed, the descriptive data showing the persistence of private transfers point to the possible importance of such family-specific effects. Further research in this area should focus on models that incorporate these effects.

APPENDIX TABLE A

Transfer Data from Alternative Data Sets

A. 1979

Age of Household Head	Probability of Receiving a Transfer		Average Received | >$0	
	PSID	PCPP[a]	PSID	PCPP
18–21	.209	.406	$1,218	$1,283
22–40	.101	.197	1,638	1,590
41–61	.043	.103	1,864	1,461
62+	.066	.090	834	624

B. 1983–1985

	Probability of Receiving $3,000 or more		Average Received | >$3,000	
	PSID	SCF[b]	PSID	SCF[b]
Whole sample	.050	.053	$6,902	$14,860

[a]Based on Cox and Raines (1985).

[b]Based on Gale and Scholz (1993).

APPENDIX TABLE B

Private Transfer Data from the 1979 PSID, for All Households and by Age of Household Head and Household Income (N=4,696)

	Percentage of Households that Received Transfers	Mean Amount of Transfers Received, Averaged over All Households	Mean Amount of Transfers Received by Recipient Households	Percentage of Total Dollar Amount of Transfers Received[a]
All households	7.8	$119	$1,524	100.0
Age of household head				
18–24	17.8	237	1,332	20.0
25–34	9.8	162	1,651	38.0
35–44	5.4	107	1,994	15.0
45–54	4.0	92	2,312	12.6
55–64	4.4	58	1,311	8.4
65 and older	7.2	54	753	6.0
Household income				
$0–$10,000	16.7	220	1,315	42.7
$10,000–$20,000	9.2	128	1,400	28.0
$20,000–$35,000	2.5	41	1,650	13.6
$35,000–$50,000	2.0	71	3,551	9.4
$50,000–$100,000	3.0	165	5,424	6.2
$100,000 +	0.0	0	NA	0.0

Note: Private transfers include cash and provision of housing.

[a]Percentages may not add to 100 due to rounding.

NA = Not applicable.

APPENDIX TABLE C

Mean Characteristics of Households in 1979 PSID

Characteristic	Whole Sample	Private Transfer Recipients	Households in Poverty
Age of household head	43.9	38.1	34.2
Years of schooling of household head	12.6	12.3	11.5
Female head	26.9%	47.5%	60.2%
Married head	62.9%	31.5%	19.7%
Black	11.1%	16.6%	44.9%
Income	$22,443	$13,250	$2,247
Financial asset income	$1,861	$642	$- 8
Own home	64.0%	26.6%	19.9%
Private transfers Probability of receipt	.078	1.000	.281
Mean amount, conditional upon receipt	$1,524	$1,524	$1,694
Public transfers[a] Probability of receipt	.172	.319	.598
Mean amount, conditional upon receipt	$1,947	$1,833	$2,685
Sample size	4,696	403	186

[a]Public transfers include AFDC, food stamps, Supplemental Security Income, unemployment compensation, and worker's compensation.

APPENDIX TABLE D

Percentage of PSID Households with Changes in Amounts of Transfers Received, 1978–1979, by Household Characteristics

Characteristic	Private Transfers[a]		Public Transfers[b]	
	Percentage of Households with No Changes	Percentage of Recipient Households with Changes >$0	Percentage of Households with No Changes	Percentage of Recipient Households with Changes >$0
Labor income fell	78.3	60.7	65.8	69.2
Labor income rose	84.6	43.7	74.7	45.1
Income fell	77.0	61.0	62.0	75.0
Income rose	85.0	41.9	74.2	43.8
Income/needs fell	78.8	62.0	65.8	61.0
Income/needs rose	84.4	41.6	72.5	52.8
Newly married	81.8	33.3	68.6	35.0
Newly single	65.8	61.8	71.8	69.1
Newly employed	75.2	33.0	35.0	33.4
Newly unemployed	52.0	61.9	41.8	77.1
Public income fell	77.4	46.6	-	-
Public income rose	74.2	55.1	-	-

[a]Private transfers include cash and provision of housing.

[b]Public transfers include AFDC, food stamps, Supplemental Security Income, unemployment compensation, and worker's compensation.

APPENDIX TABLE E

Mean Characteristics of Households in 1984 PSID: Matched Sample of Split-offs and Parents

Splitoffs	
Age of household head	29.1
Years of schooling of household head	13.0
Female head	25.3%
Married head	57.9%
Black	14.2%
Income	$27,342
Financial asset income	$1,207
Own home	41.8%
Private transfers[a]	
Probability of receipt	0.139
Mean amount, conditional on receipt	$2,351
Public transfers[b]	
Probability of receipt	0.238
Mean amount, conditional on receipt	$2,628
Parents	
Age of household head	56.4
Years of schooling of household head	12.0
Married head	76.1%
Income	$33,628

[a]Private transfers include cash and provision of housing.

[b]Public transfers include AFDC, food stamps, Supplemental Security Income, unemployment compensation, and worker's compensation.

Notes

[1]For example, see Menchik (1980), Menchik (1988), or Tomes (1981), who study bequest patterns, and Kurz (1984), Bernheim, Schleifer, and Summers (1985), Cox (1987), or Cox and Rank (1992), who study inter vivos private transfers (transfers between living people).

[2]Public income sources include AFDC, food stamps, Medicaid and Medicare, Social Security, SSI, unemployment compensation and veteran's benefits, and worker's compensation. Private sources include earnings, asset income, pensions, alimony, child support, and transfers from relatives and friends and others, as well as other sources.

[3]Cox (1987), Cox and Jakubson (1989), and others use similar definitions of transfers.

[4]For example, Gale and Scholz (1993), using data from the 1986 Survey of Consumer Finances, show that 75 percent of reported transfers given and 84 percent of transfers received are parent-to-child gifts. If only transfers from relatives are considered (to match the PSID data), the proportions rise to 79 percent and 86 percent.

[5]Samples using split-offs have been used recently by Altonji (1988), Altonji, Hayashi, and Kotlikoff (1992a, 1992b), Behrman, Pollak, and Taubman (1989), Hayashi, Altonji, and Kotlikoff (1993), and Scheoni (1992).

[6]Similar characteristics for 1979 are reported by Cox and Raines (1985) using the PCPP.

[7]Important exceptions include Altonji, Hayashi, and Kotlikoff (1992a) and Rosenzweig and Wolpin (1990, 1992a, 1992b).

[8]In order to avoid complications arising from including public retirement programs, and to be roughly consistent with the sample of split-offs used in the regressions and simulations below, the sample used to generate Tables 3 and 4 excludes households with heads 45 years old or older.

[9]The income-to-needs ratio is calculated by dividing a family's income by the poverty threshold

for that family. The latter measure is adjusted for family size, so the income-to-needs ratio allows for comparisons of income adjusted for family size.

[10]This statement is true in the model presented above. However, Altonji, Hayashi, and Kotlikoff (1992b) show that in a model with heterogeneous preferences across families, it is possible in an altruistic model to generate a positive relation between the adult child's income and the amount of transfers, conditional on receiving a transfer.

[11]The results presented below are insensitive to adding a variety of additional characteristics of parents.

[12]Households that receive housing transfers are not considered to own their own home.

[13]Adding in regional dummies (for identification) also has little effect on the outcomes.

[14]Because welfare program rules set public payments as a function of reported income, including private transfers, Cox and Jakubson (1989) use instrumental variable techniques to develop measures of AFDC and other welfare income that are free of this bias. We conjecture, however, that transfer income is in general easy to hide from the authorities and thus may be unlikely to be reported.

[15]The official poverty thresholds are based on money income, but a more inclusive measure of income is most relevant for the purposes of this paper.

[16]The official (CPI-U) U.S. overall poverty rate was 14.4 percent in 1984.

[17]One reason they found such a small offset may be that their sample includes the elderly, who receive large amounts of Social Security and, as documented in Table 1 and Appendix Table B, small amounts of private transfers.

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