Income Transfers within Extended Families
to Meet Basic Needs
The Evidence from El Salvador

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ABSTRACT

This paper examines the role cash transfers play among households in maintaining poor urban families at income levels sufficient to meet expenditures on basic needs. The basic needs are defined, not as some absolute standard set by domestic or international agencies, but rather, as those 'decent standards' for food, clothing, shelter and so forth, which households themselves determine to be their basic needs.

In our analysis, the extended family is seen as redistributing income to those members of the household who fall below a perceived basic needs threshold. This redistributive mechanism is postulated to be the result, not necessarily of mere altruism, but as the outcome of an implicit social contract whereby members of an extended family insure themselves against the risk of falling below the perceived basic needs level. Data from El Salvador are used to analyze these relationships.

The paper focuses on the receiving end of the transfer process; the results suggest a specific inverse relationship between household income and cash transfers whereby the poorest families tend to be the primary recipients of transfer income. Interhousehold transfers are found to be responsive to both household size and composition with larger and female headed families receiving higher levels of such payments. Independent evidence on household consumption behavior further supports the model. The results are thought to have interesting implications for measuring the income levels of poor families and for generally understanding the economic survival strategies of the urban poor.
En este documento se examina la función que desempeña la transferencia de fondos entre familias en cuanto a mantener a las unidades familiares pobres de zonas urbanas en niveles de ingresos suficientes para atender sus necesidades básicas. Las necesidades básicas no se definen de acuerdo con un patrón absoluto fijado por los organismos nacionales o internacionales, sino más bien como los "niveles apropiados" de alimentos, vestido, alojamiento, etc. que las propias familias definen como sus necesidades básicas.

En nuestro análisis consideramos que en la familia ampliada se redistribuyen ingresos a los miembros de la unidad familiar que se encuentran debajo del nivel percibido de necesidades básicas. Sostenemos que este mecanismo redistributivo no se funda necesariamente en el simple altruismo, sino que es resultado de un contrato social implícito, según el cual los miembros de una familia ampliada se aseguran contra el riesgo de caer por debajo del nivel percibido de necesidades básicas. Para analizar estas relaciones hemos usado datos provenientes de El Salvador.

El documento se centra en el lado de los receptores del proceso de transferencia; los resultados indican que existe una relación inversa entre el ingreso familiar y las transferencias de fondos, según la cual las familias más pobres tienden a ser las principales receptoras del ingreso transferido. Se comprueba que las transferencias entre las familias guardan relación con el tamaño y composición de ellas y que las familias encabezadas por una mujer son las que reciben niveles mayores de esos pagos. Los datos de otros estudios sobre el comportamiento de la familia en materia de consumo refuerzan las conclusiones del modelo. Se considera que los datos obtenidos resultan interesantes para medir los niveles de ingresos de las familias pobres y en general para comprender las estrategias de supervivencia económica de los pobres de las zonas urbanas.
Ce document examine comment les transferts en espèces entre ménages aident les familles urbaines pauvres à conserver un niveau de revenu suffisant pour satisfaire leurs besoins essentiels. Par "besoins essentiels", les auteurs entendent non pas des besoins déterminés dans l'absolu par les institutions locales et internationales, mais les critères d'alimentation, d'habillement, de logement, etc., qui représentent, pour les ménages, le minimum acceptable.

Cette analyse montre comment la famille élargie redistribue le revenu au profit des membres du ménage qui tombent en deçà d'un seuil au-dessous duquel il apparaît que les besoins essentiels ne sont pas satisfaits. Les auteurs postulent que ce mécanisme de redistribution ne procède pas nécessairement de considérations purement altruistes, mais qu'il est régis par un contrat social implicite en vertu duquel les membres de la famille élargie s'assurent contre le risque de tomber en dessous du niveau déterminé. Ces relations sont analysées à l'aide de données provenant de El Salvador.

Les auteurs se placent du point de vue des bénéficiaires du processus. Les résultats font apparaître une relation inverse spécifique entre le revenu des ménages et les transferts en espèces, qui fait que les familles les plus pauvres sont généralement les principales bénéficiaires de ces transferts. Ceux-ci varient en fonction de la dimension et de la composition du ménage, de sorte que les familles nombreuses dont le chef est une femme reçoivent des versements plus importants. Des renseignements provenant de sources indépendantes sur les schémas de consommation des ménages confirment ce modèle. On pense que les résultats ont des incidences intéressantes sur la mesure du revenu des familles pauvres et, de façon générale, aident à comprendre les stratégies de survie économique des pauvres des villes.
Acknowledgements are due the Fundacion Salvadorena de Desarrollo y Vivienda of El Salvador for designing and collecting the data, to D. Ernst, S. Papst and P. Vaish for skillful computer assistance and to M. Bamberger, C. Fawcett, B. Goldfarb, G. Ingram, E. Jimenez, D. Keare, J. Linn, A. Pachon, S. Parris, M. Selowsky, P. Townroe and M. Trajtenberg for their comments and suggestions.
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I. INTRODUCTION

In any society, households depend on a variety of sources for their income. Production for one's own consumption, labor market earnings, returns to asset ownership, and public and private transfer payments all contribute to the resources families have available. The relative importance of these different sources is likely to depend upon the level of national development, as well as the level of well-being and composition of individual households. Poverty per se need not reduce the complexity of the structure of household incomes. Even the poor may come to rely upon income sources other than their labor earnings.

The sources of unearned income for the poor obviously differ from those of wealthier households. Financial and physical assets, including property, are of limited importance. Formal transfer payments, including pensions and most public transfers, are either non-existent or simply fail to reach the lower deciles of the income distribution. Instead cash and in-kind interhousehold transfers, so-called gift income, are widespread among the poor, seeming to stem from extended family relationships. 1/

1/ Interhousehold transfers have received some attention in the literature. In the development context the role of private transfers in the migration process is discussed by various authors. See Knowles and Anker (1981), Linn (1975), Rempel and Lobell (1978), Stark (1979). In the developed nation setting, discussions of bequests and the family as an annuities market also consider private transfer mechanisms. See Drazen (1978) and Kotfikof and Spivak (1979).
Although the exact terms of these transfers are not actually known, a flow of cash and income in-kind augments many households' labor earnings. Once it is established that interhousehold transfers are not randomly distributed across households the behavioral question arises as to what mechanism determines the flow of these resources. Since altruism does not appear to be a sufficient explanation, we develop the concept of basic needs fulfillment within the extended family to help explain the observed trends. Using data primarily from El Salvador this paper proceeds by discussing the data base (Section II) and presenting the stylized empirical facts of the magnitude and distribution of informal transfer income (Section III). A model of the extended family and basic needs satisfaction is presented in Section IV. Empirical testing of the determinants of interhousehold transfers generates the results of Section V. While developing these empirical tests it became necessary to experiment with alternative specifications of household structure. Some results on using alternative household welfare indices are then discussed. Section V also examines two other empirical issues. First, a hypothesis relating transfer income to basic needs fulfillment is tested by estimating income-expenditure relationships; and second, the implications of interhousehold transfers for determining a perceived basic needs level is considered. Section VI concludes with a summary and implications.
II. **ABOUT THE DATA**

The primary data source for this analysis is a household survey of families residing in "informal" housing in the city of Santa Ana in El Salvador. "Informal" housing is meant to include all forms of squatter and extra-legal housing arrangements. Although most of this housing falls below any basic needs definition of adequate shelter, some dwellings, which fail to meet certain inordinately stringent zoning requirements, may be quite substantial yet still be outside the formal housing market. For this reason "informal" housing is not synonymous with low-income housing. For El Salvador, the following categories of "informal" housing have been developed:

(a) Tenements (mesones) - high density rooming housing, usually located in city centers, always rented;

(b) Extra-Legal Subdivisions (colonias ilegales) - dwellings in areas with sub-standard service levels, rented or bought;

(c) Squatter Settlements (tugurios) - shanties located on invaded land, usually no payments are made.

The first Santa Ana survey was conducted in 1976 as part of the World Bank's Monitoring and Evaluation Program of Urban Shelter Projects. 1/ Santa Ana, a secondary city of 100,000 people, is one of a number of locations in El

1/ This program is designed to analyze the impact of alternative interventions into the urban housing markets of a number of developing nations including, El Salvador, Indonesia, Philippines, Senegal and Zambia. It is expected that a large data base on urban poverty will evolve from these efforts.
Salvador developing sites and services projects. 1/ To assess the project's impact on participating families a household level panel data design has been employed. Project beneficiaries as well as a control group selected from households living in the "informal" housing sector have been periodically interviewed. The panel study's baseline survey forms the basis for this analysis. The uniqueness of the data base lies in its extensive coverage of the economic activities of low-income households.

The baseline survey contains information on 181 participant and 320 control group households. Participants were selected according to a number of socio-economic criteria. The control group was generated using stratified sampling techniques according to housing type and can be appropriately weighted to reflect the population residing in the "informal" housing sector. In the regression analysis which follows the full sample of households is pooled. Selectively bias is not expected to influence the regression coefficients because the non-random generation of the sample is related to labor income, which appears as one of the independent variables in all our estimations.

1/ Sites and services represent a low-cost option for improving urban housing. Families are provided with a site along with some degree of services. Running water, sewerage facilities and/or one or more walls are in place prior to occupancy. Tenants then progressively develop their own structures subject to their own design and cost constraints. For a more detailed discussion of the sites and services approach see: World Bank (1974).
III. EMPIRICAL DIMENSIONS OF INTERHOUSEHOLD TRANSFERS

The Santa Ana "informal" housing sector is representative of the lower 65% of the city's urban income distribution. Table 1 portrays the sources of income for the average household. Labor earnings are the dominant source of funds accounting for 88.9% of all income. Unearned incomes yield the average household 11.1% of their revenues with interhousehold transfers, that is, income received from relatives, accounting for all but a few tenths of a percent of these funds. Although considerable effort was undertaken to impute a value for all income in-kind some under-representation is likely to have occurred. How this will affect the relative contributions of earned and unearned incomes cannot be determined.

Some of the results of our analysis suggest that the redistribution implicit in interhousehold transfer behavior is, in fact, from richer to poorer families. The redistributive elements of unearned income movements raise interesting questions concerning the substitutability of private for public transfer systems and the incentives for interhousehold transfer behavior, both of which will be considered in more detail below.

The aggregate depiction of income sources in Table 1 fails to portray the distribution of these unearned incomes across recipient households, namely
Table 1: Sources of Total Household Income for the Urban Poor
Santa Ana, El Salvador (1976)

Earnings of Household Head (62.2%)

Earnings of Other Household Members (26.7%)

Unearned Income (11.1%)
Santa Ana's population of urban poor. 1/ One-third of all families received some transfer income during the 1976 survey month. On average, all families received 25 colones (U.S. $10.00) in transfers out of a total income of 300 colones (U.S. $120.00/month). Focusing only on those families who received transfers, 66 colones (U.S. $26.40) out of an average total household income of 172 colones (U.S. $68.70) was received as transfer income. Table 2 presents a more complete breakdown of the significance to individual households of these transfer incomes. Female headed households, which constitute one quarter of the population, tend to receive larger shares of their total income in the form of interhousehold transfers than do male headed households. 60% of all female headed households received some such support as compared to less than 25% for male headed families.

Other independent data sources complement these findings on the significance of interhousehold transfers. Evidence from another Salvadorian city, Sonsonate, yields the same results with transfer income accounting for

1/ A household is conceptually defined as the relevant economic decision making unit. Empirically it is identified as the unit sharing the same housing structure, which in our setting is closely related to the anthropological definition of the unit that shares a kitchen table. Moreover, within our sample, most households are composed of complete nuclear families. Less than a quarter of the households have one or more members of the extended family residing with them. Only a few families have nuclear members living outside of the structure. Consequently, by concentrating on the family living under the same roof we hope to capture the essence of the relevant decision making unit - the household - which in the Latin American case clearly seems to be a subset of the extended family.
### Table 2: Percentage Share of Transfer Income Out of Total Household Income by Sex of Head of Household

(Santa Ana, 1976)

<table>
<thead>
<tr>
<th>Percentage Share of Household Income*</th>
<th>Male Headed</th>
<th>Female Headed</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>76.2</td>
<td>40.2</td>
<td>67.4</td>
</tr>
<tr>
<td>1 - 20</td>
<td>13.6</td>
<td>14.2</td>
<td>13.8</td>
</tr>
<tr>
<td>21 - 40</td>
<td>7.6</td>
<td>19.1</td>
<td>10.4</td>
</tr>
<tr>
<td>41 - 60</td>
<td>0.0</td>
<td>12.2</td>
<td>3.0</td>
</tr>
<tr>
<td>61 - 80</td>
<td>0.0</td>
<td>6.5</td>
<td>1.6</td>
</tr>
<tr>
<td>81 - 99</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>100</td>
<td>2.6</td>
<td>7.9</td>
<td>3.9</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

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| Percent of All Households | 75.4 | 24.6 | 100.0 |

* Share = transfers/(transfers + all other income).
7.0% of the income accruing to the urban poor. 1/ In a city-wide analysis of residents of Belo Horizonte, Brazil, non-labor income averages 6.0, 1.8, 9.7 and 24.9% of total income for poor, low, middle and high income households respectively. 2/ The non-labor income accruing to the lower income group consists predominantly of transfers while the upper quartiles receive asset income. The quantitative significance of unearned income, even for a society's poorer households is established by this data. 3/

To sum up, interhousehold transfers represent a significant source of income for a large number of urban poor. Furthermore, the distribution of unearned income appears to be non-random, disproportionately accruing to certain households. On the basis of these preliminary findings the next section proposes a behavioral model of extended family networks.

1/ See Lindauer (1979)

2/ See Sant'Anna et al. (1976)

3/ Data just collected in informal housing neighborhoods in the cities of Cartegena, Bucaramanga, Sincelejo and Valledupar, Colombia, show that transfer income might amount to more than 20% of total income. See Kaufmann (1981a).
IV. A MODEL OF INTERHOUSEHOLD TRANSFERS AND EXTENDED FAMILY BEHAVIOR

A variety of explanations can be offered for the existence of income transfers across households. Bequests, alimony payments, and gifts celebrating religious or family occasions are obvious examples. 1/

Furthermore households may voluntarily transfer resources in order to satisfy certain economic objectives. In situations where there exists a threat of falling below some minimum income necessary to meet basic needs, 2/ families may develop redistributive mechanisms to sustain relatives at a threshold income.

In order to address some of the economic motivations for interhousehold transfers, we propose a framework in which the extended family is regarded as a group of households, each characterized by a specific interaction structure with all other households. In other words, the extended family is considered neither the relevant decision-making unit nor the totally independent sum of the individual households. The nature of the interaction among the different decision-makers -- the individual households themselves -- becomes the main building block of the theoretical model of extended family behavior.

1/ Another possible explanation equates transfer income with remittances received from nuclear household members who are temporarily living elsewhere. In Santa Ana the data do not support this explanation.

2/ Note that our use of the basic needs concept is not identical with its conventional use whereby some absolute poverty level is selected and applied across all populations. Instead we refer to those 'decent standards' for food, clothing, shelter, etc. which households themselves determine to be their basic needs. This notion will be expanded upon below.
The common bond between the different households comprising the same extended family can be considered an implicit social contract. It is implicit because the various members of the extended family do not necessarily gather to decide how the interactions between the different units will proceed. A complex array of socio-historical and anthropological kinship ties generates the contract among the various member households. This contractarian view assumes that independent households cooperate so as to further the ends of each of the parties. Thus, everyone has an incentive to agree to its existence. This approach, therefore, posits an alternative to altruistic notions in analyzing interactions between households.

We postulate that the terms of the implicit social contract of the extended family are such that the member households, who at a certain point of time happen to be in a relatively more advantaged economic position, have a commitment to transfer resources to those households who happen to be in a disadvantaged position. The transfer of resources will, more specifically, be a function of the basic needs deficit of the poorer household. This commitment may be based on every household's attitude of risk aversion vis-a-vis ever falling below that threshold income required to meet basic expenditures. The assurance that, if needed, a sufficient flow of resources can be realized from other households, provides an incentive for all the households within the extended family to both join and maintain the contract.

1/ Obviously, social is meant here in a narrower context than the whole of society. Instead, the realm encompasses no more than the extended family.

2/ For an elaboration of the altruistic motive in decision-making, see Becker (1974).
The assumption of risk aversion towards that essential amount of income is a major element in our model and it has been utilized in a different context by the philosopher John Rawls. For society as a whole, Rawls has presented a moral framework from which a social contractarian theory of justice ensues. 1/ Rawls argues that the specific nature of the social contract is such that the actors agree on the maximin criterion: society will be structured in such a way that the amount of primary goods of the worst-off member is maximized. 2/

We have postulated a model along the same lines of Rawls' social contract. The low income of the typical nuclear family in an LDC and the uncertainty surrounding the future availability of a minimum income sufficient to meet basic needs expenditures suggests a setting where the strategy of various households will be to minimize the chances of falling below a certain threshold level. Each nuclear family's behavior will therefore embody risk aversion—in a similar vein as postulated by Rawls for each prospective member of society—and under such circumstances it will benefit all members of the extended family to have implicitly agreed to behave as if they were following the maximin criterion.

1/ J. Rawls, A Theory of Justice.

2/ The maximin criteria is the essence of the second principle of justice derived in his work, the first principle being the priority of liberty that arises when arranging the primary goods in lexicographic ordering. Primary goods are understood to be composed of the 'rights and liberties, powers and opportunities, income and wealth' of each member of society. For a critical appraisal of the applicability of the first principle for developing countries, see Barry (1973). Also, for a more detailed exposition of the Rawlsian framework as applied to the modeling of the extended family see Kaufmann (1981b).
A major tenet of our analysis is that a basic needs level need not be assumed to be the same across different extended families. An extended family with a relatively high aggregate income will have a higher standard for basic needs than an extended family with low aggregate income. 'Decent standards' for food, clothing, education and shelter will mean somewhat different things for each extended family since these standards are perceived by each family group. Although some variation will occur due to differences in wealth and tastes by each extended family, it should be clear that the distinction between basic needs and non-basic needs will still remain a meaningful one. 1/ Among extended families we expect to find a clearly defined range between the minimum level of what some poorer extended families consider as their index and the upper bound decided by wealthier families.

Within the population that we are interested in studying we expect a fraction of the households to belong to extended families whose total amount of resources is not significantly above the perceived social subsistence level. Given the wealth constraints of these extended families, their perceived basic needs index would be near to the social subsistence level and would therefore define a lower bound, across the populace, of the basic needs index. 2/ As we move to families that are relatively wealthier and/or

1/ Entertainment expenditures, cigarette consumption, housing outlays that do not fulfill basic shelter requirements and other examples can be mentioned as items no basic needs index would include.

2/ There is no doubt that the basic needs index for these families would be below any objective measure of an income level required to meet 'decent' basic needs expenditures, as defined by a national government or the World Bank. In any case, at a heuristic level the validity of the concept remains, as long as the great majority of the extended families do not have a total amount of resources significantly below this 'decent' basic needs index.
have a more 'committed' structure of tastes, 1/ the perceived basic needs level will be higher.

By concentrating on the least well-off household within the extended family, we can postulate a transfer function in which the received flow will be related to the difference between the perceived basic needs level and the actual level of well-being of that household. The fact that the wealth of the other nuclear families should also be an argument in this transfer flow is accounted for in the relationship since it is presumed that the basic needs level is an increasing function of the wealth of the extended family.

Formally, we assume that there are \( j = 1, \ldots, n \) extended families, each of which will have a total of \( m \) households. (The various households within an extended family are denoted by subscript \( i = 1, \ldots, m \)). Both the extended families and the individual household within each extended family are ranked from the richest to poorest. 2/

1/ Within our model this implies that at the time of the contractual 'agreement', the households within this specific extended family express a desire for a relatively higher level of resources to be committed to basic needs, ceteris paribus.

2/ This implies that:

(a) \( Y_{i,j} > Y_{i,j+1} \) where \( Y_{i,j} = \sum_{i=1}^{m} Y_{i,j} \); \( Y_{i,j+1} = \sum_{i=1}^{m} Y_{i,j+1} \)

For any \( j = 1, \ldots, n \) when \( Y_{i,j} \) is the income of the \( i \)th nuclear family that belongs to the \( j \)th extended family, and \( Y_{i,j} \) is the aggregation of income of the \( j \)th extended family;

(b) \( Y_{i,j} > Y_{i+1,j} \) for any \( i \) given \( j \).
The following notation is to be used:

\( T_{mj} \): Transfers received by the \( m^{th} \) household of the \( j^{th} \) extended family.

\( Y_{Bj} \): Threshold level of income needed to satisfy basic needs for each household belonging to the \( j^{th} \) extended family, as viewed by that extended family.

\( HS \): Household structure variables.

The maximin principle can now be formalized by presenting the transfer function of the worst-off member of extended family \( j \):

\[
T_{mj} = \begin{cases} 
  f(Y_{Bj} - Y_{mj}, HS) & \text{if } Y_{Bj} - Y_{mj} > 0 \\
  f(HS) & \text{if } Y_{Bj} - Y_{mj} \leq 0
\end{cases}
\]

We postulate that transfers are not merely a function of the basic needs deficit, but that household structure variables, \( HS \), will also be

\[1/\] This transfer function is a reduced form equation of the following:

(2) \( T_{mj} = f_a (W_{Bj} - W_{mj}) \) if \( W_{Bj} - W_{mj} > 0 \)

(2a) \( T_{mj} = f_a (HS) \) if \( W_{Bj} - W_{mj} \leq 0 \)

(b) \( W_{Bj} = f_b (Y_{Bj}, HS) \)

(c) \( W_{mj} = f_c (Y_{mj}, HS) \)

where \( W_{Bj} \) = Basic needs level of welfare for each household belonging to the \( j^{th} \) extended family, as viewed by that extended family.

\( W_{mj} \) = Welfare level of the \( m^{th} \) household belonging to the \( j^{th} \) extended family.
important. Over and above the need to standardize household income by household size, it is presumed that the composition of the household will significantly influence the flow of transfers. For example, the traditionally distinct treatment by parents towards their daughters as opposed to their sons, or the effect of alimony equivalents in cases of separated husbands and estranged companions suggests that female headed households might receive higher levels of transfers, even after adjusting for income differences.

We further assume that the transfer function has the following general properties:

\[
\frac{\partial T}{\partial (Y - Y')} > 0 \quad \text{if} \quad Y - Y' > 0
\]

\[
\frac{\partial T}{\partial (Y - Y')} = 0 \quad \text{if} \quad Y - Y' < 0
\]

If the extended families abide by the letter of the contract, expression (3) becomes:

\[
\frac{\partial T}{\partial (Y - Y')} = 1 \quad \text{if} \quad Y - Y' > 0
\]

\[
\frac{\partial T}{\partial (Y - Y')} = 0 \quad \text{if} \quad Y - Y' < 0
\]
Within our framework, a crucial characteristic described by the above formulations is the discontinuous nature of the transfers: if the $m^{th}$ household is below the basic needs level, it will receive transfers from wealthier households of the same extended family, otherwise it will not.\footnote{Note that we have concentrated our formalization to the $m^{th}$ family on the income ladder. This does not imply that the $m-1$, $m-2$, etc., households are neglected within this maximin context. Once the $m^{th}$ household has received transfers the $m-1^{th}$ household might become the $m^{th}$ and therefore receive transfers according to the above function. If instead it does not become the $m^{th}$ household on the ladder it is an indication that its basic needs are fulfilled and therefore its expected transfers would be zero. Also note that we have restricted ourselves to the formalization of the recipient of the transfer function only. The nature of the data available is such that it does not allow us to test the giver function. That portion of the formulation is addressed in Kaufmann (1981b).}
V. THE EMPIRICAL TESTS USING THE EL SALVADOR DATA

The theoretical framework presented shall prove useful in conceptualizing and giving theoretical content to the different estimations below. A detailed framework has been provided describing the relationship between income and transfers. On the other hand, only a brief sketch has been advanced concerning the impact on transfers of household composition and extended family variables. Given the unresearched nature of the topic, we consider it appropriate to develop the empirical link between household structure and transfers in an exploratory fashion.

The income and composition variables and their effect on transfers will occupy most of our empirical research; however, we will also investigate the relationship between the different sources of income—transfers, labor earnings—and the expenditure patterns of households. It will be shown that addressing this question is warranted from the standpoint of the model we have developed.

a. The Specification of the Transfers Function

From our basic needs maximin formulation developed in Section IV, we recall the transfer function, (1), and its first order conditions, (3). Given that the available data are cross-sectional, we are interested in knowing the empirical relationship that we expect from our theoretical framework when the different extended families are pooled together. In Graph I we have depicted three representative transfer functions that belong to households from 3 different extended families: a low income (j=3), a middle income (j=2) and a relatively higher income family (j=1). In each extended family we have assumed that there are 4 households (i=1, ..., 4). As seen in
Graph 1

THE CROSS-SECTION TRANSFER FUNCTION
the graph, each household within a given extended family faces a kinked linear transfer function where the kink represents the basic needs threshold level as viewed by each respective extended family.

If we had postulated that all extended families have a similar perception of basic needs as well as enough resources to sustain poorer households at that level, then the cross-section specification that would have followed from our model would have been a kinked linear function. \( T_{ij} \), for \( j=1, \ldots, n \), would have been contiguous. However, since we do not believe that a similar perception of basic needs necessarily exists, alternative specifications of the empirical model are required.

The kinked linear function could continue to be the correct specification if the differences in each extended family's perceived basic needs level could be controlled for. This would require knowing the wealth and 'tastes' of each extended family as well as the function which converts wealth into a specific \( Y_{Bj} \). If such information were available a reduced form transfer function could be derived which would control for variations in \( Y_{Bj} \) and would thus support a kinked linear specification of the relationship between household income and transfers. The data requirements of this specification, however, cannot be satisfied with the available information. Other than knowing that transfers are given by relatives we have no direct information on the extended family, that is, on either their wealth or their 'commitment' to basic needs. Although we recognize the limitation of the available information, we believe that by taking explicit account of the variance in \( Y_{Bj} \) across extended families, we can derive the appropriate

\[1/\] This issue is covered in greater detail in Kaufmann (1981).
statistical relationship between household income and transfers. \footnote{1/} This can be accomplished by pooling the kinked transfer functions as illustrated in Graph I.

Averaging the 3 transfer functions in Graph I leads to a fitted line where, once the lowest basic needs level $Y_{B_3}$ is reached, the line begins to curve such that the absolute value of its slope falls. Unlike the portion between $Y=0$ and $Y=Y_{B_3}$, the averaging of the 3 extended families at each $Y$ ceases to be symmetric. Clearly, this is the case because the transfer function has a discontinuity when it reaches the income axis instead of maintaining its continuity through the negative ranges of $T$. \footnote{2/} This effect can be seen in the graph by comparing the impact of averaging the households of each extended family at $Y_{B_3}$ with the households at $Y_{B_2}$. The resulting fitted form to be expected on theoretical grounds should therefore resemble the curve $AB$. \footnote{2/}

As suggested by curve $AB$ in Graph I, the derived empirical formulation should be one in which at low levels of income, transfers received by the average household are very high and responsive to falls in income, and

\footnote{1/} We anticipate some potential bias in the household income coefficient due to the omission of a measure of the wealth of the extended family, however, this bias is (a) presumed not to be very large and (b) would bias the income coefficient in a conservative direction, since the basic needs level of the extended family and the income of the recipient household, on average, are likely to be positively correlated.

\footnote{2/} For simplicity of exposition, the 4 households were located in the specific manner depicted in Graph I. Suffice it to say that other forms of arranging the households, as long as the basic constraint is kept in mind, will not substantially effect the quality of our conclusion. Also, note that for simplicity of exposition the kink in each function is portrayed as taking place at $T=0$. This assumes implicitly that we are abstracting from household structure variables, which, on the average, might cause the kink to take place at $T\neq 0$. 
as the level of income increases, the responsiveness falls sharply and the level of transfers becomes negligible. Since some variation in the basic needs perception among different families is anticipated, rather than expecting a broken line with its discontinuity at a unique $Y_{Bj}$ -- as would be the case if $Y_{Bj}$ was perceived as the same for all $j$'s --, we expect an estimated curve whose slope decreases as income decreases. Given this hypothesized relationship between transfers and income we explore alternatives to a conventional linear specification of the model. Specifically, double-log, hyperbolic and kinked-linear functions are more adequate representations of our model, and should perform better than a conventional linear specification. 1/

We now explore the appropriateness of the alternative specifications, using the following variables: household earnings, 2/ number of household members and sex of household head. The latter two variables are meant to capture, in a rather simplified manner, both the need to standardize the household earnings variable and the a priori expectation that household structure itself is an important determinant of transfers. Being aware that an in-depth answer to how both the number and composition of household members separately affect the flow of transfer payments cannot be fully deduced from

1/ The problem of the variation in the basic needs level notwithstanding, we expect a kinked linear specification, with the proper qualifications, to be a better approximation of the essence of our model, than would be a conventional linear specification. If for instance, we were to find that a kinked linear specification provides a bad fit and/or nonsensical results, that could be interpreted as evidence suggesting weaknesses inherent in our model.

2/ A priori evidence on the Santa Ana data base indicates that household earnings are virtually equivalent to household income net of transfers for this population.
simple summary measures, we leave a detailed investigation of household structure determinants for the next subsection.

A total of four different specifications are to be considered, of which the first three follow from theoretical foundations of our model, and the fourth is the conventional OLS formulation.

**Basic Needs Specifications:**

(5) Double-log: \( \ln \text{TRANSFRS} = \alpha + \beta_1 \ln \text{EARNINGS} + \beta_2 \ln \text{HHMBRS} + \beta_3 \text{FEMHEAD} + \varepsilon \)

(6) Hyperbola: \( \frac{\text{TRANSFRS}}{\text{EARNINGS}} = \frac{1}{\alpha' + \beta_1' \ln \text{HHMBRS} + \beta_2' \text{FEMHEAD} + \varepsilon'} \)

(7) Kinked-Linear: \( \text{TRANSFS} = \alpha' + \beta_1' \text{LOWEARNINGS} + \beta_2' \text{HHMBRS} + \beta_3' \text{FEMHEAD} + \beta_4' \text{HIEARNINGS} + \beta_5' \text{DUMMYLOEARNINGS} + \varepsilon' \)

The kinked linear specification requires some explanation. It has three different variables which account for household earnings: LOWEARNINGS, that will measure the relationship between earnings and transfers for those households whose earnings are below a certain threshold 1/; HIEARNINGS that will estimate the effect of earnings on transfers for those households above

1/ This threshold estimate was arrived at by a combination of two estimates that turned out to be close to each other: a) an estimate of the LOWEARNINGS value at which TRANSFRS=0, controlling for household structure variables (i.e., a search procedure); b) an estimate of the basic needs level from an independent specification, namely the hyperbola. Note that the estimated coefficients for the LOWEARNINGS variable will appear in the row of the EARNINGS variable in Table 3.
the threshold income level; DUMMYLOEARNINGS, a dummy for low income earners, an econometric necessity in order to allow a separate intercept for both income variables in the TRNSFRS axis. 2/

\[
\text{Conventional Specification}
\]

(8) Linear: \( \text{TRNSFRS} = \alpha + \beta_1 \text{EARNINGS} + \beta_2 \text{HHMBRS} + \beta_3 \text{FEMHEAD} + \epsilon \)

As opposed to specifications (5), (6) and (7), this specification is clearly inconsistent with our model and is included in order to appraise the statistical performance of the three basic needs specifications.

Table 3 presents the results of the estimations. First, we notice that the basic needs specifications perform much better than does the conventional linear form. Restricting the specification to a form that assumes a constant slope gives an extremely small and barely significant coefficient on income, while the regression as a whole explains a very small fraction of the variance. On the other hand, choosing a specification that allows the slope to decrease as income increases makes the income variable highly significant and noticeably improves the explanatory power of the regression. The relative performance of the basic needs specifications gives some support to our maintained hypothesis concerning the flow of interhousehold transfers in response to levels of economic well-being. We now wish to discriminate between the three alternative basic needs specifications, all of which possess slopes which decrease as income rises. The specific

2/ We expect that the dummy will have a sizeable and significant coefficient, since we postulate that zero income in the low income variable will elicit a sizeable transfer whereas the intercept of the backward-projected high income line will occur at a TRNSFRS value close to zero, due to its expected negligible level and slope.
### Table 3: ALTERNATIVE SPECIFICATIONS OF THE TRANSFER FUNCTION

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Mean (^a/) (S.D.)</th>
<th>Basic Needs Specifications</th>
<th>Conventional Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Double-Log</td>
<td>Hyperbola</td>
</tr>
<tr>
<td>EARNINGS</td>
<td>246.7 (^c/) (143.9)</td>
<td>-0.497 (^b/) (0.067) (^d/)</td>
<td>120.227 (^b/) (9.519)</td>
</tr>
<tr>
<td>HIERNINGS</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>FEMHEAD</td>
<td>24.8% (43.2%)</td>
<td>1.198 (0.166)</td>
<td>21.424 (3.936)</td>
</tr>
<tr>
<td>HHMBRS</td>
<td>2.864 (2.49)</td>
<td>0.303 (0.135)</td>
<td>2.864 (0.689)</td>
</tr>
<tr>
<td>DUMMYLOG-</td>
<td>0.373 (0.484)</td>
<td>57.751 (9.280)</td>
<td>-</td>
</tr>
<tr>
<td>EARNINGS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(R^2)</td>
<td>.241</td>
<td>.322</td>
<td>.176</td>
</tr>
<tr>
<td>(AdjR^2)</td>
<td>.236 (^e/)</td>
<td>.318</td>
<td>.167</td>
</tr>
</tbody>
</table>

\(^a/\) The dependent variable, TRNSFRS, in linear space has a mean (S.D.) of 16.59 (42.85) colones. (In the double-log form, LNTRNSFRS is the dependent variable.)

\(^b/\) In the double-log formulation both EARNINGS and HHMBRS are expressed in logarithmic form, whereas in the hyperbola specification the transformed income variable is equal to \(1/(\text{EARNINGS}+1)\). For the kinked linear form, EARNINGS represents the low earnings variable, i.e., for EARNINGS \(<140\) colones (HIERNINGS is the variable for earnings \(\geq140\)).

\(^c/\) Colones/month (U.S. $1 = 2.5 colones).

\(^d/\) Standard errors in parentheses.

\(^e/\) Since the dependent variable is not expressed in linear form, \(R^2\) is not readily comparable with the other specifications. Consequently, the appropriate translation to linear space had to be performed, yielding a \(R^2\) slightly below 15%.
double-log formulation would be preferred on theoretical grounds if the posited functional form was believed to be represented by the following:

\[ T/N = A \times (Y)^{\beta_1} \frac{(Y)}{(N)} \]  

where \( N = \text{HHMBRS}. \)

This form, which is analogous to a form frequently utilized in the consumption function literature, implies that transfers per capita are a constant returns-to-scale Cobb-Douglas function of income and household members. 1/

Rewriting (9) yields:

\[ T = A \times Y^{\beta_1} N^{1-\beta_1} \]  

Whether this is the appropriate means of integrating household size in the transfer function can be evaluated from the estimated double-log regression. If we are unable to reject the hypothesis that the income coefficient is equal to one minus the HHMBRS coefficient then the above formulation would be supported. A Chow test of equality of coefficients was performed on the double-log formulation and the equality hypothesis was easily

---

1/ Note that for a transfer function, formulation (9) above is more plausible than the alternative candidate \( T = A \times \frac{Y}{N} \). The latter implies that a percentage increase in earnings which is matched by a percentage increase in \( N \) will not elicit any change in transfers and consequently total income per capita \( \frac{Y + T}{N} \) will fall. On the other hand, the former implies a transfer structure that will keep \( \frac{Y + T}{N} \) constant.
rejected. Hence, there is no a priori theoretical reason to use the double-log formulation instead of any other specification that has a declining slope.

The hyperbolic and the kinked linear specifications share two advantages when compared with the double-log: a) they allow for an intercept with the TRNSFRS axis, which is an integral part of our theoretical formulation, while the double-log does not; and, b) they explain a larger percentage of the variance in transfers. Consequently, the double-log formulation is, for our purposes, considered inferior to the other two basic needs specifications. Let us turn, therefore, to a comparison between the kinked linear and the hyperbolic specifications.

The kinked-linear regression indicates that a sizeable compensation in transfers occurs when there is a loss in earnings, .547 colones for each loss of 1 colones of earnings, as long as earnings are below the threshold level of 140 colones. On the other hand, the coefficient on HIEARNINGS is not significantly different from zero implying that there is no compensation for losses in earnings accruing to households which are above the threshold level.

As explained before, we need to be careful in relying on the specific magnitudes of the earnings coefficients of the kinked linear specification. Both the absence of a wealth of the extended family variable and the stochastic element in the perceived basic needs level imply that the earnings

---

1/ F = 43.69. We also tested whether \( \beta_1 = \beta_2 \) which would follow from the theoretically inferior form \( T = A \times \frac{(Y)^{\beta_2}}{(N)} \) and it was also rejected with an F of 13.91.
coefficient might be downward biased and that the proper specification is not
kinked linear but rather a more continuous form. On these grounds, and on
grounds of an $R^2$ comparison, we choose to concentrate on the hyperbolic
specification, at least until we are able to offer a reliable proxy for the
perceived basic needs level estimate.

All the coefficients in the hyperbola estimation are highly
significant. The income variable requires some interpretation in assessing
the value of its coefficient. From (6) it is clear that the hyperbolic form
gives the following slope:

\[(11) \frac{dT}{dY} = -\beta \frac{1}{Y^2}\]

Using the estimated coefficient, $dT$ can be evaluated at different
$dY$ incomes. Whereas a loss of 1 colon in earnings at an income of 150 colones
means an additional transfer of less than 1/150 of a colon, a loss of one
colon in earnings at an income of 15 colones implies an additional transfer of
1/2 a colon to compensate for that loss.  

\[\text{1/ In essence, the more needy}\]

\[\text{The rate of decline of the slope is high indeed in this straight-}\]

\[\text{forward hyperbola specification. Thus, we have estimated formulations}\]

\[\text{where the independent variable becomes } \frac{1}{Y + \alpha}\]

\[\text{for various values of } \alpha.\]

\[\text{The rate of decline of the slope is } 2\beta(Y + \alpha)^{-3}\]

\[\text{The results of different specifications (results not reported here) indicate that the estimated coefficients remain remarkably stable vis-à-vis the choice of any } \alpha.\]
get a much fuller compensation for the same loss of earnings. 1/

b. Household Structure

We have already noted the importance of including household structure variables in estimating transfer functions. Such variables serve two purposes. On the one hand they are needed to standardize income variables to permit more adequate approximations of economic well-being. On the other hand, household composition may be an actual determinant of transfer flows. In this subsection, alternative specifications of household structure variables are experimented with in order to assess the varied impacts of family size and make-up on the magnitude of transfer income.

Turning first to the sex of the household head as a dimension of household structure, consistent with our expectations, the hyperbolic equation of Table 3 has a FEMHEAD coefficient which is not only highly significant but also quite large. If the household is female-headed, the nuclear family will

1/ An econometric issue that deserves mention is whether it would have been appropriate to utilize a Tobit estimation procedure, given that most of our sample is characterized by TRNSFRS=0 and the rest is characterized by a distribution of positive numbers. A number of considerations led the authors to decide against using such a procedure: i) since on a priori theoretical grounds the transfer receiver function is postulated to be different (and separate) from the transfer giver function, it is not evident that the zero values reflect underlying negative unobserved values (a necessary condition for Tobit estimation); ii) it has become increasingly acknowledged that the Tobit estimates lack robustness, since the assumptions required are quite strong and any violation, such as heteroskedasticity or nonnormality, may result in asymptotic biases more severe than those stemming from simpler formulations (see Maddala (1979); Nelson (1981)); iii) the existence of information on transfer givers in 1980 allowed us to perform a test, where Tobit estimations without information on transfer givers were compared with OLS runs which included the givers—the outcome revealed a very significant bias in the Tobit estimations.
accrue an extra 21.4 colones in transfers. 1/ Obviously, the income effect is being controlled for, thus the reason for this additional influx is not that female-headed households are poorer.

Turning next to measures of household size, the conventional treatment would be to specify transfers as a function of per capita income. The double log equation in Table 3 tests this specification, revealing a HHMBRS coefficient which is significant but small. Given that the typical household has between 5 and 6 members, an additional household member, ceteris paribus, will reduce this average household's earning per capita by approximately 15%. This per capita reduction for even a poor family's earning, say, 100 colones/month, will induce transfers amounting to little more than 2% of those earnings. In essence, it does not seem to be the case that the extended family views income per capita as the relevant indicator of economic well-being. 2/ Percentage losses in earnings induce far more transfers than do percentage increases in household size. These results suggest that although per capita measures are convenient to work with, they may not be an adequate means for integrating household structure into behavioral frameworks.

1/ By stratifying the regressions according to the sex of the household head, it was verified that the main difference was indeed one of intercept and not one of slope.

2/ This result is not surprising since our previous test of the equality of coefficients in the double-log specification rejected the per capita formulation.
Since we believe that household structure must be controlled for, alternatives to per capita measures must be developed. 1/ Furthermore, the question arises as to whether valuable information is being lost by simply aggregating according to number of family members. In order to address these issues, different household structure specifications are tried, assuming a hyperbolic relationship between transfers and household earnings. The specific variables included in these different regressions are defined below, while their estimated coefficients appear in Table 4.

KIDS: No. of household members of less than or equal to 10 years of age.

WRKADULTS: No. of members more than 10 years old and out of work.

WRKMALES: No. of male working adults.

WRKFEMS: No. of female working adults.

NWRKMALES: No. of non-working males.

NWRKFEMS: No. of non-working females.

The first regression repeats the hyperbolic estimate reported in Table 3. In regression (2), the measure of number of family members has been substituted by an adult equivalent measure (ADULTEQ) that is consistent with assessments undertaken in the literature. 2/ If an adult has, on average, a higher claim on family resources than a child, and if the extended family

1/ The hyperbolic specification posits transfer as being additive in household size and the inverse of earnings. Analogous to the double-log formulation, a fall in earnings per capita due to a loss in earnings stimulates more transfers than does the equivalent increase in number of household members.

2/ The measure chosen by us is the following:

\[
\text{ADULTEQ} = 0.1 \times \text{LE2} + 0.4 \times \text{LE6} + 0.7 \times \text{LE9} + 1.0 \times \text{GE10},
\]

where \( \text{LE9} \) = less than or equal to 9 years of age; \( \text{GE10} \) = greater than or equal to 10 years of age, etc.
reacts accordingly by adjusting its perception of the specific nuclear family's standard of living, this variable would perform substantially better than the mere aggregation of the number of family members.

The estimated coefficient for the adult equivalent variable happens to be more significant than the HHMBRS' coefficient, but its magnitude, if made comparable, is not substantially higher than that of HHMBRS', since one adult equivalent on the average corresponds to more than one household member. It does not seem to be the case that the decomposition of the family structure effect along adults-children lines provides us with much additional insight. A more detailed exploration of family structure still appears to be warranted.

The third and fourth regressions of Table 4 simultaneously incorporate aspects of household size and composition. Not only the number but also the role and function of different family members are accounted for by alternative variables. A variety of decompositions of household structure was available to us, including the sex, employment status, and age of family members. In the third regression, family structure is broken down according to employment status as well as along adult-children lines. From the coefficients and their significance levels, it seems that the household structure/transfer relationship is being carried by the number of nonworking

1/ Indeed, according to the ADULTEQ coefficient, an extra adult member in the household implies an additional 3.27 colones in transfers, whereas the HHMBRS coefficient for any household member was 2.86.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSTANT</td>
<td>- (-)</td>
<td>-10.83 (-)</td>
<td>-8.12 (-)</td>
<td>-7.09 (-)</td>
</tr>
<tr>
<td>1/(EARNGS+1)</td>
<td>0.046 (0.181)</td>
<td>121.12 (9.45)</td>
<td>117.75 (10.02)</td>
<td>117.11 (9.98)</td>
</tr>
<tr>
<td>FEMHEAD</td>
<td>0.248 (0.432)</td>
<td>21.03 (3.90)</td>
<td>21.06 (3.91)</td>
<td>17.67 (4.54)</td>
</tr>
<tr>
<td>HHMBRS</td>
<td>5.284 (2.487)</td>
<td>2.86 (0.69)</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>ADULTEQ</td>
<td>4.375 (2.078)</td>
<td>3.95 (0.82)</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>KIDS 1.616</td>
<td>(1.421) -</td>
<td>-0.02 (1.19)</td>
<td>-1.19 (-0.17)</td>
<td>(1.19)</td>
</tr>
<tr>
<td>WRKADULTS</td>
<td>1.793 (0.978)</td>
<td>-</td>
<td>2.60 (1.84)</td>
<td>-</td>
</tr>
<tr>
<td>NWRKADULTS</td>
<td>1.875 (1.536)</td>
<td>-</td>
<td>5.38 (1.10)</td>
<td>-</td>
</tr>
<tr>
<td>WRKMALES</td>
<td>0.998 (0.713)</td>
<td>-</td>
<td>-0.74 (2.71)</td>
<td>33</td>
</tr>
<tr>
<td>WRKFEMS</td>
<td>0.795 (0.795)</td>
<td>-</td>
<td>4.64 (2.36)</td>
<td>11</td>
</tr>
<tr>
<td>NWRKMALES</td>
<td>0.682 (0.915)</td>
<td>-</td>
<td>2.19 (1.86)</td>
<td>11</td>
</tr>
<tr>
<td>NWRKFEMS</td>
<td>1.193 (1.110)</td>
<td>-</td>
<td>7.98 (1.57)</td>
<td>11</td>
</tr>
</tbody>
</table>

\[
R^2 = .322, \quad ADJ R^2 = .318
\]

\[
R^2 = .331, \quad ADJ R^2 = .327
\]

\[
R^2 = .338, \quad ADJ R^2 = .330
\]

\[
R^2 = .346, \quad ADJ R^2 = .335
\]

\[a/\] Standard errors in parenthesis.
adults. A seemingly surprising finding is that the number of children does not have any impact on the level of transfer. The coefficient for working adults is extremely small and insignificant. We hypothesize that a further breakdown according to sex might help to open the 'black box' of household structure.

In the fourth regression we notice that the reason for the small coefficient for working adults in estimate (3) is that an additional female working adult implies 4.6 additional colones in transfers, while an additional male worker brings in virtually no additional transfers. On the other hand, an nonworking male brings in an extra 2.2 colones in transfer, whereas a nonworking female brings in the largest addition, 8 colones. Overall, an extra female member brings 4 to 5 more colones than an additional male member, and an extra nonworking member brings 2 to 3 more colones than an additional worker.

It is clear that there are mechanisms in operation that allow discrimination in awarding transfers according to sex, employment status and perhaps age. At best, we have attempted to provide some exploratory glimpses into the nature of those mechanisms. At any rate, we believe that our decomposition of household structure illustrates the need for more refined

1/ Evidence of intergenerational transfers, *ceteris paribus*, was surprisingly lacking in these data. Neither does the existence of children nor of an elderly head (results not shown) generate transfer flow once income is taken into consideration. However, in the children's case, the lack of significance might be due, among other reasons, to multicollinearity problems.
treatment of family size and constitution in analyses which rely on the household as a unit of observation.\[1\]

c. A Further Test of the Transfer Function: Estimating a Basic Needs Level

As formulated, the transfer function provides a prediction of the basic needs level as perceived by the typical extended family. Comparing this value to existing income distribution data, we can examine whether the predicted basic needs level corresponds with a realistic income percentile. We consider this comparison to be a useful check of our theoretical and empirical models rather than believing that our estimate of the basic needs level should be considered as a policy parameter. The nature of the data, the possible sensitivity to different specifications, and the fact that the basic needs level perceived by the typical extended family may not be the one chosen as the socially most desirable level, suggest that our estimates are, at best, rough orders of magnitude. \[2\]

First, relying on hyperbolic estimations and computing the level of transfers for a typical family with no income yields an estimate of 130

\[1\] Household structure has been considered exogenous throughout our model, implying an abstraction from the dynamics of household formation. More specifically, the possibility of some very poor households having to dissolve due to a lack of transfers ought to be mentioned. If this phenomena were statistically significant, OLS would give biased coefficients, and instead, estimation techniques that account for censored dependent variables would be called for. In our setting, this problem does not appear to be empirically severe.

\[2\] The problems associated with selecting an appropriate basic needs level are so abundant that they have led some authors to reject the entire basic needs concept. For a comprehensive discussion of these issues, see Bhalla (1980).
colones. 1/ Second, as an independent estimate, a search procedure was employed to find the best fitting (i.e. \( R^2 \) maximizing) kinked linear specification of the transfer function. Since the kink occurs at that earnings level where the average extended family stops remitting transfers, estimated earnings at the kink can be interpreted as the average perceived basic needs level. A value of 140 colones was computed by this procedure which favorably compares with the estimate obtained from the hyperbolic regression.

We interpret these estimates as a lower bound to the perceived basic needs level of the community. 2/ According to an analysis of the distribution of income in the city of Santa Ana, a monthly income of 135 colones would place a household somewhat below the 15th income percentile of that city. 3/ In relative terms, therefore, our estimates are consistent with a reasonable lower bound value for funds necessary to meet basic needs expenditures. These results suggest some robustness in the underlying model of transfer payment behavior.

1/ This estimate was arrived at by utilizing the estimated coefficients from regression 4 in Table 4.

2/ Within our framework, an extended family lacking sufficient resources will fail to provide every household with a decent basic needs level, whereas an extended family with more than sufficient resources will not provide households with more than their basic needs level. Hence, as long as there exists inequality, underestimation of the basic needs level will occur even if the surveyed population has a total amount of resources that is sufficient to fulfill the basic needs of every household.

d. The Structure of Expenditures

For a LDC setting, income sources and patterns of expenditures seem to be closely intertwined in a way that may differ from behavior in industrialized countries. Not only might the pattern of expenditures vary in a LDC setting depending upon the sources of income, but it is hypothesized that future income sources and their amounts might also be related to the patterns of present expenditures. Specifically, we are interested in the pattern of expenditures as a function of the two sources of income that we have dealt with: earnings and transfers. Not only do we expect this investigation to shed light on the general issues of income sources and the pattern of expenditures, but this empirical work is intended to provide a further test of the model already presented.

Concentrating on poor households with incomes below the average threshold basic needs level, we wish to know whether those households whose incomes are mainly composed of transfer payments have a different structure of expenditures from households whose incomes accrue mostly from earnings. If we were to find that earnings-intensive households spend a significantly larger portion of their earnings on basic needs expenditures and a significantly smaller portion on other expenditures than their transfer-intensive counterparts, then our model would be seriously threatened. It would be hard to justify a model in which transfer payments are motivated by a claim of a basic needs deficit on the part of a recipient household, if that household
subsequently channels those transfers away from basic needs expenditures.  

The contractual agreement between the various households within the extended family would be in serious jeopardy, and over time it would be expected to collapse.

Consequently, we expect transfers to be treated in a 'socially responsible' manner. We test this proposition by considering one equation for the determinants of basic needs expenditures defined as food, housing, education, medical costs, and one for all other expenditures. The two linear equations to be estimated are:

(12) \[ \text{BASICEXP} = \alpha_1 + \beta_1 \text{TRANSFRINC} + \gamma_1 \text{EARNINGS} + \delta_1 \text{HHMBRS} + \epsilon_1 \]

(13) \[ \text{OTHEREXP} = \alpha_2 + \beta_2 \text{TRANSFRINC} + \gamma_2 \text{EARNINGS} + \delta_2 \times \text{HHMBRS} + \epsilon_2 \]

From our model, we expect \( \beta_1 \) to be sizeable and significant and at least as large as \( \gamma_1 \). On the other hand, we expect \( \beta_2 \) to be small, at least as small as \( \gamma_2 \). If our results showed that for the low income population \( \beta_1 > \gamma_1 \) and \( \beta_2 < \gamma_2 \), our model would be not only supported, but also enriched, since such a result would imply evidence of earmarking by the extended family. A claim for transfer payment due to a basic needs deficit would entail a social obligation to alter the expenditure patterns of the recipient household towards basic needs-intensive consumption.

Table 5 supports such a scenario. Two sets of regressions were run: one for the full sample and one for the truncated sample that includes only those household below the basic needs threshold. The full sample

---

1/ Our model would also be in jeopardy if it was found that households that received transfers tended to be the same as those households who gave transfers. This was not the case.
regressions indicate that there is a higher marginal propensity to spend for basic needs out of transfer income than out of earnings, although the difference is not significant. A very significant difference is detected, however, between the marginal propensity to purchase other items out of transfers (0.19) from the marginal propensity to consume other items out of earnings (0.45). 1/

However, we should not draw conclusive inferences from such results, since they might be the result of a specification artifact: if low income households use most of their income to meet basic needs, and if transfers accrue largely to low income households, then it follows that a linear specification for the full sample would yield a high MPC (marginal propensity to consume) basic expenditures out of transfers, and a low MPC for other expenditures irrespective of any earmarking. It was therefore considered appropriate to consider the results obtained on a truncated sample. These results are also reported in Table 5.

The results on the truncated sample are even more striking than the ones on the full sample. $\beta_1$ is significantly larger than $\gamma_1$ and $\beta_2$ is still significantly smaller than $\gamma_2$. Furthermore, an interesting comparison can be made between the full sample MPC basic needs and the truncated sample. The increase between both samples in the MPC basic needs out of transfers is greater than the increase in the MPC basic needs out of earnings. This suggests that on the expenditure side a unit of earnings is not treated too differently at low earnings than at high earnings, whereas a unit of transfers is treated very differently. This result can be interpreted as evidence of basic needs earmarking of transfers accruing to low income

1/ Throughout this discussion, by significant difference we mean that a Chow test rejected the hypothesis that the coefficients were equal.
households while there is virtually no earmarking of transfers received by higher income households.

We conclude that the expenditure functions not only offer realistic predictions which imply some robustness in the underlying model, but they further our understanding of the nature of the contract. More generally, finding that transfer income implies a commitment to a certain pattern of expenditures suggests that there is a contract at work, however implicit it might be.
Table 5: EXPENDITURE EQUATIONS

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Full Sample: 440 Obs.</th>
<th>Low Income Truncated Sample: 128 Obs. a/</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BASICEXP</td>
<td>OTHEREXP</td>
</tr>
<tr>
<td>TRNSFRINC</td>
<td>0.373 b/</td>
<td>0.193</td>
</tr>
<tr>
<td></td>
<td>(0.061) (0.054)</td>
<td></td>
</tr>
<tr>
<td>EARNINGS</td>
<td>0.337</td>
<td>0.449</td>
</tr>
<tr>
<td></td>
<td>(0.019) (0.017)</td>
<td></td>
</tr>
<tr>
<td>HHMBRS</td>
<td>2.58</td>
<td>-9.95</td>
</tr>
<tr>
<td></td>
<td>(1.11) (0.99)</td>
<td></td>
</tr>
<tr>
<td>CONSTANT</td>
<td>34.47</td>
<td>-13.89</td>
</tr>
<tr>
<td>R²</td>
<td>.480</td>
<td>.635</td>
</tr>
</tbody>
</table>

a/ The sample was truncated at EARNING = 140 colones, which is the threshold basic needs estimate.

b/ Standard errors in parentheses.
A Simplified Comparison with Alternative Specifications 1/

Before concluding this paper, we wish to put our framework in perspective by attempting to sketch, in a rather simplified fashion, the type of transfer functions that would follow from models based on more conventional behavioral assumptions. In order to do this, a comparison between the different underlying 'social' (extended family) welfare functions will be made. To the extent possible, we will relate the various theoretical formulations to the empirical work reported above.

First, we present the social welfare function that is implicit in our formulation, and then we proceed to sketch some alternative plausible formulations.

Social Contractarian Maximin Framework: In essence we have postulated a model in which each extended family has a social welfare function whose arguments are the incomes of each nuclear family. The maximin nature of the interaction between the different nuclear families within each extended family implies the following extended family welfare function:

\[
V_j = V_j (Y_{1j}, \ldots, Y_{(i-1,j)}, Y_{ij}, \ldots, Y_{mj})
\]

where, \( V_j \) = Welfare of the \( j^{th} \) extended family.

\( Y_{(i-1)j} \) = Income of the \( (i-1)^{th} \) household of the \( j^{th} \) extended family. (Recall that the \( (i-1)^{th} \) household is wealthier than the \( i^{th} \)).
Specifically, this welfare function can be characterized by:

\[ V_{ij} < V_{(i-1)j} \quad \text{if} \quad Y_{ij} < Y_{Bj} \]

\[ V_{ij} = V_{(i-1)j} \quad \text{if} \quad Y_{ij} \geq Y_{Bj} \]

These results are determined by the significance of the basic needs threshold as viewed by the extended family. A unit of income accruing to a household with a high basic needs deficit will be valued more highly than a unit accruing to a household with a smaller deficit -- or with no deficit. However, a unit of income received by a household with a certain perceived basic needs surplus will not be viewed differently from an income unit received by a household with a higher basic needs surplus. It follows that the transfer function will be as specified in equation (1) and (3) of our model, which we recall:

\[ T_{mj} \begin{cases} f(Y_{Bj} - Y_{mj}, HS) & \text{if} \quad Y_{Bj} - Y_{mj} > 0 \\ f(HS) & \text{if} \quad Y_{Bj} - Y_{mj} \leq 0 \end{cases} \]

\[ \frac{\partial T}{\partial (Y_{Bj} - Y_{mn})} > 0 \quad \text{if} \quad Y_{Bj} - Y_{mj} \leq 0 \]

\[ \frac{\partial T}{\partial (Y_{Bj} - Y_{mj})} = 0 \quad \text{if} \quad Y_{Bj} - Y_{mj} < 0 \]

The above formulation led to specific testable propositions which we subjected to detailed empirical analysis. The results proved to be consistent with the proposed model.

Utilitarian Risk Pooling Framework:

A risk pooling model, in which self-interested actors contract for mutual insurance against future risks, could be presented to account for the observed transfers. If the actors are risk averters vis-a-vis the provision of income for basic needs expenditures, and furthermore, if the most efficient
risk pooling institution in the eyes of these actors -- individual households -- is the extended family, a contractarian-utilitarian model could be advanced that formally is not different from the framework we have suggested. The same formal social welfare and transfer functions as presented above would follow.

However, an important conceptual distinction arises at a more general level. If we wish to capture the specific nature of ties that characterize the interaction of households within an extended family, the notion of a Rawlsian type of a social contract could be considered superior to the more narrow, economically-confined, utilitarian insurance framework. The latter could not depict the contract as a social norm, in which specific rights and duties have been molded by cultural values, the dynamics of the development process and other elements which are not necessarily strictly economic. 1/

Moreover, our Rawlsian framework is instrumental in providing much needed content to a crucial assumption in the model, namely risk averse behavior with regards to basic needs income. In the utilitarian risk pooling model, this behavioral assumption would be wanting in attitudinal content. By utilizing

1/ A substantial portion of the literature on kinship in anthropology and sociology refers to just this sort of specification of obligations obtained among related households. Much debate in those disciplines has in fact turned on the questions of how income transfers reinforce or inhibit both household consolidation and new household formation. While not addressing that debate directly, our work contributes to it through empirical and theoretical specification of the ties linking households in an extended family framework. For another interesting illustration tying family structures to incomes, again from the Circum-Caribbean region, see Nancie Gonzalez: Black Carib Family Structure (1969).
Rawls, we wish, therefore, to give more legitimacy to such an assumption. 1/ 

Classical Utilitarian: If the social welfare function of the extended family were composed by the aggregation of the individual utility functions of the individual households, and if those functions were identical with diminishing marginal utility of income, then it follows that intra-extended family transfers should be such that total equality of nuclear family income would follow. 2/ Hence,

\[ T_i = \bar{Y}_j - Y_{ij} \quad \text{for all } i, j \]

where \( \bar{Y}_j \) = average household income in the \( j^{th} \) extended family.

Comparing this formulation with the maximin concept, observe that the maximin would lead to total equality only in the specific case in which the average extended family income is close to the basic needs threshold. If, for instance, the average is substantially above the threshold, then redistribution will not lead to total interhousehold income equality. Hence, the maximin formulation leads to a more skewed overall distribution of income and corresponds to a more discontinuous form of the transfer function than would the classical utilitarian model.

The classical utilitarian model would predict a rather smooth and continuously decreasing transfer function as we go up the income ladder. Specifically, if we could control \textit{perfectly} for the wealth of the extended

1/ Also, a broader purpose was intended by utilizing the Rawlsian framework. If his central absolute risk aversion assumption is considered to be substantiated by our contribution, it could then be argued that the Rawls social justice framework could provide philosophical underpinnings for a commitment to Basic Needs strategies at a society-wide (and international) level.

2/ All through this discussion we assume that income has already been standardized to account for family structure.
family, we would expect that transfers would be positive and continuously decreasing until the 50th percentile is reached, at which point households begin to become givers. That 50th percentile is around 450 colones, implying that within our informal housing sector sample (with 85% of the households having incomes below 450 colones) a conventional linear specification would have performed well. Instead, our estimations show that the linear specification is inadequate; a formulation with a steep slope at low levels of income, and a rather flat profile at higher levels of income performs better.

Neoclassical Welfare Functions: Various scenarios could be envisioned in this context. We will consider a 'libertarian' and some altruistic scenarios.

1. Libertarian welfare function. Maximizing average nuclear family income would be one of the plausible formulations if there is no overall productivity gain from redistribution.

Under these scenarios,

\[ T_{ij} = 0 \text{ for all } ij's. \]

Obviously, this expected outcome is not supported by our evidence.

2. Altruistic utility functions. If the nuclear family had an argument in its utility function that accounted for the income of the rest of the extended family, some transfers would occur. A plausible transfer specification would be

\[ T_{ij} = f(\bar{Y}_j - Y_{ij}) \text{ where } \bar{Y}_j = \text{average family income.} \]

\[ \text{More generally, this result could turn out to be non-zero when analyzing a cross-section due to transfers that arise from loans and their repayments. In any case, we do not expect the transfer function to be very sensitive to income level.} \]
Unless the utility derived from a unit of income that accrues to a different individual household within the extended family were the same as the utility derived from one's own family income, the transfer that will occur will be less than the one deduced from the classical utilitarian model. The degree to which those transfers will differ from the utilitarian risk pooling framework will depend upon the degree of altruism in the present specification.

If the proper altruistic structure is chosen, a transfer flow similar to the one under the maximin criterion would arise. A major distinction would remain, however, given the discontinuous nature of the maximin formulation as opposed to the continuous formulation in the true utilitarian tradition. That discontinuity seems to be supported by our empirical work.

It could be argued that neoclassical utility functions possess enough flexibility such that virtually any behavioral assumption could be integrated into a utilitarian framework. Specifically, even a discontinuity could be allowed for by positing a utility function in which altruism was a parameter only vis-a-vis the provision of basic needs. In that case, a transfer structure similar to that under the maximin framework would evolve, and the difference would be at a motivational level. As opposed to the utilitarian model just presented, the maximin is not based on altruistic considerations, but on a contractarian notion in which the different agents want to further their own good.

Our evidence from the expenditure estimations might be suggestive of a contractarian framework at work. If we could corroborate that earmarking of transfers does have a self-interested rationale from the giver standpoint, and moreover, more evidence could be mustered to show that most transfers do not
originate in households that belong to much higher socioeconomic strata, but rather in households that at this point of time are relatively better off, then it could be claimed with more confidence that what motivates transfers is a contract and not purely altruistic considerations.

The Extended Family as a Substitute for Imperfect Capital Markets:

A totally different model from any of the above could be advanced in which transfers of income occur within the extended family as a result of the demand and supply for credit that is available under better terms than from other more conventional sources. Under such a scenario, one would expect the net flow of transfers to have little sensitivity to a permanent income concept, since the loans would be expected to be fully repaid. However, some sensitivity to current income could be an outcome of the model if there was a relatively large variation over the life cycle.

The data used in our empirical work is cross-sectional, and consequently it is not a straightforward task to draw conclusions about the above model, since it is possible that households borrow heavily from relatives at times of low earnings and repay all their debts at times of high earnings. If that were the case, our results would be consistent with this loan framework. For that to occur, however, strong assumptions would be required about the steepness of the earnings profile and about the confidence

1/ If they are not, say, due to lower income, then we are introducing 'gift' elements of either an altruistic or contractarian nature to the framework and hence touching upon other models. In this regard, notice that in the contractarian model presented above, there is no commitment to fully repay a transfer received. The commitment is to transfer out in the future if and only if, the household is in a position to do so and there is another household within the extended family who has a basic needs deficit.
that both the lender and the borrower have on that specific steep earnings profile being maintained over time. The general evidence available from our setting and from many other similar informal sectors seems to indicate that earnings profiles are not very steep, and that there is a relatively high degree of variance and uncertainty in earnings overtime. Furthermore, the evidence of earmarking of funds would remain unexplained by this model, whereas alternative models do suggest explanations for the different expenditure patterns.

The various alternatives presented do not seem to concord with the evidence as well as the basic needs maximin framework. However, in order to be more conclusive about the adequacy of our model, at least two tasks would confront further research: a) a more detailed exploration of the alternative models and the specifications that would follow, and b) gather data on the transfer givers, which would allow one to better control for the wealth of the extended family and more fully understand the motivations behind those transfers.
VI. SUMMARY OF FINDINGS AND IMPLICATIONS

a. Summary

A primary source of unearned income for low income households in developing nations appears to be interhousehold transfer payments. These payments are found to augment the labor market earnings of approximately one-third of the families living within the "informal" housing sector in the city of Santa Ana, El Salvador. Based on this empirical observation, we were motivated to consider whether behavioral models could provide a framework for analyzing the determinants of the interhousehold flow of transfer payments.

A social contractarian model of the extended family is proposed employing Rawlsian behavioral assumptions as applied to the various nuclear families that belong to the same extended family. Assumptions of risk aversion vis-a-vis the flow of income required to meet basic needs expenditures leads to a commitment from the extended family to provide the least well-off household with enough resources such that at a minimum its basic needs, as perceived by the extended family itself, are fulfilled. This non-altruistic framework defines a specific pattern of interhousehold transfers which is empirically testable. Thus, transfers are expected to be inversely correlated with the amount of income earned by the nuclear household. The relationship is postulated to exhibit some discontinuity since transfers cease to flow once the perceived basic needs threshold is realized. This last point offers a significant departure from more conventional utilitarian constructs which would hypothesize a more continuous transfer relationship across the income spectrum.
Using household data from El Salvador, various transfer functions are estimated. A hyperbolic specification between transfers and income is found to fit the theoretical properties of the model as well as the requirements imposed by the cross-section character of the data. The regression results are consistent with the proposed behavioral model as the inverse of income is positively and significantly related to the amount of transfers. Whereas a loss of 1 colon in earnings at an income of 150 colones means an additional transfer of less than 1/150 of a colon, a loss of one colon in earnings at an income of 15 colones implies an additional transfer of 1/2 a colon to compensate for that loss.

The full specification of the model incorporates household structure parameters in addition to income variables. The household measures are intended to both standardize the income variables and to test whether transfers are sensitive to household composition. The results indicate that female headed households receive more transfers and hence, different treatment, ceteris paribus, than do male headed families, and that the presence of more female household members also illicits more transfers. Additionally, the employment status of the various household members seems to be clearly related to the size of transfer receipts. Aside from providing evidence that there are mechanisms in operation that allow for differential treatments according to sex, employment status and age, the household structure analysis is instrumental in showing that per capita and per adult equivalent standardizations, measures which are commonly used, may misrepresent the true interactions within the household economy.

An important notion developed in our framework is the basic needs level as perceived by each extended family. This concept is instrumental in
capturing the differences in the contractual agreements across extended families. Statistically, it provides a tool enabling us to control—at least in part—for the impact of the wealth of the extended family. Furthermore, various regression specifications allow us to arrive at an estimate of this average perceived basic needs level. The magnitudes of the various independent estimates and the relatively small variation between them—averaging out to approximately the 15th percentile in the income distribution—further suggest robustness in the postulated model.

As an additional investigation into the consistency of the model, expenditure equations were estimated for basic as well as other expenditures. Not only was the consistency of the model supported but also, perhaps more importantly, our understanding of the nature of the contract was advanced. Transfer income was found to be directed towards a more basic needs intensive expenditure pattern than was an equivalent amount of earned income. These results suggest the existence of an understanding between households and extended families as to the role of transfer income and thus strengthens our contractarian argument while potentially weakening alternative explanations based solely on altruistic motivations.

From our empirical results, we conclude that interhousehold transfers are not randomly distributed across the low-income population but instead follow a systematic pattern determined by income and household structure. The findings seem consistent with a behavioral model based on extended family networks and their commitment to basic needs objectives.
b. Implications

Our framework has implications at various levels. We shall discuss distributional issues, implications at a project level, and lastly the larger question of basic needs strategies in general.

1. Distributional Issues

Any analysis of transfer payments would not be complete without a discussion of their distributional implications. Although efficiency issues may arise—in our case, in terms of the efficiency of informal capital markets—equity concerns are the central feature in evaluating any transfer system. In this section we will consider the redistributive properties of the interhousehold transfers discussed above, especially as they reflect upon the limited substitutability of private for public transfer programs.

Our entire analysis has been predicated on a mechanism which transfers income from richer to poorer households. The model implies a progressive redistribution scheme within each extended family and the strength of the empirical results substantiate this claim. Lacking precise data on transfer giving households our results cannot be viewed as conclusive. However, the performance of the income variables seems to support the view that progressive distributional outcomes are being realized.

Independent evidence also exists to support this claim. In Section Vd, we noted that for our population—the lower 65% of the urban income distribution—the net flow of transfer payments was clearly flowing into the poorer segment of the population. Additionally, if we compare those few households within this community who are net givers of transfer income, we find that their incomes are substantially higher than those of the net receiving families. Taken together, the proposed theory, as well as the
evidence of interhousehold transfers, suggest a progressive redistributive tendency.

These results, however, should by no means be interpreted as evidence that private transfer schemes are substitutes for public programs. On the contrary, implicit weaknesses in the private system argue for the necessity of public interventions when the reduction of poverty is a stated social objective. Clearly, there is still a place for public transfers for the following reasons:

(i) Interhousehold transfers within the extended family will always be limited by the income and wealth of each extended family. No necessary mechanism will exist for transfers between households of different extended families even though income differences across extended families may be a major determinant of total income inequality. On the other hand, public programs will be able to cut across extended family boundaries.

(ii) In addition to the problems associated with the inter-extended family distribution of income, the risk-pooling ability of any one extended family will be inferior to that available to the public sector since success at risk sharing is positively related to the size of the risk pool. This also implies that extended families of different size will, ceteris paribus, have varying abilities to successfully engage in risk pooling. This further decreases the efficacy, from a society-wide perspective, of the extended family network as the sole redistributive institution.

(iii) Although historical and kinship ties may be quite strong, there is no guarantee that all members of the extended family will continue
to abide by the implicit social contract. Public systems, supported by codified legal institutions, may potentially have greater advantages in enforcing redistributive commitments.

(iv) Lastly, since the basic needs threshold apparent in private interhousehold transfer systems is the one perceived by each extended family, implying variation across extended families, there is no guarantee that the resulting distributional outcome will be progressive due to the negative effect this variance will have on horizontal equity.

If objective basic needs limits can be set, it may require public actions to ensure that these goals are met, since households may neither have the resources nor the total commitment to achieve these objectives. Private systems may yield some progressive redistribution but public actions are likely to be required to reach socially desired equity outcomes. In essence, our basic needs framework is an illustration of the types of strategies for survival that low income households are compelled to adopt, at least in part due to the failure of existing public institutions in effectively reaching the poorer segment of the population.

2. Social equity and efficiency of projects

a) Social equity

The question of appropriate project participants' selection criteria arises in our context due to the conventional use of lower and upper earnings bounds in the selection of households for the project. Our framework, which has provided evidence on the significance of unearned income sources for certain households, brings up the question whether total income would not be a more equitable criterion.
Our Santa Ana data provided an opportunity to devise a hypothetical example along realistic lines. It is found that out of the ineligible pool when the minimum earnings criterion is employed, 25% (30 out of 106) could be eligible if the minimum total income criterion was followed instead. Furthermore, out of the 30 households excluded on the basis of low earnings but who would have been included on the basis of total income, 23 households were headed by females and 7 by males. If we consider that only 25% of our sample is composed of female-headed households, the discrimination against that group becomes clear.

Beyond the numbers and percentages involved, there is a conceptual issue at stake. If our framework of transfers as a response to basic needs is accepted, then it can be argued that the essence of an appropriate measure of income is lost by looking only at earnings, especially if the lower bound selection criterion is concentrated around the perceived basic needs level of many extended families. Santa Ana being a case in point, it is not a coincidence that such a large percentage of ineligible candidates would be eligible if transfers are also taken into account. It is quite plausible,

1/ See Kaufmann (1981a) for details. A similar analysis is made for the city of Sonsonate in Lindauer (1979).
moreover, that in many settings the very prospect of entrance in housing projects elicits a promise for additional steady transfers from the extended family. 1/

b) Social efficiency

In most cases, housing projects like the one reported above have either an implicit or explicit subsidy. Consequently, the social efficiency aspects of project selection is worth exploring, since the selection procedures will affect the choice of the subsidized group.

If society at large values a unit of basic needs expenditures and/or savings higher than unit of other expenditures, then it follows from our expenditure function results that, on one hand, selection strategies according to earnings levels will make ineligible a significant number of households that have expenditure patterns that would be valued higher than the expenditure patterns of the selected participants. On the other hand, income criteria would make those households eligible and consequently the expected social benefits per subsidy unit would be higher.

3. Basic needs strategies

During the decade of the 1970s many countries and international organizations have stressed the importance that ought to be attached to a commitment to basic needs. This view has arisen mostly out of the plain observation that in much of the developing world the basic human needs are

1/ Especially for policy, the issue of steadiness of the transfers is crucial. Preliminary results based on a small panel sample for Santa Ana indicate that the probability of being a transfer recipient with a basic needs deficit in 1980 given that the household received—and needed—the transfers in 1976 is as high as 73%. The simple probability of any household receiving a transfer in those years is around 25%. The issue of the permanence of transfers is discussed in detail in Kaufmann (1980).
not being met. At times this strategy has been labeled as paternalistic or as reflecting misplaced or unwarranted altruism. By applying elements of an important contemporary theory of distributive justice to the LDC setting, one might be able to demonstrate that a basic needs strategy could be derived from a social contractarian framework, thus making recourse to altruistic or paternalistic considerations unnecessary. 1/

The importance and structure of interhousehold transfers has also empirical implications for the cost-benefit analysis controversy on distributional vs. basic needs weights. If indeed transfers flow as a response to the perceived basic needs of the recipient household, the arguments on giving distributive weights to the extra consumption of particular goods by particular income groups (instead of weights to the income of that group) becomes substantially stronger. 2/

1/ See Kaufmann (1981b) for a detailed discussion on the subject.

2/ For an account of the conceptual controversy, see Harberger (1979).


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