Giving to Family versus Giving to the Community Within and Across Generations

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Abstract

In this paper, we examine relationship between giving to family, and community institutions, within and across generations, a previously unexplored subject. We investigate the relationship between these two types of transfer networks using new data from the Indonesian Family Life Surveys (IFLS). From our results, financial transfers to family members are positively correlated with giving to community organizations for both parent or origin households and adult split-offs living outside their households of origin. We also study the role of the family in shaping transfer behavior, and find that transfer behavior of adults living outside of their household of origin is significantly associated with parent or origin household transfer behavior. Our estimation strategy is based on the method of maximum simulated likelihood (MSL), which allows us to account for the correlation in error terms within and across generations.

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> The principle of neighborhood is most important. Family is the second principle. Why are neighbors important? In Bali, we say they are *nyama sane plaing kelih* (family that are eldest/most responsible). If I have a sudden disaster, it won't be my kin that will know first. The first to know will be my neighbor. If I'm suddenly sick, certainly I would call a neighbor first. Therefore, he is like the oldest brother -like kin. (Warren, 1993:16)

1. Introduction

Understanding what leads individuals to transfer resources to others, outside one's own family is a fundamental issue within economics, and other social sciences. This question has assumed greater relevance in light of work on the importance of private transfer networks for risk sharing, intergenerational mobility, and the effectiveness of government redistribution (Becker, 1981; Pollack, 1985).

The main goal of this paper is to explore the relationship between transfers to family members, and transfers to community organizations, a previously unexplored topic. We examine the relationship between these two types of transfer networks using new data from the Indonesian Family Life Surveys (IFLS).

Our analysis is focused on two related questions. First, we examine whether family and community transfers are related. Research in this area has been hindered by the lack of relevant data sources. For example, most household surveys from developing countries emphasize transfers among family members, with very little information on transfers to community organizations. In contrast, surveys from developed countries often provide extensive information on transfers to community institutions, but a less comprehensive view of family-based transfer networks.

The results in this paper contribute to a long-standing debate on the relationship between family and community networks. Several authors have argued that these two types of transfer networks function as substitutes, rather than complements (Alesina and La Ferrara, 2000; Banfield, 1958; Putnam, 1993). Based on field observations, Banfield (1958) describes the presence of a "family-centered" ethos as a barrier to collective action, and economic development in Southern Italy. It is interesting to note that some of the social capital literature appears to contradict this position. In particular, Coleman (1988) emphasizes the importance of both family and community networks for the transmission of social norms, trust, and knowledge across individuals.

Second, we investigate mechanisms by which family and community transfers may be related across generations. Transfer networks may be related through the

transmission of values and norms from parents to their offspring. More generally, individuals may learn about giving to the family and community by observing the actions of parents, family members or community leaders, who serve as role models. We adopt the term "role model effect" to capture the direct effect that parental behavior can have on the transfer decisions of adult children. The idea that parental transfer behavior can influence the transfer choices of adult children has recently received attention within the economics literature. Cox and Stark (1998) provide an influential model of intergenerational family transfers, termed the "demonstration effect" in which parents send transfers to their (elderly) parents, in order to shape their childrens' preferences, and to ensure that they will receive old-age support from their children (see also Arrondel and Masson, 2001; Jellal and Wolff, 2000). However, parental actions may shape the transfer behavior of their adult children even in cases where childrens' transfer choices do not yield clear parental benefits. Children may learn by observing their parents' behavior, or simply imitate parental transfer choices. To explore intergenerational influences or role model effects in transfer choices (family versus community), we link a sample of adults now living on their own in 1997/98 to their origin households in 1993/94.

Two econometric issues arise in estimating intergenerational influences on transfer choices. First, intergenerational correlations in transfer decisions can be attributed to factors other than role model effects. In particular, shared resource constraints, technology, and shocks, (some of which are unobservable to the researcher) as well as interdependent preferences may lead to intergenerational correlations in transfer behavior. Previous research on intergenerational transfers has often not dealt explicitly with the role of unobserved family-level heterogeneity in transfer decisions. Estimation techniques that do not take into account the endogeneity of family transfer behavior may lead to asymptotically biased results. Thus, we improve upon existing research by modeling family transfer choice as an endogenous variable within the context of an individual's decision to transfer resources to family members, or to community organizations. Second, it may be difficult to define the group that serves as a role model for the individual. The IFLS data is unique because we observe the characteristics and transfer patterns of all adults (living outside their household of origin), as well as transfers, characteristics, and the relationship to the origin household.

We adopt a novel estimation approach, which recognizes the interdependence of transfer amounts to family and community within generations, and fully accounts for correlations in the error structure of the transfer equations across generations. Specifically, we estimate a simultaneous equation quadrivariate Tobit model in a full information maximum simulated likelihood (MSL) setting. By

taking into account the endogeneity of giving across generations, we are able to determine if role model effects (direct effects) persist after we have controlled for the indirect effects of unobservables, including shared budget constraints, common shocks and tastes within the family.

Our main findings in this paper have the potential to inform policy debates. Identifying the relationship between family and community networks can influence the design and implementation of government policy towards community organizations, so as to avoid unintended crowding out effects. If family networks and community-level networks are close substitutes, then policies that encourage the expansion of community organizations may displace family-level mechanisms for providing credit, insurance and mutual labor exchange. In addition, assessing which individuals and communities lack access to formal and informal mechanisms for consumption-smoothing and risk sharing may improve our ability to target vulnerable groups within poverty alleviation programs. Finally, the results on intergenerational influences in transfer behavior suggest an important role for the family in shaping transfer choices, and this has implications for the transmission of income inequality across generations.

The rest of the paper is organized as follows. We describe the setting in Section 2. In Section 3, we present the conceptual framework. In Section 4, we describe the econometric model, the maximum simulated estimation technique and some computational issues. We describe the data sources in Section 5 and present results in Section 6. Section 7 presents conclusions.

2. The Setting

Indonesia is the fourth largest country in the world, with a population of close to 200 million. In the decades that followed independence, Indonesia witnessed rapid economic growth. Prior to the economic crises of the late 1990s, per capita gross domestic product (GDP) increased at a rate of nearly 5 percent a year (World Bank, 1994). Economic growth in Indonesia was accompanied by a significant growth in government programs in key sectors such as transport, health, education and agriculture. Fueled by large increases in oil revenue, the central government also sought to expand the role of community organizations.[1]

[1] Two important examples highlight growth in the prevalence of community organizations. In the health sector, Frankberg and Thomas (2001) discuss the role of neighborhood health posts (posyandu) in delivering key health services. Through the INPRES desa (Village Development Program), the central government provided funds for the construction of health clinics. Communities in turn, were expected to provide volunteer labor, building materials and monetary resources for use with central government transfers. In the credit sector, there has been significant expansion in the number of community institutions (see Morduch, 1999).

Official government literature during the post-independence era emphasized *gotong royong*, or community participation as a central part of the national development strategy (Bowen, 1986). To accomplish this end, the government promoted the adoption of a uniform system of local government (through village councils and neighborhood organizations) across Indonesia's 27 provinces. Thus, in key sectors of community and village life such as education, and health, the production and delivery of services relied on a common framework of local government.

Indonesia provides a rich setting in which to explore the relationship between family and community transfer networks because there are few tax-related incentives for transfer decisions, and public transfers tend to be limited in scope. Community organizations in Indonesia provide a range of goods and services including health care, sanitation, irrigation, and neighborhood security. Many of these services do not have clear market substitutes. In addition, through community-organizations, households may gain access to mutual insurance and credit, and obtain in-kind assistance with household/farm chores and child-care. From the onset, it is important to note that some of the services provided by community organizations can also be provided by family members, and through networks of friends, kin and co-workers.

Recent studies highlight the importance of family transfers and coresidence in Indonesia. According to Cameron and Cobb-Clark (2001), over 60 percent of elderly Indonesians (over age 60) live with their adult children, but many remain economically active. Outside the government sector, pensions are extremely rare. However, Cameron and Cobb-Clark find that transfers and coresidence decisions for elderly parents do not appear to be determined by parental need and resources, suggesting an important role for family norms, values and obligations. In addition, transfers to community organizations often depend on observed measures such as village resources, and community size as well as less-measurable variables such as social norms, trust and quality of community leadership.

3. Conceptual Framework

In this section, we examine a household's decision to participate in the family and community networks. Our main purpose here is not to investigate the motivations for family and community transfers, but rather to shed light on the relationship between these transfer networks, and how transfer choices are related across generations. Private transfers to family members and/or community organizations may be motivated by altruism or exchange considerations. The "warm glow" motive, in which individuals derive intrinsic benefits from their contributions to

family members or the community has also been used to explain private transfers (Andreoni, 1989).

With altruism, individuals transfer resources because they care about the welfare of the family and community members. Under exchange considerations, family and community networks can provide important current and future economic benefits such as insurance and credit, mutual labor exchange, as well as non-economic benefits such as caring, social status and group membership. Existing research suggests that private transfers of income, and in-kind services within the family cannot be explained by simple models of altruism (Cox, 1987, Altonji et al, 1997). However, there is much less evidence on the motivations for transfers to community organizations. Okten and Osili (2002) find evidence for the exchange motive in their study of transfers to community organizations in Indonesia.

Our first empirical question is: are transfers to family and transfers to community related? Within the exchange framework, whether transfer networks can be regarded as substitutes, complements or unrelated will depend on the relationship between the services provided by the family network, and the community network, respectively. On one hand, family and community networks may provide complementary services. For example, an individual may borrow funds through the family network to meet consumption needs, while the village credit institution provides loans for production purposes. On the other hand, family and community networks provide services that are actually substitutes. For example, an individual may seek financial assistance from family members due to an adverse income shock, which might constitute an alternative to a loan from the village credit institution. Our empirical analysis will examine closely the relationship between transfers to family and transfers to community.

Our second empirical question is: is there a role model effect in the determination of transfers to family and transfers to community? Economic theory provides an important role for preferences and budget constraints in the household's transfer choice. If individuals learn only from their own experiences, then transfer choices may be unrelated across generations after we have controlled for the role of budget constraints and shocks. However, preferences may be shaped by parents who serve as role models for their adult children, which would lead to correlations in transfer choices across parents and their adult children living outside their household of origin.

The transmission of norms and values across generations may occur for a variety of reasons. Cox and Stark (1998) emphasize the role of parental self-interest in preference shaping. However, we recognize that the transmission of preferences and norms across generations may also be motivated by unselfish reasons. Parents

may transfer social norms to their children out of a sense of obligation to share knowledge about the benefits and costs of transfer networks, even where parents do not benefit directly from the children's transfer choices. Finally, preference shaping and transmission of norms may not always be intentional. Children may simply imitate their parents, and adopt their patterns of transfer behavior when they establish their own households.

Next, we present a simple model in which parents serve as role models. Children, start out with an initial knowledge (k_o) on the benefits and costs of making transfers within a given transfer network. Let j refer to a network such that $j \in \{f, c\}$ where f represents the family network, c represents the community network. Information accumulation is a function of parental inputs P_j, a key aspect of which is parents' transfers to network j, and external sources of knowledge, E_j. In the equation below, the parameter a_j, measures an individual's specific capacity at a given age to learn about transfer network j.

Following Chiteji and Stafford (1999), in simple linear form, we postulate that the child's knowledge of the costs of participating in a given transfer network, $\dot{k}_j$ is given as follows:

$$\dot{k}_j = a_j P_j + E_j - \delta k_j$$

From the above, the derived demand for services from family and community networks, s_j is a function of knowledge on the benefits and costs of networks f and c, and a vector of observed and unobserved individual characteristics, such as income, and demographic characteristics (Z).

$$s_j = S\left(k_f, k_c, Z\right)$$

We will assume that $S_1 > 0$. In the presence of role model effects then $a_j > 0$ and $\frac{\partial k_j}{\partial P_j} > 0$. This implies that the derived demand for services (s_j), and transfers (t_j) to network j will be increasing in parental inputs, P_j. More formally,

$$\frac{\partial s_j}{\partial P_j} > 0 \; ; \quad \frac{\partial t_j}{\partial P_j} > 0$$

In other words, if parental transfer choices, and other parental actions provide information on the relative benefits and costs of participating in social networks, then we expect that transfer choices of children will be significantly correlated with that of their parents. We recognize that prices, household and family wealth, shocks, demographic variables, and external influences such as religious and community influences can also affect transfer choices. Some of these factors

are less measurable by the researcher, which means that it is important to account for the unobserved factors that may indirectly affect transfers to a given network

4. Econometric methods

In this section we first develop a simultaneous equations quadrivariate Tobit model for giving to family and community across two related generations of households. Then we discuss important computational issues involved in the estimation of this model.

4.1. Model

Let y^*_{pf}, y^*_{pc}, y^*_{kf} and y^*_{kc} denote the latent propensities to give financial transfers by parents p and their children (kids) k to other members of their families f and to community organizations c, respectively. The observation subscript is omitted for notational convenience. Let y_{gr}, where generation $g = (p, c)$ and recipient $r = (f, c)$ denote the observed outcome that is related to the latent variable by $y_{gr} = y^*_{gr}$ if $y^*_{gr} > 0, y_{gr} = 0$ if $y^*_{gr} \leq 0$. In the empirical below, we use the labels, parents and children (kids) to describe the relationship between two related generations of households. It is important to note that the IFLS data on intergenerational households contains mostly child-parent pairs, but also includes more broadly, other adult family members who have left their household of origin, and established their own households.

In the empirical implementation, when transfers are positive, we use their logarithms as the observed outcomes.

Let

$$y^*_{pf} = x_p\beta_{pf} + u_{pf} + \varepsilon_{pf} \tag{4.1}$$

and

$$y^*_{pc} = x_p\beta_{pc} + u_{pc} + \varepsilon_{pc} \tag{4.2}$$

describe the latent processes underlying transfers by parents to family and community respectively. x_p is a vector of characteristics of the parent household and ε_{pr} and u_{pr}, $r = (f, c)$ are error terms described in detail below. The latent processes for transfers to family and community by kids are given by

$$y^*_{kf} = x_k\beta_{kf} + y_{pf}\delta_{ff} + y_{pc}\delta_{cf} + u_{kf} + \varepsilon_{kf} \tag{4.3}$$

and

$$y^*_{kc} = x_k\beta_{kc} + y_{pf}\delta_{fc} + y_{pc}\delta_{cc} + u_{kc} + \varepsilon_{kc} \tag{4.4}$$

respectively. x_k is a vector of characteristics of the kid household and ε_{kr} and u_{kr}, $r = (f, c)$ are error terms. Role model effects are assumed to be transmitted via the amounts of transfers by parents, y_{pf} and y_{pc} which enter the kids latent processes.

As shown in equations (4.1) - (4.4), the error term in each equation is decomposed into two parts. The ε_{gr}, $g = (p, c)$ and $r = (f, c)$, are assumed to be mutually independent and are drawn from unit normal distributions. We assume ε_{gr} has unit variance because the variances of u_{gr} and ε_{gr} cannot be separately identified. Furthermore, we assume that u_{gr} and ε_{gr} are independent of each other for each g and r. Common unobserved heterogeneity between recipient types within generations, between generations within recipient types and between recipient types across generations is captured by correlations between the u_{gr}. We assume that $\mathbf{u} = [u_{pf}\ u_{pc}\ u_{kf}\ u_{kc}]'$ follows $\mathbf{N}(\mathbf{0}, \mathbf{\Sigma})$ where $\mathbf{0}$ is a 4×1 vector of zero means and $\mathbf{\Sigma}$ is a 4×4 covariance matrix given by

$$\mathbf{\Sigma} = \begin{bmatrix} \sigma_{pfpf} & \sigma_{pfpc} & \sigma_{pfkf} & \sigma_{pfkc} \\ \sigma_{pfpc} & \sigma_{pcpc} & \sigma_{pckf} & \sigma_{pckc} \\ \sigma_{pfkf} & \sigma_{pckf} & \sigma_{kfkf} & \sigma_{kfkc} \\ \sigma_{pfkc} & \sigma_{pckc} & \sigma_{kfkc} & \sigma_{kckc} \end{bmatrix}.^{2}$$

Conditional on u_{gr} the structure of each equation is in the form of a Tobit and the joint likelihood $L|\mathbf{u}$ is the product of each of the conditional on $\mathbf{u}$, marginal likelihoods. That is,

$$\begin{aligned} L|\mathbf{u} \;=\; \prod_r \Bigg\{ & \Big[1 - \Phi(x_p\beta_{pr} + u_{pr})\Big]_{(y_{pr}=0)} \\ & \left[\frac{1}{\sqrt{2\pi}} \exp\left(-\frac{1}{2}(y_{pr} - x_p\beta_{pr} - u_{pr})^2\right)\right]_{(y_{pr}>0)} \\ & [1 - \Phi(x_k\beta_{kr} + y_{pf}\delta_{fc} + y_{pc}\delta_{cc} + u_{kr})]_{(y_{kr}=0)} \\ & \left[\frac{1}{\sqrt{2\pi}} \exp\left(-\frac{1}{2}(y_{kr} - x_k\beta_{kr} - y_{pf}\delta_{fc} - y_{pc}\delta_{cc} - u_{kr})^2\right)\right]_{(y_{kr}>0)} \Bigg\} \end{aligned} \tag{4.5}$$

where the $(y_{gr} = 0)$ and $(y_{gr} > 0)$ subscripts denote the limit and nonlimit observations respectively and Φ is the standard normal distribution function. The

[2] This matrix is symmetric by definition, but is not necessarily positive definite. Because it is a covariance matrix, it should be positive definite and symmetric. We check positive definiteness of $\mathbf{\Sigma}$ at each iteration of the estimation algorithm using its eigenvalues. Parameters are forced away from the invalid region using a penalty function. In practice, our experience is that non-positive definiteness of $\mathbf{\Sigma}$ is not an issue. In preliminary work, we also estimated models in which we specified a lower triangular matrix $\mathbf{\Lambda}$ such that $\mathbf{\Sigma} = \mathbf{\Lambda}\mathbf{\Lambda}'$. This formulation ensures a symmetric and positive definite $\mathbf{\Sigma}$ and a unique $\mathbf{\Lambda}$ for any $\mathbf{\Sigma}$. Although estimates of $\mathbf{\Lambda}$ were stable, we found the implied values of $\mathbf{\Sigma}$ to be less stable than our preferred parametrization.

expression in (4.5) cannot be maximized directly because the u_{gr} are unknown. However, since the distribution of $\mathbf{u}$ has been specified, it can be integrated out of the likelihood,

$$L = \int_{\mathbf{u}} (L|\mathbf{u}) f(\mathbf{u}) d\mathbf{u}. \tag{4.6}$$

The integral above is over the domain of a quadrivariate normal density and thus does not have a closed form. Therefore, the likelihood function cannot be calculated analytically. The maximum simulated likelihood (MSL) approach is a powerful way to implement maximum likelihood when the likelihood function does not have analytical representation (Lee, 2000; Gourieroux and Monfort, 1996). The key insight of the method is that the integral expression in (4.6) may be written as the expectation expression,

$$L = \mathrm{E}(L|\mathbf{u}) \tag{4.7}$$

with respect to the density of $\mathbf{u}$, $f(\mathbf{u})$. The MSL estimator involves replacing the expectation by a simulated sample analog (average), i.e.,

$$\widetilde{L} = \frac{1}{S} \sum_{s=1}^{S} (L|\widetilde{\mathbf{u}}_s), \tag{4.8}$$

where $\widetilde{\mathbf{u}}_s$ is the s^{th} draw (from a total of S draws) of a 4-vector of random numbers from the density $\mathbf{N}(\mathbf{0}, \mathbf{\Sigma})$ and $\widetilde{L}$ denotes the simulated likelihood. Provided that S is sufficiently large, maximization of the simulated likelihood is equivalent to maximizing the likelihood. We discuss issues of simulation in greater detail below.

We maximize the simulated likelihood using a quasi-Newton algorithm requiring only first derivatives. Post-convergence the covariance matrix of the MSL estimates is obtained using the robust sandwich formula because it correctly incorporates simulation noise (McFadden and Train, 2000), while other formulae do not.

4.2. Quasi-Monte Carlo variates

Standard normal pseudo-random number generators are available in standard statistics computer packages. In cases of multidimensional expectations such as ours, a large number of pseudo-random draws is required to achieve suitable levels of accuracy. Increasing the number of simulation draws to reduce the simulation error to acceptable levels is simple in principle but computationally costly. In numerical analysis, a literature has recently emerged that attempts to use intelligent, systematic draws rather than random draws to speed up convergence

of the required expectations. The quasi-Monte Carlo method is similar to the Monte Carlo method but instead of using S pseudo-random points, it uses non-random points within the domain of integration. The use of Halton sequences is one such quasi-Monte Carlo method introduced by Bhat (2001) in the context of simulation-based estimation of mixed multinomial models.

Halton sequences have two desirable properties vis-a-vis pseudo-random points. First, they are designed to give fairly even coverage over the domain of the mixing distribution. With more evenly spread draws for each observation, the simulated probabilities vary less over observations, relative to those calculated with random draws. Second, with Halton sequences, the draws for one observation tend to fill in the spaces left empty by the previous observations. The simulated probabilities are, therefore, negatively correlated over observations. This negative correlation reduces the variance in the simulated likelihood function. Under suitable regularity conditions, the integration error using pseudo-random sequences is in the order of N^{-1} as compared to pseudo-random sequences where the convergence rate is $N^{-1/2}$ (Bhat, 2001).

Bhat (2001) and Train (2002) demonstrate dramatic improvement in simulation errors from the use of Halton-sequence based draws relative to the usual pseudo-random draws. Bhat (2001) finds that the simulation error in the estimated parameters was lower using 100 Halton numbers than 1000 random numbers. Train (2002) finds that the variance over draws in the simulated probability for an observation is half as large with 100 Halton draws than 1000 random draws. Our limited experience in the context of the model considered here suggests less dramatic improvement over random sequences, but the improvement is substantial nevertheless.

It is useful to describe a Halton sequence with an example (see Train, 2002, for an extensive and lucid description). Consider the prime number 2. Its Halton sequence is constructed as follows. Divide the unit interval (0,1) into 2 parts. The dividing point 1/2 becomes the first element of the Halton sequence. Next divide each part into two more parts. The dividing points, 1/4 and 3/4 become the next two elements of the sequence. Divide each of the four parts into two parts each, and continue. Halton sequences on non-prime numbers are not unique because the Halton sequence for a non-prime number divides the unit space in the same way as each of the prime numbers that constitute the non-prime. In our model, we have four unobserved factors that need to be integrated out, so we generate

four Halton sequences, based on the primes 2, 3, 5, and 7:

$$\begin{array}{llllllll} \{1/2 & 1/4 & 3/4 & 1/8 & 3/8 & 5/8 & 7/8 & ...\} \\ \{1/3 & 2/3 & 1/9 & 2/9 & 4/9 & 5/9 & 7/9 & ...\} \\ \{1/5 & 2/5 & 3/5 & 4/5 & 1/25 & 2/25 & 3/25 & ...\} \\ \{1/7 & 2/7 & 3/7 & 4/7 & 5/7 & 6/7 & 1/49 & ...\} \end{array}$$

The length of each sequence is determined by the number of observations N and the numbers of simulation draws S. We discard the first 20 elements of the sequence as the early elements have a tendency to be correlated over Halton sequences with different primes (see Train, 1999, for an example). Consequently, we begin by generating Halton sequences of length $N \times S + 20$ and discard the first twenty elements of each sequence.

For each element of each sequence, we calculate the inverse of the cumulative normal distribution. The first group of S elements in the resulting sequence is assigned to the first observation in the sample, the next S elements to the second observation, and so on. These define a 4-vector of iid normals, $\mathbf{v}$. The target distribution is obtained by the transformation $\mathbf{u} = \mathbf{\Lambda v}$ where $\mathbf{\Lambda}$ is the Cholesky root such that $\mathbf{\Sigma} = \mathbf{\Lambda\Lambda'}$.

5. Data

This paper is based on the Indonesia Family Life Surveys (IFLS), conducted by RAND and the University of Indonesia. The IFLS survey was conducted in 1993/1994 (IFLS1), with a follow-up in 1997/98 (IFLS2), and contains about 7500 households. We focus on the second wave of the survey because only limited information on transfer networks is available in the first wave of the survey (IFLS1). In addition, the second wave contains about 880 pairs of origin households and their split offs, which allows us to examine intergenerational linkages in transfer choices.[3] The origin-split off pairs are composed of mainly parents and their adult children who have established their own households (Appendix A). For this reason, we maintain the labels parents and kids to describe the relationship between the two generations of the IFLS1 household.[4]

The IFLS data is particularly well suited for the study of transfer choices within family and community networks. To our knowledge, there are no comparable data sets (from developed or developing countries) that provide individual-level evidence on transfers to both family members and community organizations.

[3] See Frankenberg and Thomas (2000) for a detailed description of the IFLS surveys.

[4] Individuals in our split-off sample also include other relatives of the IFLS1 household head, and we explore the differences between transfer choices of adult children and other relatives of the IFLS1 household head in our empirical work.

The data set also has information on individuals, households and community characteristics. An individual's decision to participate in a given network (family or community) may also depend on the resources and characteristics of family members. A major strength of the IFLS data is that information on family members living outside the household is available.

Our main dependent variables of interest are financial transfers within the family and community network. We define "Giving to the Family" as the log of total monetary transfer to all siblings living outside the household (in rupiah) in the 12 months preceding the interview.[5] Our preferred measure of giving within the family network is total transfers to siblings because other types of family transfers (notably, transfers to parents and children) are more likely to be affected by sample selection bias. In particular, we only observe upward transfers (child-parent) or downward transfers (parent-child) for individuals with surviving parents and children, respectively. Furthermore, transfer data is only available for individuals with noncoresiding parents and children living outside the household. Since parental coresidence and the number of children residing within the household may be endogenous choice variables within the context of family transfers, we focus on sibling transfers. However, we also test the robustness of our results using a broader view of family giving, which includes both transfers to parents and siblings.

In our analysis, "Giving to the Community Network" is defined as the log of total monetary transfer to community organizations (in rupiah) in the 12 months preceding the interview. Table 1 provides an overview of individual, family and community variables used in our analysis.

Our measure of giving within transfer networks does have some shortcomings. We individuals as participating in a network only if they transfer resources in the survey period. This measure fails to reflect transfer history, or future participation decisions. Furthermore, individuals who received benefits (from family or community networks) could also be classified as participating in a transfer network. Unfortunately, in IFLS2, the survey asks whether individuals received specific types of benefits (money, goods, other) from community organizations, but does not provide the monetary value of benefits received from the community network. Clotfelter (1992) discusses further problems associated with measuring and classifying benefits received from community organizations.[6] It is also possi-

[5] Specifically, the dependent variable is natural logarithm of (contribution amount + 1) for both family and community transfers.

[6] Benefits may not be tangible goods and services that can be observed by the researcher. Furthermore, benefits from community organizations may only become apparent over a much longer time horizon.

ble to expand our definition of giving within a network to include time transfers, however, time transfers are less precisely measured particularly within the family network.

To investigate role model effects in transfer behavior, we use a matched sample of origin household or "parents" and their split offs or "kids" in the second wave of the survey (IFLS2). This matched sample provides direct measures of transfers within family- and community-based networks, for both parental households and their kids living outside the household.

We face some data limitations in studying intergenerational linkages in transfer behavior as detailed information on family and community transfer choices for parents households and their children are only available for 1997/98 (IFLS2).[7] An ideal data set would provide information on family and community transfers for parent households prior to the time period in which the child establishes his or her own household. Data from a single time period are likely to provide an imperfect measure of the importance of role model effects in transfer behavior. With these caveats in mind, we proceed to discuss the characteristics of the parent and kid households.

5.1. The Parent Household

We include variables that capture the socio-economic and demographic characteristics of the head of the parent or origin household, including age, sex, years of schooling, marital status, gender, and religion (Muslim=1). Household size, number of children, and per-capita expenditure in the household are used to capture resources and constraints within the household that may influence the individual's participation in giving within the family or community network.

From Table 1, the mean age for parent household heads in our sample is over 50. Parent household heads are also more likely to be married (about 75 percent of these heads are married). There are important differences in individual characteristics between participant and non-participant individuals (Appendix B). Parent households that participate in family and community transfer networks appear to be older, married, and have greater resources than non-participant households. Interestingly, we also find that individuals who give within both family and community networks appear to have more economically active siblings.

To control for regional variation in our data, we construct province dummies. Province dummies reflect difference in ecological environments, resource endow-

[7] We find very low correlations in community transfer decisions between IFLS1 and IFLS2, and attribute this low observed correlation (r=0.02) to significant differences in the survey instrument on community transfers across the two waves of the survey.

ments, population density, and other socio-cultural differences across regions.

5.2. The Kid Household

There are over 800 parent-kid pairs. Appendix A provides a picture of the relationship of the individuals in the kid sample to their origin (or "parent") household heads in IFLS1. Specifically, the kid sample is mainly composed of children of the household head and their spouses (about 65 percent of the kid sample), but also includes other family members of the original IFLS1 household who have since established their own households.

From Table 1, the kid sample is composed of younger individuals (the mean age here is 25.2 compared to the origin household sample where the average age is 52.8). Individuals in the kid sample are less likely to be married (only half of the sample is married), and have higher levels of educational attainment compared to the parent household sample. Individuals in the kid sample have a comparable average number of economically active siblings (the average number of siblings is 3.43 for the kid sample versus 3.82 for the parent household head).

We note that there are interesting differences in transfer variables for the kid sample. Nearly half of the kid sample reports making a transfer to siblings, while only 35 percent of parent households report a sibling transfer. When we examine community transfers, however, a different picture emerges. In particular, parent households have a higher incidence of participation in the community network (23 percent of parent household heads versus 16 percent of the kid sample report making a community transfer).

6. Results

The first set of results shed light on the relationship between family and community transfer networks. The results presented below rely on our two measures of giving within networks. Giving within a family (community) network is defined as the log monetary transfer to siblings (community institutions) during the survey year. Our second set of results provide evidence on parent household influences on the transfer behavior of the kid sample. As discussed earlier, we focus on sibling transfers as our key measure of giving within the family network because other types of family transfers (notably, transfers between parents and children are more likely to be affected by sample selection bias).

6.1. Estimates (with exogeneity of origin household transfers)

Table 2 present results from the Tobit model estimated for IFLS2. In this specification, we treat parent household transfers as exogenous, although we relax this assumption in section (ii). Results from both the parent household and the kid sample are discussed below.

6.1.1. Parent Household

Household characteristics are an important determinant of transfer choice within family and community networks. However, the impact of household-level variables on the amount transferred within family and community networks appears remarkably similar. We note that there may be important non-linearities regarding the effect of age on transfers within the family and community network. In particular, age has a negative impact on transfers, while age squared has a positive and statistically significant effect on the amount transferred to the family and the community for parent or origin households. From our results, marital status and religion (Muslim=1) have a positive impact on both transfers to family members and community organizations. However, there are some exceptions notably, the effects of gender (male=1) and educational attainment on community networks. Gender (male=1) and educational attainment are positively associated with the amount of the community transfer, while negatively associated with the amount transferred to the family.

Our results also indicate that household-level resources are a positive and statistically significant determinant of transfers within family networks, and community transfers. However, we find that an increase in per capita household expenditure has a larger positive effect on family transfers (elasticity is 1.07 and 0.71, respectively for family and community transfers). Parent households that reside in urban areas transfer fewer resources to family and community, although the urban residence is insignificant for giving to the family. One potential explanation for this result is that urban residence may decrease the amount transferred to community organizations if higher population density in urban areas leads to lower costs of public good provision per capita. From our results, household size has a positive, but statistically insignificant impact on family or community giving for origin households.

The correlation between the error terms in the transfer equations for giving to the family, and giving to the community in the bivariate tobit specification is 0.05, which indicates that there is common unobserved heterogeneity in the two transfers decisions – amounts transferred within the family and the community are network are (weakly) positively correlated for the parent household. This

result may suggest that services provided by family and community networks are likely to be complementary in nature. However, after we have accounted for household resource constraints, common unobserved variables including tastes, and shocks may also induce a positive correlation between transfers to family and community.

6.1.2. Kid Sample

We report a positive correlation (0.05) between the family and community transfer equations for the kid sample. Interestingly, this is the exact correlation coefficient that we report for the parent or origin household (see Table 2, column 2). Thus, we find robust evidence that for both the parent and kid samples, there is common unobserved heterogeneity between giving within the family network and giving within the community network.

The effects of individual characteristics on giving to family and giving to the community for the kid sample deserve close attention. Similar to findings for the parent household, marital status (married=1) and per capita household expenditure have a positive and statistically significant effect on family and community transfers. Household size does not have a statistically significantly effect on family or community transfers for the kid sample. Again, we note that gender (male=1) has a positive and significant impact on the community transfer, while it is negative, but insignificant for transfers to family.

There are some important differences, however, for the kid sample. In particular, we find that older households are more likely to transfer resources to family members (while we found the opposite results for the parent household). Similarly, from kid sample, households that reside in urban areas transfer more resources to family and community, although this effect is not statistically significant.

The kid sample allows us to examine the parent or origin household influences on the transfer behavior. When parent household transfers are assumed exogenous, from table 2 (column 3), the parent household impact (or role model effect) on transfers to family members is negative and statistically insignificant. Thus, where family giving is treated as an exogenous variable, there does not appear to be evidence for role model effects on family giving. An important unobserved variable in our estimation is sibling wealth. If sibling wealth is negatively correlated across generations, this may induce a negative correlation in giving to family across generations. Furthermore, because we do not observe lifetime household resources for parents and children, unobserved wealth may be negatively correlated across generations, which would lead to biased estimates

(downward) of the impact of parental transfers on the kid's transfers to the family or community.

However, we do find evidence for a positive and statistically significant role model effect for transfers within the community network. In particular, we find that a 10 percentage increase in the origin household's community transfer, is positively associated with a 2.7 percent increase in the kid's transfer to the community. In the next section, we investigate whether these results persist after we account for the endogeneity of parent household transfer behavior. When the error terms are correlated across generations, it is possible to erroneously find evidence in support of (or against) "role model effects" in transfer choices, which may be due in part to unobserved family or community variables.

6.2. Estimates (with endogeneity of parent household transfers)

The second set of results deal with the impact of family giving on the transfer decisions of the kid sample, with parent household giving modeled as an endogenous variable. Earlier results (presented in Table 2) consider parent household transfers as exogenous to the kid's transfer decision, and thus ignore the correlation between error terms in the parent and kid sample transfer equations.

From table 3, the correlation between the error terms in the transfer equations for giving to the family, and giving to the community is 0.06 for the parent household, and 0.05 for the kid sample. Again, this supports our earlier results that the family and community transfer decisions are positively correlated.

A key variable of interest in our analysis is whether or not parent household transfer behavior impacts the child's transfer decision (after we have controlled for endogeneity of parent household giving). Results on family transfers allow us to study intergenerational influences in family giving across the parent household and kid sample. Interestingly, here we find that accounting for the endogeneity of parent transfers leads to a positive and significant role model effect in family giving for the kid sample. Thus, when we endogenize origin household's transfer choices, we obtain a strikingly different picture in that there is a positive and significant parent household role model effect on transfers to family members.

When we examine giving to the community, there is a positive and significant parent household role model effect on the community transfer decision. The parent household effect on community giving appears to be larger in the simultaneous equations model which takes into account the endogeneity of origin household transfers. At the mean, a 10 percent increase in the origin household's community transfer amount is associated with a 3.4 percent increase in community transfers for adults living outside the origin household. This suggests that estimation meth-

ods that do not account for correlations in error terms across generations may lead to a downward bias in the magnitude of "role model" effects.

We also note that the correlation in error terms for the family giving equation is negative across generations ($p = -0.15$) and statistically significant at the 1 percent level. An obvious explanation, which we discussed in the previous section is that sibling wealth, which are unobserved in our analysis may be negatively correlated across generations. Again, this result emphasizes the need to deal with unobserved heterogeneity in estimating intergenerational influences in transfer behavior. We also note that the correlation in error terms for the community giving equation is positive across generations ($p = 0.05$). This suggests that omitted variable community variables (such as community wealth, and availability of services) may be positively correlated across generations.

Within the simultaneous equations model, we can also examine whether the signs and significance levels of the coefficients in the regression have changed with the introduction of endogenous role model effects. However, results on age, marital status, religion (Muslim=1), educational attainment remain comparable to our earlier findings (reported in section (i)). Our results on the effect of per capita expenditure giving are also consistent with earlier findings. In particular, the coefficient on per capita household expenditure remains positive and statistically significant for both parent and kid samples. However, household resources have a larger positive impact on family transfers for both samples. Again, we note that household size has a positive, but statistically insignificant impact on transfers to the family or community (for the parent and kid sample). We also introduce the number of children in the household as an additional regressor, but do not find this variable to be a significant determinant of family or community transfers (results are not shown).

6.3. Specification Checks

6.3.1. Staying in the Community versus Moving to a New Community

In the above analysis, we compare transfer patterns for parent households and their kids or split-offs. However, we recognize that this sample of individuals who have moved from their origin households, and established their own households (kid sample) may not be homogeneous. Specifically, our kid sample is composed of two groups: individuals who have moved outside the village/town where the origin household resides (about 54 percent of the kid sample has moved), and those that have remained within the same village/town as the origin household. For individuals who reside outside their village or town of their origin household, community-level services, shocks and constraints are less likely to be correlated

across generations. Since migration is an endogenous choice, an additional concern is that kids who reside in a different community from their parent household may have different tastes, wealth, unobserved ability, strength of family ties and other variables, which affect transfer behavior. For example, with distance from the parent household, the costs of sending family transfers may be higher.

To deal with this concern, we introduce an indicator variable in order to capture whether a kid household resides in the same community as their parent or origin household. We find that this dummy variable is not statistically significant for family transfers for both the kid sample and the parent household. We also conduct a likelihood ratio test for parameter differences in family transfers for individuals that no longer reside in the same community as their parent or origin household. An unrestricted model, which allows for different coefficients for individuals that have moved versus those individuals that have remained in the same community as the parent household is compared with the restricted model (which contains the full sample). The likelihood ratio test fails to reject the null hypothesis of no structural change for the two subsets of the kid sample. We should note that both the dummy variable approach and likelihood ratio test do not provide evidence for a location effect in community giving, in that kid households that reside in the same community (as the parent household) do not give larger community transfers, holding other variable constant.[8]

6.3.2. Children of the IFLS1 Origin Household Head versus others

The "kid" sample in our data contains children of the IFLS1 household head, as well as other family members of the head. The IFLS data allows us to identify the individual's relationship to the original IFLS1 household. About 65 percent of the kid sample is composed of children (or sons or daughters-in-law) of the IFLS1 household head, and there may be significant differences in the transfer behavior of children of the IFLS1 household head when compared to other individuals in our split sample. Using the likelihood ratio test approach, we fail to reject the null hypothesis that the coefficient vectors are the same for children of the IFLS household versus other individuals in the kid sample.

6.3.3. Alternative definitions of Family Giving

One potential criticism of the above results is that we have used a restrictive definition of family giving by focusing solely on sibling transfers. It is possible to expand the definition of family giving to include parental transfers. However,

[8] Specification checks results are available upon request from the authors.

from the onset, large differences in the demographic composition of the parent and kid samples may require some caution in studying transfer choices that include parental transfers. For example, the kid sample is drawn from a younger portion of the age distribution with more parents surviving, when compared to the original IFLS1 household where parents are less likely to be alive (mean number of parents is 0.43 and 1.29 for the parent and kid samples respectively). Thus, the amount transferred to the family may actually be negatively correlated across the two samples for this reason. As noted earlier, financial transfers to parents are only observed when parents are non-coresiding which leads to additional concerns regarding sample selection bias.

When we adopt a broader definition of family transfers (i.e. log of parental and sibling transfers) we still find that the correlation between the transfer equations for giving to the family and giving to the community is positive and significant ($\rho = 0.09$ for the parent household sample and $\rho = 0.12$ for the kid sample). Again, this supports earlier results that the family and community transfer decisions tend to be positively correlated.

We now turn to discuss our results on the impact of household of origin's giving to the family. In our general specification (where family transfers are defined to include both transfers to parents and siblings), we find that the giving to the family at the origin household has a negative but statistically insignificant impact on the individual's decision to transfer resources to the family (defined as transfers to parents and siblings). The magnitude of the family effect is comparable to results based on sibling transfers. However, when we control for endogeneity, we find a persistent negative family effect, which is statistically significant. As discussed above, the negative correlation can be explained by the heterogeneity in the composition of family recipients for parent and kid households, respectively since the kid sample is more likely to have one or more surviving parents. We do find that estimates for community transfers suggest a robust positive family effect for community transfers, even after we control for the endogeneity of family giving.

7. Conclusion

This paper makes a significant contribution to existing knowledge on the relationship between family and community networks, both within and across generations. Results from the Indonesia Family Life Surveys provide evidence that transfers to family members and community organizations are positively correlated, suggesting that transfer networks may be complements rather than substitutes. We find complementarities in family and community transfer networks for

origin households and adults living outside of their household of origin. These results represent an important initial step, and clearly more research is needed to provide a better understanding of relationship between family and community networks across various economic settings.

In addition, we investigate intergenerational influences in transfer behavior. Both the family and the community can play an important role in the transmission of social norms and knowledge about the costs and benefits of participating in transfer networks across generations. We find convincing evidence that there are significant parent household influences or *role model effects* in community giving. In particular, the community giving decisions of adults living outside their households of origin appear to be positively influenced by the origin household's community giving. Our results on intergenerational influences in family transfer patterns yield striking and interesting results. Family giving by the parent household has a negative and insignificant impact on the kid household's family transfers when parent household transfers are modelled as an exogenous variable. However, when we treat family giving as an endogenous variable, within a simultaneous equations quadrivariate Tobit model, we find support for positive role model effects in family transfer decisions of the split sample. These results emphasize the need to deal with the role of unobservables in studying family influences in transfer behavior.

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Table 1

Comparing the Parent and Kid Samples in IFLS2 (1997/98)

	Parent Sample (Original IFLS1 Household)		Kids (Adults who have left their IFLS1 households and established their own households since 1993)	
	N	Mean	N	Mean
Transfer Variables				
Transfer to Siblings?	1186	0.35	900	0.49
		(0.48)		(0.50)
Total Transfer to Siblings	1186	27899.07	900	40371.29
(in Rupiah)		(149058.20)		(118816.70)
Transfer to Community?	1403	0.22	955	0.15
		(0.42)		(0.36)
Total Transfer to Community	1403	8570.85	955	2921.05
(in Rupiah)		(76094.10)		(22159.30)
Individual Characteristics				
Age	1403	52.88	1077	29.90
		(13.45)		(12.79)
Age Squared	1403	2977.20	1077	1063.04
		(1419.73)		(1066.40)
Marital Status (Married=1)	1403	0.76	1078	0.68
		(0.43)		(0.47)
Male (=1)	1403	0.78	1078	0.50
		(0.41)		(0.50)
Religion (Muslim=1)	1403	0.90	1078	0.91
		(0.30)		(0.29)
Years of Schooling	1380	5.22	1071	7.67
		(4.20)		(4.14)
Per Capita HH expenditure	1309	154795.70		194317.80
(in Rupiah)		(231996.20)		(206065.30)
Household Size	1403	7.59	1078	3.97
		(3.15)		(2.03)
Number of Children	1405	0.63	1029	0.45
		(0.89)		(0.78)
Urban	1405	0.48	1078	0.54
		(0.50)		(0.50)
Parents' Characteristics				
(Based on Reports)				
No of Surviving Parents	912	0.43	871	1.29
		(0.67)		(0.82)
Parent Coresiding?	912	0.04	871	0.14
		(0.21)		(0.35)
Sibling Characteristics				
No of Economically Active	1275	3.82	876	3.43
Siblings		(3.21)		(3.01)

Standard Deviations are shown in parentheses.

Table 2

Giving to Family versus Giving to Community

Tobit Model with Exogenous Role Model Effects

			With Exogenous Parent Household Transfers	
	Log Transfer to Siblings (Parent Household)	Log Transfer to the Community	Log Transfer to Siblings (Kid Household)	Log Transfer to the Community
Independent Variable	(1)	(2)	(3)	(4)
Individual Characteristics				
Age	-1.96	-1.87	1.64	1.20
	(0.65)	(0.91)	(0.58)	(0.84)
Age Squared	0.15	0.18	-0.22	-0.18
	(0.06)	(0.09)	(0.07)	(0.11)
Marital Status (Married=1)	1.17	1.23	1.02	3.01
	(0.59)	(0.60)	(0.41)	(0.74)
Male (=1)	-1.11	0.30	-0.28	1.00
	(0.52)	(0.69)	(0.32)	(0.34)
Religion (Muslim=1)	1.47	0.01	1.45	-1.84
	(0.81)	(0.67)	(0.59)	(0.80)
Years of Schooling	-0.04	0.04	0.01	-0.07
	(0.05)	(0.05)	(0.05)	(0.05)
Household Characteristics				
PerCapita Expenditure	1.06	0.71	0.91	0.63
($X\ 10^8$)	(0.16)	(0.19)	(0.18)	(0.20)
Household Size	0.02	0.03	0.07	-0.05
	(0.07)	(0.07)	(0.09)	(0.09)
Urban	-0.12	-0.85	0.16	0.41
	(0.44)	(0.47)	(0.35)	(0.26)
Constant	-2.19	-3.39	-8.39	-8.64
	(1.73)	(2.62)	(1.37)	(1.40)
Transfer to Siblings (Parent Household)			-0.08	-0.11
			(0.09)	(0.10)
Transfer to Community (Parent Household)			0.08	0.27
			(0.12)	(0.13)
Correlation Coefficients				
Correlation Coefficient	0.05		0.05	
(Amt Siblings, Amt Community)	(0.0003)		(0.0002)	
No of Observations	767		767	
Log Likelihood	-1609.93		-1667.593	
No of Simulations	3000		3000	

The dependent variables are the natural logarithm of the (transfer amount + 1).

Dependent Variables are the log financial transfer to siblings and community organizations in the survey year (measured in Rupiah). We include province dummies to control for regional variation.

Standard Errors are shown in parantheses.

Table 3

Giving to Family versus Giving to Community

Quadrivariate Tobit Model with Endogenous Role Model Effects

			With Endogenous Parent Household Transfers	
Independent Variable	Transfer to Sibling *(Parent Household)*	Transfer to Community *(Parent Household)*	Transfer to Sibling *(Kid Household)*	Transfer to Community *(Kid Household)*
Individual Characteristics				
Age	-0.62	-0.02	1.73	1.53
	(0.62)	(0.55)	(0.61)	(0.63)
Age Squared	0.03	0.02	-0.23	-0.22
	(0.06)	(0.05)	(0.08)	(0.08)
Marital Status (Married=1)	2.03	1.72	1.00	3.31
	(0.68)	(0.69)	(0.35)	(0.49)
Male (=1)	-1.49	0.37	-0.43	1.20
	(0.67)	(0.45)	(0.29)	(0.30)
Religion (Muslim=1)	2.14	0.63	1.97	-0.88
	(0.58)	(0.49)	(0.50)	(0.42)
Yrs of Schooling	-0.05	0.02	0.02	-0.04
	(0.06)	(0.05)	(0.04)	(0.05)
Household Characteristics				
PerCapita Household Expenditure (X 10^8)	1.06	0.85	0.88	0.83
	(0.17)	(0.16)	(0.18)	(0.19)
Household Size	0.03	0.09	0.09	-0.04
	(0.06)	(0.06)	(0.09)	(0.08)
Urban	-0.01	-0.58	0.11	0.27
	(0.32)	(0.42)	(0.31)	0.37
Transfer to Siblings (Parent Household)			0.16	-0.56
			(0.08)	(0.09)
Transfer to Community (Parent Household)			-0.02	0.34
			(0.11)	(0.11)
Constant	-7.22	-10.87	-9.29	-11.62
	(1.71)	(1.59)	(1.37)	(1.29)
Correlation Coefficients				
Correlation (Amt Sib, Amt Com)	0.06		0.05	
	(0.0002)		(0.0003)	
Correlation Coefficient ($Amt\ Sib^{Parent}$, $Amt\ Sib^{kid}$)	-0.154			
	(0.0003)			
Correlation Coefficient ($Amt\ Com^{Parent}$, $Amt\ Com^{kid}$)	0.05			
	(0.0003)			
No of Observations	767			
Log Likelihood	-3265.86			
No of Simulations	3000			

Dependent Variables are the log financial transfer to siblings and community organizations in the survey year
We include province dummies to control for regional variation. Standard errors are shown in parentheses

Appendix A
Relationship to the Origin Household Head in IFLS1

Relationship to the Head of the Origin Household in 1993	N=866 individuals Percent of the Sample
Child of Origin Head	48.97
Son/Daughter-in-law of Origin Head	16.16
Sibling	4.83
Brother or Sister-in-law	5.19
Other relative	18.46
Non-family	6.39
	100.00

Appendix B

Summary Statistics by Transfer Status (IFLS2)

All Observations	Give Sibling=0 Give Community=0 44% of sample N= 401	Give Sibling=1 Give Community=0 24.5% of Sample N= 224	Give Sibling=0 Give Community=1 15% of Sample N= 138	Give Sibling=1 Give Community=1 8.50% N= 78
PANEL A: Parent Households				
Age	51.90	50.10	53.40	55.60
	(13.36)	(13.26)	(10.64)	(13.15)
Age Squared	2876.60	2691.22	2969.28	3262.42
	(1399.48)	(1312.07)	(1137.85)	(1433.80)
Male (Male=1)	0.76	0.76	0.91	0.87
	(0.43)	(0.43)	(0.29)	(0.34)
Marital Status (Married=1)	0.71	0.78	0.91	0.91
	(0.45)	(0.41)	(0.28)	(0.29)
Religion (Muslim=1)	0.87	0.95	0.90	0.95
	(0.33)	(0.22)	(0.30)	(0.22)
Years of Schooling	5.22	5.49	6.64	5.00
	(4.11)	(4.44)	(3.98)	(4.00)
Per Capita HH Expenditure	128534.50	194402.40	224240.10	229745.90
(in Rupiah)	(158340.00)	(308073.50)	(300740.50)	(279613.80)
Urban=1	0.44	0.45	0.65	0.38
	(0.50)	(0.50)	(0.48)	(0.49)
Household Size	7.09	7.08	6.95	7.29
	(2.97)	(2.71)	(2.08)	(3.05)
No of Economically Active	4.01	4.36	4.07	5.19
Siblings	(3.09)	(3.01)	(3.29)	(3.63)
PANEL B: Kid Household				
	38% of sample N= 329	37% of Sample N= 324	4.7% of Sample N= 54	12.4% of sample N= 75
Age	30.90	31.10	31.80	30.36
	(14.11)	(10.60)	(10.47)	(7.03)
Age Squared	1155.74	1022.37	1123.35	970.52
	(1218.97)	(832.38)	(906.22)	(501.28)
Male (Male=1)	0.46	0.48	0.54	0.56
	(0.50)	(0.50)	(0.50)	(0.50)
Marital Status (Married=1)	0.66	0.79	0.93	0.95
	(0.47)	(0.41)	(0.26)	(0.23)
Religion (Muslim=1)	0.90	0.95	0.91	0.93
	(0.30)	(0.22)	(0.29)	(0.25)
Years of Schooling	7.94	7.18	8.28	8.33
	(4.05)	(4.57)	(3.99)	(3.71)
Per Capita HH Expenditure	174241.60	204608.10	221213.70	207097.30
(in Rupiah)	(193301.40)	(228645.30)	(232405.90)	(154610.00)
Urban=1	0.48	0.56	0.56	0.45
	(0.50)	(0.50)	(0.50)	(0.50)
Household Size	3.50	4.16	3.67	3.71
	(1.76)	(2.22)	(1.33)	(1.38)
No of Economically Active	3.36	3.72	5.25	5.22
Siblings	(2.74)	(2.80)	(3.31)	(2.49)

Standard Deviations are shown in parentheses.