



California Center for Population Research
University of California - Los Angeles

*California Center for Population Research
On-Line Working Paper Series*

The Implications of Family Systems and Economic Context
for Intergenerational Transfers in Indonesia and Bangladesh

(Intergenerational Transfers in Indonesia and Bangladesh)
9532 words

August 2004

Elizabeth Frankenberg
UCLA

Randall Kuhn
University of Colorado

Financial support from the National Institute on Aging (NIA P01-AG08291, R01-AG20909, and 5T-AGO-00244) is gratefully acknowledged, as are helpful comments from Rebecca Emigh, Douglas McKee, Steven Stillman, Duncan Thomas, and Leah VanWey. Address correspondence to Elizabeth Frankenberg, Department of Sociology, 264 Haines Hall, UCLA, Los Angeles CA 90095-1551.

The Implications of Family Systems and Economic Context for Intergenerational Transfers in Indonesia and Bangladesh

Although relatively rare, cross-society comparisons represent a valuable approach in assessing the implications of macro features of societies, such as economic opportunity and underlying systems of family organization, for intergenerational relationships. We examine transfers of money and goods between parents and adult children, using extremely detailed and similarly structured data from Indonesia and Bangladesh. We find strong evidence that traditional patterns of family organization leave an enduring imprint on transfer patterns, based on differences between Indonesia and Bangladesh with respect to the relative roles of adult sons and daughter in providing for their parents. We also find strong evidence that parent-child ties persist in the face of migration, whether to international or domestic destinations.

The Implications of Family Systems and Economic Context for Intergenerational Transfers in Indonesia and Bangladesh

In both developed and developing countries the family is the central institution with responsibility for supporting individuals in times of need, but the degree to which public institutions play a role differs dramatically. The relative absence of a social safety net in developing countries, combined with populations that will age rapidly in the coming decades, has prompted concern over the continued adequacy of family sources of support.

Both underlying systems of family organization and the extent of economic opportunity outside the realm of small-scale farming are thought to influence the strength of intergenerational ties between adult children and older parents. Although cross-society comparisons are particularly well-suited for exploring the roles of these factors, which operate at a macro-level, they have been relatively under-utilized in research on aging (National Research Council 2001: 157). In this paper we compare patterns of intergenerational exchange between adult children and their parents in rural Bangladesh and Indonesia.

Our comparison offers three particular strengths. First, for our purposes two key differences distinguish the settings. One difference lies in the nature of family organization. Although both countries are predominantly Muslim, Bangladesh is a strongly patrilineal society. In Indonesia, on the other hand, bilateral patterns of reckoning kinship predominate. The other key difference between Bangladesh and Indonesia arises from the fact that despite strong similarities in the nature and organization of the agricultural sector prior to the onset of development, industrialization and economic growth began earlier and have progressed further in Indonesia. By the mid-1990s per capita GDP was about four times higher in Indonesia than in Bangladesh.

A second strength of our comparison is that the data sets we analyze contain unusually detailed information on characteristics of parents and all children, regardless of whether the two generations reside together. Moreover, unlike most data sets, which contain information only on the occurrence of exchange, our data quantify the flows of financial resources involved and link both inflows and outflows to specific children. This allows us to analyze the nature of parent ties not only to their children in the aggregate, but also to individual children with particular characteristics.

Finally, the two data sets we analyze, the Indonesia Family Life Survey (IFLS) and the Matlab Health and Socioeconomic Survey (MHSS), are nearly identical with respect to content, and in fact were explicitly designed to support comparative work. Consequently, our analysis is relatively free from the differences in data set content and methods that often hamper comparative work.

BACKGROUND

Much of the thinking about the evolution of intergenerational relationships over the course of economic development originates from comparisons of societies characterized as “traditional agrarian” with societies characterized as more industrial, technological, and modern. In traditional agrarian economies, the perpetuation of the family is the main source of security. Economic success builds on family connections, which in turn revolve mostly around access to and ownership of land (Willis 1980; Thornton and Fricke 1987). These forces keep offspring relatively close to home. As parents age and their ability to support themselves declines, adult children step in, for several reasons: parents and the wider community have socialized children to accept such support as their responsibility; parents control land and family businesses on which children rely for income and that they expect to inherit; and children who support their

parents in old age may view themselves as setting an example for their own children to follow (Goode 1963; Willis 1980; Ikkink et al. 1999; Mason 1992).

With industrialization factory jobs become a more prominent and lucrative source of employment and the basis of economic success shifts from family connections to individual achievement (Parsons 1943; Turke 1989). Getting and keeping a job in industry is easier for those who are educated and willing to migrate for work. Education itself exposes individuals to a barrage of new ideas that may contradict traditional wisdom (Caldwell 1976; Thornton and Fricke 1987). As these changes take place, the power of the older generation over the younger declines, the physical and emotional distance between parents and adult children is hypothesized to increase, ties between husbands and wives strengthen, and investments in the next generation rise-- a combination that may reduce the extent to which adult children provide for their parents in old age (Goode 1963; National Research Council 2001: 162, Hermalin 2002).¹ Mason (1992) reviews the major pathways through which these changes occur.

A number of papers have explored the occurrence and correlates (and in some cases the magnitudes) of intergenerational exchange in contexts in which industrialization is well under way (Knodel et al. 1992; Lee, Parish, and Willis 1994; Lillard and Willis 1997; Ngim and DaVanzo 1999; Chan 1999; Lee YJ 2000; Knodel et al. 2000; Feeney and Mason 2001; Biddlecom, Chayovan, and Ofstedal 2002). The preponderance of evidence from Asia, suggests that although coresidence has declined in some East Asian countries, the majority of parents

¹ Caldwell (1976) argues that there is actually a reversal of net wealth flows, from a “traditional” situation in which parents receive more support from children than they provide to children, to one where children receive more from parents than they provide to parents. Lee (2000) demonstrates persuasively that even in traditional societies the direction of net transfers is downward.

receive financial support from their children, despite the potentially centrifugal forces of industrialization and modernization.²

Though much of the theoretical literature argues that economic opportunities outside of agriculture break down solidarity among parents and adult children, some research suggests that neither occupational nor geographic mobility need necessarily reduce the strength of extended family ties (Litwak, 1960a, 1960b). In fact, ties between adult children and parents may remain strong if migration away from rural areas is part of an explicit strategy to diversify risk by securing employment for family members across multiple economic sectors and geographic locations, or if migration is undertaken as a means to temporarily high earnings by individuals who intend to return to rural areas at some future point (Lucas and Stark 1985; Portes and Walton 1981).

Empirical work has provided support for these ideas. In a seminal paper Lucas and Stark (1985) use data from Botswana to show that patterns of resource flows from individuals in urban areas to families in rural areas are largely consistent with strategies of risk diversification. For example, during times of drought, remittances to rural families are relatively higher when those families own cattle or rely on farming for their livelihood than when they do not. In the case of Mexican migration to the United States, transfers back to households in Mexico increase with the duration of time in the United States, which is not consistent with the expectation that distance inevitably weakens ties (Durand et al. 1996).

Another factor with potentially important implications for intergenerational relationships is the system of family organization (Thornton and Fricke 1987; Mason 1992; Skinner 1997;

² The question of how the institution of the family changes as countries industrialize encompasses more than adult child-parent relationships. Two major reviews consider this question for children's transitions to adulthood (Thornton and Fricke 1987) and traditional values (Inglehart and Baker 2000). Both find evidence that the forces of modernization are accompanied by shifts in behavior and attitudes, but that underlying aspects of culture leave an enduring imprint.

Goode 1963; Parsons 1943, 1946). Differences in systems of family organization have often been considered as a potential source of variation in demographic outcomes such as age at marriage, fertility levels, and sex differences in mortality, but they have received much less attention as an explicit source of differences across societies in patterns of intergenerational exchange. Moreover, most analyses have considered only one context, making it difficult to determine the extent to which differences across studies in patterns of exchange arise because of differences in underlying family structure or because of differences in time periods, measures of exchange, or methods of analysis.

For intergenerational exchange, two aspects of family organization strongly affect the nature of connections between parents and adult children after children marry and the extent to which parent-child connections vary by the child's sex or birth order. One factor is whether the family system is conjugal, stem, or joint. The distinctions among conjugal, stem, and joint systems encompass, among other things, patterns of residence after marriage, which have potentially important implications for the strength of ties between parents and married children (Skinner 1997; Dube 1997; Thornton and Fricke, 1987).³ Another factor is whether an individual's kinship group is traced through his or her father, mother, or both parents. This factor is significant in determining the relative importance of males and females in perpetuating the lineage and conditions expectations about the degree of emotional connections between parents and adult children over the life course.

Mason (1992) outlines the potential implications of different systems of family organization for support to the elderly, contrasting the roles of daughters in South and East Asia

³ In conjugal systems a couple generally establishes a new household at or soon after marriage—a step that constitutes the formation of a new family. In stem systems one child remains in the parents' household, bringing his or her spouse to live there. In joint systems multiple children remain in the parents' household, adding spouses at the time of marriage.

with those in Southeast Asia. Studies of intergenerational transfer flows in Taiwan and South Korea, both historically patriarchal and patrilineally-oriented societies, suggest that sons play a more important role than daughters in providing financial support to elders, particularly following marriage (Lee YJ 2000; Lee, Parrish, and Willis 1994). In Vietnam, also a relatively patriarchal society, the relative roles of sons and daughters in the provision of financial assistance to elderly parents are less pronounced (Knodel et al. 2000).

Biddlecom, Chayovan, and Ofstedal (2002) present results regarding the roles of sons and daughters with respect to financial support for parents in Thailand, the Philippines, and Taiwan. In the Philippines and Thailand (where kinship is reckoned bilaterally) parents are slightly more likely to receive financial support from daughters than from sons. In Taiwan parents are much more likely to receive support in the form of money from sons than from daughters, but the reverse is true for support in the forms of goods

In short the empirical record to date is more consistent with the idea that the economic opportunities that accompany industrialization and induce migration do not fundamentally undermine traditional patterns of intergenerational exchange. We will examine this question for the two settings we consider.

In our analysis we consider two questions. One is whether migration appears to undermine traditional patterns of exchange, or if these patterns remain, as suggested by an increasing body of literature. Second, we explicitly compare the roles of adult sons and daughters with respect to exchange with parents, contrasting gender-based differences in normative behaviors in Indonesia and Bangladesh.

CONTEXT

We examine patterns of intergenerational exchange using data from sub-populations of Bangladesh and Indonesia. Our Bangladesh data are from Matlab, a rural rice-cultivating district located on the plains of the Padma and Megna rivers. Matlab, a special study area of the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) for some 40 years, is thought to be representative of rural Bangladesh on most dimensions.

Indonesia is more heterogeneous than Bangladesh both physically and socially. To compare groups that are similar, prior to the onset of economic development, with respect to economic organization and infrastructure, but different with respect to family organization, our detailed discussion of the Indonesian context, and our empirical analysis, centers on rural areas (primarily Java) and ethnic groups with a bilateral or matrilineal orientation toward kinship (primarily the Javanese). It is helpful, however, to start with a broad brush picture of the two countries over time. We use national level statistics to paint this picture, beginning with the 1960s—the first decade for which statistics are available, and also the approximate midpoint of the period during which the older parents in our data sets were building families.

Social and Economic Context

As late as the 1960s Bangladesh and Indonesia could reasonably be characterized as traditional agrarian economies. The vast majorities of both populations lived in rural areas. Agriculture, predominantly wet rice cultivation, accounted for more than 50 percent of gross domestic product, whereas industry accounted for just over 10 percent (World Development Report 1989). Between 1850 and 1960 the rural economies of both Bangladesh and Java grew, but the underlying structures remained fundamentally unchanged—a phenomenon economists have characterized as “static expansion” (Geertz 1963; Arthur and McNicoll 1978; Hart 1988).

In the 1960s Bangladesh and Indonesia were traditional on other dimensions as well. Life expectancy was about 40 years, the average woman could expect to bear at least 6 children during her lifetime, and the majority of adults were illiterate (Arthur and McNicoll 1978; Hugo et al. 1987: 139; World Development Report 1982).

Treiman (1970) has characterized the degree of industrialization as inversely related to the share of the labor force in agriculture and directly related to the proportion of children in school and the level of per capita income. Based on these indicators, industrialization began earlier and proceeded more rapidly in Indonesia than in Bangladesh. Between 1960 and 1976 annual growth in the per capita gross national product (GNP) was slightly negative in Bangladesh, but averaged 3.4 percent in Indonesia. Over roughly the same time period agriculture declined as a share of gross domestic product (GDP) in Indonesia, from 56 percent to 29 percent, while industry rose from 13 percent to 34 percent. Similar changes in the structure of GDP in Bangladesh did not take place until the late 1970s and early 1980s (World Development Report 1989).

Changes in the socioeconomic status of the population occurred earlier for Indonesia as well. By the second half of the 1970s life expectancy was around 48 years in Indonesia, but only 42 years in Bangladesh. The total fertility rate had fallen to 4.3 in Indonesia, but remained above 6 in Bangladesh. Almost 90 percent of children of elementary school age were enrolled in primary school in Indonesia, whereas the figure for Bangladesh was only about 60 percent (World Development Report 1978; World Development Report 2000).

The pace of progress was more similar between 1975 and 1995. Over this period the annual rate of GDP growth was strong in both countries. Industry's share of GDP rose from 8 percent to 18 percent in Bangladesh and from 34 percent to 41 percent in Indonesia. The share

of GDP accounted for by agriculture fell substantially, as did the proportion of the labor force employed in the agricultural sector. On the social front, as of the mid-1990s the total fertility rate was 3.4 in Bangladesh and 2.6 in Indonesia. Life expectancy at birth had risen to 58 years in Bangladesh and to 64 years in Indonesia, and primary school enrollment among children 6-12 years of age was nearly universal.

Regardless of the progress in Bangladesh, as of the mid-1990s Indonesia was still at a considerably higher level of socioeconomic development. In 1995, for example, per capita GNP was \$980 in Indonesia in 1995, but only \$240 in Bangladesh.

Economic Opportunities, and Migration

An essential element of economic development is the emergence of job opportunities off family farms. Migration affects family life in both Bangladesh and Indonesia, although the nature of opportunities differs across the two countries.

Bangladesh is less urbanized and remains more dependent on agriculture than Indonesia. As a result rural Bangladeshi households are more dependent on temporary migration overseas as a source of economic opportunity, whereas in much of Indonesia jobs off the family farm are not that far away, and so permanent migration is more feasible (Ahmed 1986; Afsar 1999). Overseas migration is common in Bangladesh and such migrants send home substantial sums of money. In the late 1990s exports of manpower were the 2nd or 3rd largest source of foreign currency earnings in Bangladesh.

Individuals wishing to work overseas generally contract to migrate as an unskilled laborer for a fixed period of time to the Middle East or Southeast Asia (Shah and Menon 1999; Rahman 2000). Most migrants acquire few skills while overseas, returning to Bangladesh and the

prospect of unemployment at the end of their contract. Women are much less likely to move overseas than men, but typically do move out of their parents' village at the time of marriage.

Overseas migration occurs in Indonesia as well. However, because economic growth has been stronger for longer, migration destinations within Indonesia are also attractive, and the domestic/international differential in rewards to migration is less pronounced than in Bangladesh.

In both countries migration, particularly to overseas destinations, requires initial outlays of capital, which families often help provide (Hugo 1982; Rahman 2000). In this case some of the money migrants send home may serve as repayment for the family's initial investment in the migrant.

Patterns of Family Organization

The nature of family organization is perhaps the dimension on which Bangladesh and Indonesia are most fundamentally different. In Bangladesh, a strongly patrilineal society, the joint family is the predominant system of organization. Marriages are arranged by a couple's parents with the groom typically considerably older than the bride (Arthur and McNicoll 1978). After marriage a woman becomes part of her husband's family, moving in with him, his parents, and his other brothers (Mason 1992). Her own parents no longer have any claim on her labor, nor is she likely to return to living with or near her own parents unless she is divorced or she and her husband suffer an economic calamity (in the latter case, the couple may ask for assistance from the wife's family if she has ceded her inheritance to her brothers) (Cain 1978; Indra and Buchignani 1997; Dube 1997: 25). The practice of village exogamy usually takes a woman some distance from her own parents' home when she marries.

Skinner (1997) comments that patrilineally-organized joint family systems provide the greatest scope for structural bias based on age and sex. Cain (1991) describes the family system in Bangladesh as patriarchal and gerontocratic—a young bride is at the bottom of the pecking order in her husband's parents' household. The strictness with which these traditions are upheld, however, may be diminishing. Simmons' (1996) analysis of focus groups conducted with women of reproductive age in Matlab suggests that young wives have much greater independence in the 1990s than in the recent past. Moreover, the establishment of a garment industry in Dhaka has provided a new set of employment opportunities to women, who have migrated to take advantage of them.

In Indonesia, systems of family organization differ across ethnic groups, but the kinship systems and social structure generally support a relatively high social and economic status for women (Jones 1994, p. 9; Heaton, Cammack, and Young 2001). We limit our discussion to the Javanese, as this is the ethnic group to which most of our sample belongs. Among the Javanese the conjugal family is the traditional arrangement. Because kinship is reckoned bilaterally a wife's ties to her family of birth remain just as strong after marriage as a husband's ties to his family (Malhotra 1997; Keasberry 2001). Marriages are no longer arranged by a couple's parents, and divorce over the past several decades has declined. After marriage the couple may live with either set of parents for a short time, but is equally likely to set up an independent household (Dube 1997: 28). Some evidence suggests that couples who coreside with parents after marriage are more likely to live with the wife's parents than with the husband's (Williams 1989) and that family relationships exhibit a somewhat matrifocal orientation (Malhotra 1997).

The differences in the systems of family organization suggest that relative to daughters, sons will be more important as a source of old-age support in Bangladesh than in Indonesia. In

Bangladesh, in fact, sons have been described as the best risk insurance available to women, and sons generally assume the lion's share of responsibility (Cain, Khanam and Nahar 1979; Arthur and McNicoll 1978; Mahmood 1992; Kabir, Szebehely, and Tishelman 2000; Rahman 1999).

In Indonesia, among the ethnic groups we consider, no tradition assigns parental support to children of only one gender, although for some groups one of the younger daughters often remains at home to care for older parents (Keasberry 2001; Dube 1997: 28).

The Implications of Context Differences for Patterns of Intergenerational Exchange

We have described two primary differences between Indonesia and Bangladesh. Although the both settings can be characterized as traditional agrarian in the 1960s, the push to industrialize occurred earlier and more rapidly in Indonesia. Bangladesh began to catch up in 1990s, but job opportunities in industry remain considerably more widespread in Indonesia. Both countries send migrants abroad temporarily, but the flow is stronger from Bangladesh than from Indonesia.

The background literature that we reviewed earlier suggests that the relationship between the location of non-coresident children and intergenerational exchange may vary as a function of the child's destination. In both Indonesia and Bangladesh levels of financial exchange between parents and children who are overseas are likely to be relatively high, for several reasons. First, parents may help defray the start-up costs of international migration for a child by providing the child with the money necessary to finance a trip. In this case, international migrants may send relatively large amounts of money back to repay parents who helped with the initial financing. Additionally, international migrants are almost certain to return to their home country at the end of their contract, and so they may send savings home as a means of preserving their place in their natal family.

The difference between Bangladesh and Indonesia in the within-country availability of viable long-term opportunities outside of agriculture suggests that the relationship between migration to a domestic destination and patterns of intergenerational exchange may differ between the two countries. Specifically, if industrialization and the migration it induces serve to diminish the traditional ties of adult children to older parents, through a reduction in children's dependency on assets that parents control, and this process is further along in Indonesia than in Bangladesh, then exchanges between domestic migrants and parents may be weaker in Indonesia than in Bangladesh.

The other substantial difference between Indonesia and Bangladesh involves systems of family organization. Bangladesh is far more patriarchal. Once a woman is married her primary and almost exclusive orientation is toward her husbands' family. In Indonesia, the implications of marriage with respect to one's ties to one's family of origin are no different for men and women. This difference suggests that the relative roles of sons and daughters in intergenerational exchange should be much more strongly delineated in Bangladesh than in Indonesia, and that for daughters, marital status may be more significant in Bangladesh than in Indonesia.

DATA

Differences in data set content often frustrate cross-country comparisons. We use data from two highly comparable surveys: the Matlab Health and Socioeconomic Survey (MHSS, collected in 1996) and the second Indonesia Family Life Survey (IFLS2, collected in 1997). The MHSS was conducted in Matlab, one rural subdistrict of Bangladesh to take advantage of the

rich data available from the surveillance site that has been maintained for over 30 years by the ICDDR,B. The MHSS collected data from 4,364 households (Rahman et al. 1999).⁴

The Indonesian data are from the second wave of the IFLS. This survey reinterviewed 95 percent of the households first interviewed in 1993 (Frankenberg and Thomas 2000). Although the IFLS is representative of about 83 percent of the Indonesian population, the goals of this paper are to compare transfer behaviors in two rural populations that differ with respect to systems of family organization. To this end, we exclude from our analysis IFLS respondents who live in urban areas or who are from an ethnic group whose system of family organization is patrilineal.⁵

The MHSS was designed to support comparative analyses with the IFLS, and the surveys are nearly identical in terms of questionnaire content relevant to the analysis of transfers. Respondents are asked whether they provided or received money or goods to and from each of their children over the past 12 months. Any affirmative answer is followed up with a question on the value of the money or goods involved. Additionally, both surveys collect detailed information on the characteristics of respondents' resident and non-coresident children, including age, education, marital status, location of residence, and current occupation.

For each country we construct an analytical sample that combines married couples in which at least one spouse is 50 or older and single individuals 50 and older. Each couple or individual must have at least one child over the age of 15 who resides outside the household.⁶

⁴ The households are clustered in 2,687 *baris* (residential compounds), which represent an approximately one-third random sample of the total number of *baris* in the ICDDR,B surveillance site (Rahman et al. 1999).

⁵ About 95 percent of the respondents we analyze are from ethnic groups that trace kinship bilaterally, the remaining 5 percent trace kinship matrilineally. About 70 percent of the respondents we analyze live on the island of Java. The remainder live on the islands of Sumatra, Kalimantan, and Sulawesi, and about one quarter of these respondents are of Javanese ethnicity. We experimented with analyzing only respondents of Javanese or Sundanese ethnicity, but because the results were similar we used the more inclusive definition.

⁶ In both countries about 20 percent of cases that met the age criterion were excluded either because of childlessness or (more commonly) because no children resided outside the household.

Descriptive statistics for parents and their children, stratified by gender, are presented in Table 1. In both countries over 90 percent of fathers are currently married, whereas only about two-thirds of mothers are married. In both countries the vast majority of unmarried parents are widowed. Average levels of education are low in both Bangladesh and Indonesia—about three years for fathers and between one and two years for mothers. The gender gap in education is somewhat smaller in Indonesia than in Bangladesh. In both countries, about three-quarters of fathers and about half of mothers are economically active.

Characteristics of the adult sons and daughters of these parents are presented in the lower panels of the table. In Bangladesh parents have an average of 2.9 living sons and 2.9 living daughters. In Indonesia the average is 2.3 for both sons and daughters.⁷ The majority of children are married, but in both countries daughters are more likely to be married than sons. Married children tend to live apart from their parents; unmarried children are more likely to live with their parents.

We also present statistics on the characteristics of non-coresident children. In both countries children outside the household are in their mid-30s, on average, and have considerably more education than their parents. The gains in education for daughters relative to their mothers are greater than the gains for sons relative to their fathers. A gender gap in educational attainment in favor of sons remains in both countries, however, and it is larger in Bangladesh.

The last rows display the locations of non coresident children. The distributions vary by country. In Indonesia only a small percentage of children live abroad. Larger percentages live in a different province or a different village than their parents, but it is most common for adult children to remain in the same village as their parents. In Bangladesh sons who leave their

⁷ This generation of parents had most of their children after infant mortality rates had begun to fall but before contraception was widely available and governments were emphasizing the importance of small families. Consequently they have more living children than did previous cohorts and than will future cohorts.

parents' household go much further afield than daughters. Over 60 percent of sons move outside the parents' district and fully 17 percent of sons go to another country. Most of the rest of non-coresident sons remain within the parents' village.⁸ Among non-coresident daughters the majority has left the parents' village but remains in the district—a phenomenon consistent with exogamy.

METHODS AND RESULTS

The descriptive statistics presented above provide preliminary evidence of the importance for family life of differences in economic context and systems of family organization. In this section we examine whether the relationships extend to patterns of intergenerational transfers. We characterize transfer behaviors in terms of whether parents and adult children have exchanged money (or goods) in the past 12 months, the direction of the flow, and the amounts of money involved (presented as \$U.S. to facilitate comparisons).⁹

We conceptualize transfer relationships between parents and children at two levels. First, parents are potentially engaged in an individual transfer relationship with each child. The nature of these dyadic relationships may vary with the child's characteristics, as has been shown in the United States (Hogan, Eggebeen, and Clogg 1993). Second, parents experience a transfer relationship with their set of offspring as a whole, which can be captured by aggregating parents' transfer receipts and outlays across all children (Lillard and Willis 1997). Transfer behavior in the aggregate may vary with the composition of children.

The two levels reveal different aspects of transfer patterns. The dyadic relationships are central to understanding the association between the characteristics of individual children and

⁸ Some may live in the same household compound (*bari*) as their parents—an arrangement where several households share a common courtyard and are tightly linked economically (Faveau, 1994 p. 19).

⁹ In Bangladesh, the exchange rate at the time of the survey was 45 *Taka* per U.S. dollar. In Indonesia the exchange rate at the time of the survey was 2400 *Rupiah* per U.S. dollar.

transfer behavior. The aggregate relationships are central to understanding the direction and magnitude of net flows and the significance for later parental well-being of the family building undertaken during the reproductive years.

Descriptive Results – Transfer Activity and Flows

Table 2 presents descriptive statistics on transfers over the past 12 months, from both the dyadic perspective (columns one and two) and the aggregate perspective (columns three and four).

Of the parent-child dyads in Bangladesh, about one-quarter engage in transfer relationships of some form. In Indonesia the fraction is two-thirds. In both countries most transfer activity consists of parents receiving transfers from a child without making transfers to that child in return. For nearly one-fifth of the dyads in Indonesia, parents both receive transfers from and make transfers to a particular child. Bidirectional flows are extremely rare in Bangladesh.

Overall, net receipts are positive in both countries, indicating that on average parents receive more than they give. At the mean the dollar value of parents' net receipts is more than four times higher in Bangladesh (\$48) than in Indonesia (\$11). For the subset of dyads in which parents' net receipts are positive, the median is about three times higher in Bangladesh than in Indonesia, and the average value of the receipts is more than five times higher. For the subset of dyads for which net receipts are negative, the median value is about \$16 in both countries. The average value of net transfers to children is \$154 in Bangladesh and \$103 in Indonesia.

Results from the aggregate perspective appear in columns 3 and 4. Involvement in transfers rises from this perspective. Half of all parents in Bangladesh and over three-quarters of parents in Indonesia have a transfer relationship with their children. It is most common for

parents to receive but not to make transfers, although in Indonesia 30 percent of parents do both. At an aggregate level parents receive an average of five times more money in Bangladesh than Indonesia (\$159 versus \$33).

Another way to characterize flows among those involved in transfers is to add the amounts parents receive from children and the amounts parents give to children and consider the share of gross transfer flows accounted for by gifts to children. At the median of this distribution transfers to children account for no part of total transfers, because most transfer relationships involve transfers only to parents. At the 75th percentile, however, gifts to children account for only 6 percent of gross flows in Bangladesh, but 45 percent of flows in Indonesia, suggesting that children in Indonesia capture a higher proportion of gross transfer flows than do children in Bangladesh.

About 40 percent of parents in Bangladesh and 58 percent of parents in Indonesia receive more money from their children than they give away. In absolute terms the mean and median amounts parents receive are larger in Bangladesh. In Bangladesh only about one-third of recipients receive transfers worth less than 10 percent of household income, whereas in Indonesia, almost half of recipients receive transfers worth less than 10 percent of household income. At the other end of the spectrum, more than half of transfer recipients in Bangladesh receive transfers worth 50 percent or more of their household income, but for Indonesia the figure is only 31 percent.

In the aggregate some parents provide more transfers to their children than they receive. When parents are net givers the mean value of transfers given to children is \$249 in Bangladesh, \$203 in Indonesia. The median, however, is two times higher in Indonesia.

The results to this point can be summarized as follows. A higher fraction of parents and children are involved in transfers in Indonesia than in Bangladesh, and flows in Indonesia are considerably more likely to be bidirectional. On the other hand, the values of transfer flows are considerably greater in Bangladesh, both in absolute terms and as percentage of household income.

Regression Models

We use multivariate regression analysis to evaluate the roles that children's gender and location play in transfer patterns. The dependent variables follow from the descriptive statistics. A polytomous variable characterizes the nature of exchange between parents and their children, distinguishing three groups: parents who on balance receive transfers (from a particular child or from their children in aggregate), parents who on balance give transfers (to a particular child or to their children in aggregate), and parents for whom the balance of transfers (with a particular child or across all children) is zero.¹⁰ We use multinomial logistic regression to examine the correlates of transfer behavior characterized in this manner. Cases where the transfer balance is zero serve as the reference category. In the dyad models standard errors are adjusted using a Huber-White correction to account for the fact that some parents contribute more than one child to the analysis file.

To examine correlates of the amounts of money parents exchange with their children, we calculate the value of exchanges (from the parents' perspective) and estimate ordinary least squares (OLS) regression models. In these models the dependent variable is a transformation of the net value of transfers that reduces the influence of outliers. The transformation is the square root of the absolute value of net transfers. If net transfers are negative, the negative sign is

¹⁰ The last group consists mostly of parents who neither made nor received transfers, but includes a small number of parents who gave the same amount of money they received.

retained and reapplied to the square root of the absolute value.¹¹ Possibly the relationship between the covariates and transfer amounts differs depending on whether parents are net receivers or givers. To allow for this, separate regressions are estimated for the subset of parents who are net recipients and for the subset of parents who are net givers.¹² In the conditional regressions for net receipts and net gifts, values of the outcome are all greater than zero, so the interpretation of a positive coefficient is that that it is associated with either a larger receipt or with a larger gift.

The covariates of greatest interest are those that characterize non coresident children with respect to their gender, marital status, and location. In the dyad models these characteristics are measured for the particular child. They include dichotomous indicators of the child's gender and marital status, an interaction term for gender and marital status, and a set of indicators for whether the child is in the parent's district (or province), out of the district (or province), and out of the country, relative to remaining in the parents' village. In the aggregate models characteristics reflect the set of non-coresident children as a whole. Covariates include the total numbers of married daughters, married sons, unmarried daughters, and the total numbers of children in each of the residence locations.

Both the dyad and the aggregate models incorporate a number of control variables. For parents these include marital status, age, education, and work status. *Per capita* income and asset values for the household are included as well. Additionally, in the dyad models, controls for the child's age and education and for whether the child is working and whether the child is in

¹¹ By expressing transfer amounts in this manner, it is possible to include all cases in the regressions rather than selecting only cases where net transfers flow in one direction.

¹² Because we are interested in transfers to children as well as transfers from them, our approach involves estimating and comparing the results from three separate regressions. One regression includes all cases, the other two condition on net transfers flowing toward either the parents or the children. Other analysts have focused only on transfers flowing toward parents, using a selection correction to address the issue of selection into positive receipts (see for example Lee, Parish, and Willis, 1994).

school are used. So that the results for the child's characteristics can be interpreted net of the characteristics of his or her other siblings, the dyad models include controls for aspects of the parents' non coresident children in the aggregate: the total number of children out of the household and in each of the residence locations, the total numbers of children in school and working, and the average age and educational levels of non coresident children. Finally, controls for the total number of children in the household and the total number of married children in the household are included as well.

Dyad Models. Table 3 presents the results for the parent-child dyads. For each country the first two columns display the coefficients associated with the multinomial logistic regression of whether parents receive or give net transfers, relative to the reference category of zero transfers. The next three columns present coefficients from OLS regressions of amounts transferred: the net amount (in which negative numbers represent net transfer flows from parents to children); the amount parents receive from children conditional on positive receipts; and the amount parents give to children conditional on positive gifts.

The coefficients for whether a child is a daughter are presented in the first row. In Bangladesh these coefficients are negative for all transfer outcomes, and statistically significant for the amount parents receive, the amount parents give, and net amounts transferred ($p=.06$). In Bangladesh, daughters are less involved in transfers than sons, and when daughters do make or receive transfers, the flows are smaller in magnitude. In contrast, in Indonesia none of the coefficients on gender are statistically significant, nor are they uniformly negative.

Marital status, presented in the second row, displays little association with transfer patterns in Bangladesh, and only slightly more so in Indonesia. In Indonesia parents are more

likely to receive transfers from married children, but conditional on positive receipts, parents receive less from married than from unmarried children.

The gender-marital status interaction term tests whether married daughters behave differently than unmarried sons (the reference group). In Bangladesh parents are significantly less likely to receive transfers from a married daughter, and they are significantly more likely to make transfers to a married daughter. They also receive less from married daughters ($p=.08$). In Indonesia married daughters behave no differently from unmarried sons.

The lower panel of the table presents the results from tests for the joint significance of the children's demographic characteristics. These characteristics are jointly significant for four of the five transfer outcomes in Bangladesh, but for none of the transfer outcomes in Indonesia. The lower panel also presents tests for the equality of transfers between married daughters and married sons and between married daughters and unmarried daughters. In Bangladesh the transfer patterns of married daughters are significantly different from those for married sons for all the transfer behaviors, and significantly different from those for married daughters for two of the transfer outcomes. In Indonesia the transfer patterns of married daughters are not significantly different from those for either married sons or unmarried daughters.

We next turn to the location effects. Children living in the same village as their parents serve as the reference group. In both countries strong differences emerge for children who have moved to different districts or provinces and, even more so, for children who have moved to different countries. The amount parents receive in transfers is significantly larger when the child is living in a different district or province or a different country than when he or she is in the same village. In Bangladesh parents are more likely to receive transfers from children who are out of the district and from children who are out of the country than from children who are in the

same village. In Indonesia parents are less likely to make transfers to children who are out of the province or out of the country.

Among children who are net recipients of transfers, a child who is out of the village or out of the district (or province) receives significantly less than a child remaining in the parents' village. In Bangladesh the size of the coefficient for a child who is abroad is dramatically larger than for other destinations (or characteristics), probably because parents have transferred unusually large amounts of money to the migrant in order to finance a trip or a visa renewal.

The lower panel of the table presents tests for the joint significance of the location variables and for a test of equality between the coefficients for being out of the district or province and out of the country. In both Bangladesh and Indonesia the location coefficients are jointly significant predictors of transfer behavior. The coefficient associated with having a child out of the district is significantly different from the coefficient associated with having a child out of the country for most transfer outcomes in Bangladesh, but only for amounts transferred to parents in Indonesia.

Aggregate Models. The results from the models of parents' transfer behavior with their children in the aggregate are presented in Table 4. The regressions include counts of the number of offspring by sex and marital status and by location. Because we control for the total number of children outside the household and omit the number of unmarried sons and the number of children who live in the parents' village, the coefficients are interpreted as the response of transfer behavior to an increase in the proportion of children with a particular attribute.

In Bangladesh as the proportion of married daughters rises, both the likelihood that parents are net recipients of transfers and the net amount that parents receive fall. In Indonesia

parental involvement in transfers, as both recipients and givers, is greater as the proportion of married daughters increases.

For none of the transfer behaviors in either Indonesia or Bangladesh is the number of married sons or the number of unmarried daughters statistically significant. However, the test that the coefficient for married sons is equal to that for married daughters is rejected in Bangladesh for two outcomes: the likelihood that parents receive transfers and the net amount received. In Indonesia the equality of the coefficients for married sons and daughters cannot be rejected for any transfer outcomes.

The composition of children with respect to location is an important covariate of aggregate transfer patterns in both countries. In Bangladesh, as the proportion of children that are out of the district or out of the country rises, the likelihood that parents receive transfers rises and the net and conditional amounts that parents receive increase. The positive effects of higher proportions of children out of the province and out of the country on amounts transferred to parents are also observed in Indonesia.

The aggregate models can be used to summarize the implications of different compositions of non coresident offspring for parental receipts of transfers. The predicted amounts of transfers parents receive given different compositions of non coresident offspring are computed, holding constant the total number of non coresident children and all other characteristics of parents and children included in the aggregate models.

Figure 1 illustrates how net transfer receipts vary with changes in the number of non coresident children that are married sons and married daughters. For each country, the leftmost bar depicts the level of transfers associated with the average composition of children. In Bangladesh, the expected value of transfers with all covariates set at their mean levels is about

27 dollars. This value falls to about 10 dollars when three of the non coresident children are married daughters, and rises to almost 50 dollars when three of the non coresident children are married sons. In Indonesia the expected amounts of transfers are about 10 dollars regardless of the composition of non-coresident offspring with respect to gender and marital status.

Figure 2 illustrates variation in net transfers with changes in the number of non coresident children in various locations. In Bangladesh, the more administrative boundaries a child has crossed, the greater the amount of net transfers his or her parents receive. The increase in receipts associated with having children abroad rather than within Bangladesh is particularly dramatic. In Indonesia, the greatest difference in transfer amounts occurs when children migrate out of the province rather than remaining in the province. For both countries, migrants appear to be as or more closely connected to their parents, at least with respect to transfers of money, than siblings who are nearby.

DISCUSSION

We turn now to an interpretation of our results in light of the theoretical and empirical literature and contextual differences between Indonesia and Bangladesh. In interpreting the results, however, it is important to keep two caveats in mind. First, we have analyzed exchanges only in the form of money and material support between parents and non coresident children. Exchanges in the forms of coresidence or time are also important with respect to support for parents, and may be associated with children's gender and location in different ways than are flows of money and goods. Second, we have no data on the purpose of transfers, as perceived by either parents or children. This limits our ability to characterize the roles such transfers play for givers and receivers.

Several findings emerge from the descriptive statistics. In both countries the tradition that adult children provide support to their parents appears to be alive and well. With respect to amounts of transfers, parents receive strikingly larger sums in Bangladesh than in Indonesia, both in absolute terms and relative to household income. In Indonesia, half the parents who received transfers received amounts of less than 10 percent of household income, but in Bangladesh, half the parents who received transfers received amounts of more than 50 percent of their income. The impact of transfers on the parents who receive them is therefore likely to be greater in Bangladesh than in Indonesia. With respect to transfer activity, however, a higher proportion of parents in Indonesia than in Bangladesh receive transfers from their children. The relatively small values but frequent occurrences of transfers in Indonesia suggest the possibility that transfers there are more symbolic than instrumental.

Another finding from the descriptive statistics is that transfer flows from parents to children are more prominent in Indonesia than in Bangladesh, both with respect to the frequency of their occurrence, and with respect to the values involved. Among parents where net transfers flow toward children, the median amount is more than twice as high in Indonesia (the mean amount is higher in Bangladesh).

Excluding from the summary statistics parents with certain types of non coresident children provides at least circumstantial evidence regarding the purpose of transfers to children. For example, in Bangladesh, the higher mean level of net transfers to children appears to be driven largely by transfers to children who are overseas. If we exclude parents with children overseas from the summary statistics, the mean amount of net transfers falls by two-thirds in Bangladesh, but by only 6% in Indonesia. In Indonesia transfers to children appear more likely to support schooling. If we exclude parents with non coresident children who are in school from

the summary statistics, the mean value of net transfers to children falls by 45% in Indonesia but by only 22% in Bangladesh.

The multivariate analyses answer two questions we posed regarding the relationship between transfer patterns and children's gender and location. With respect to gender, it does appear that the behavioral norms stemming from underlying systems of family organization continue to leave a strong imprint on transfer patterns. In Bangladesh sons play a far more prominent role in transfers to parents than do daughters. These results are similar to findings from Taiwan, although there the role of daughters in financial support for the elderly is somewhat stronger than in Bangladesh (Lee, Parrish, and Willis 1994; Biddlecom, Chayovan, and Ofstedal 2002). Marriage considerably tempers the role that daughters play in Bangladesh. Our findings are consistent with the continued strength of patrilineal and patrilocal orientations in Bangladesh. In Indonesia, differences by children's gender are practically nonexistent—in keeping with the bilateral kinship patterns and more egalitarian outlook on gender relations there. This finding also emerges in results for Thailand the Philippines, which have similar kinship systems (Biddlecom, Chayovan, and Ofstedal, 2002).

Taken together the results from Indonesia and Bangladesh provide more evidence that modernization and industrialization do not erase important contextual differences across settings. This conclusion is consistent with other work that assesses the consequences of modernization for long-standing cultural and religious differences (Thornton and Fricke 1987; Inglehart and Baker 2000).

Another question that has received considerable attention in both theoretical and empirical work is the nature of ties between children and parents as children migrate away from rural areas in search of economic opportunity elsewhere. In neither country does evidence

emerge to support the idea that migration breaks down ties between adult children and their parents, at least with respect to financial support flowing back to parents. Consider, for example, migration to another district or province, which constitutes a potentially long-term move that could serve to diminish flows of support from children to parents. In both countries having children who have migrated across district or province lines is strongly and positively associated with the amounts of transfers parents receive.

International migration is unlikely to be permanent, so its potential as a destructive force in traditional parent-child relationships is less clear. As with domestic migration, the association between international migration and parental receipts is strong and positive. Whether this reflects a desire on the part of the migrant to provide support to those remaining at home, to invest in the family business, to pay off a loan that financed migration, or some combination of these purposes, however, remains unclear.

CONCLUSIONS

Although thinking about relationships between generations has been strongly influenced by the idea that industrialization and modernization threaten traditional patterns of exchange, careful empirical testing of this idea requires contrasting differences across societies in changes over time—an undertaking for which adequate data are not available (Goode 1963, Mason 1992; Hermalin 2002). Cross-society comparisons at a point in time, however, can provide an interesting descriptive picture of differences in patterns of exchange across groups that differ in various ways. Despite the potential value, such comparisons are relatively rare, in part because few surveys have been conducted using questionnaires that support similar analyses across countries (National Research Council 2001: 157).

Our study demonstrates the value of such an approach for assessing the implications of “macro” features of societies, such as economic opportunity and underlying systems of family organization, for intergenerational relationships. We find strong evidence in the differences between Indonesia and Bangladesh with respect to the roles of sons and daughter that traditional patterns of family organization leave an enduring imprint on transfer patterns. We also find strong evidence that parent-child ties persist in the face of migration, whether to international or domestic destinations. Additional waves of the surveys we use in our research are planned for the future, which will provide further leverage in exploring the evolution of exchange over the course of economic development. In the meantime, our cross-sectional comparison serves to benchmark patterns of exchange in the mid-1990s.

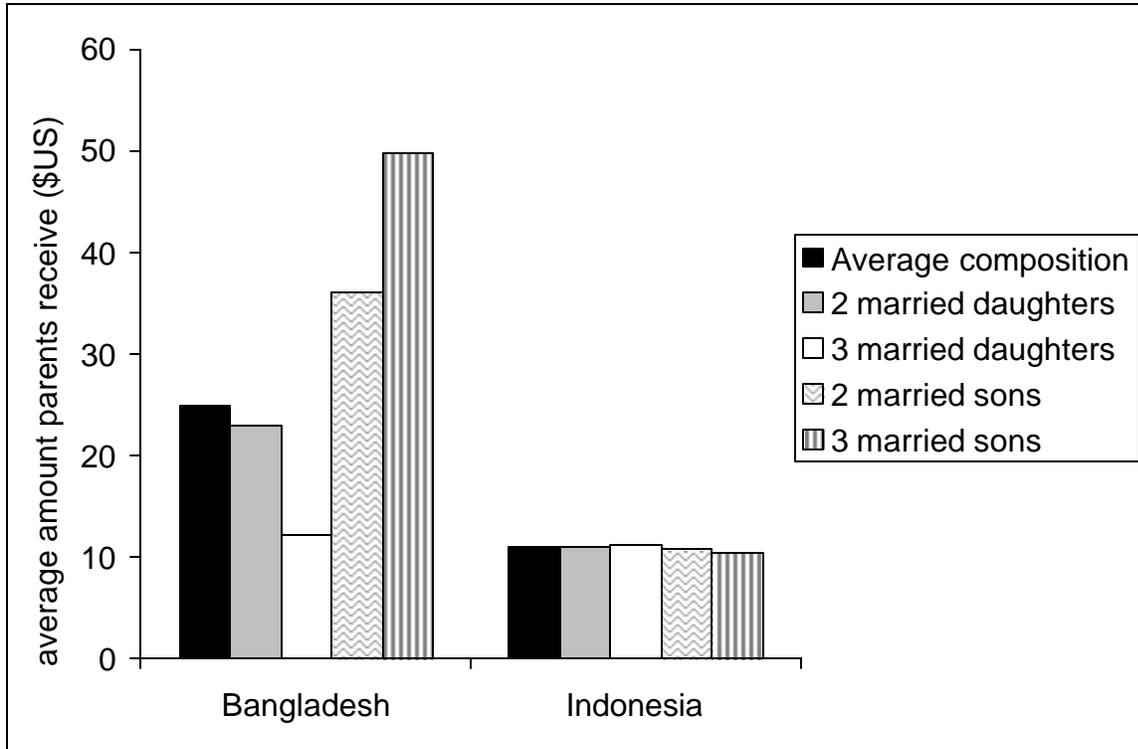
REFERENCES

- Afsar, Rita. 1999. "Rural-Urban Dichotomy and Convergence: Emerging Realities in Bangladesh." *Environment and Urbanization* 11(1)(April, 1999):235-246.
- Ahmed, Salehuddin. 1986. "Rural-Urban Migration: Policy Simulations in a Dual Economy Model of Bangladesh." *The Developing Economies* XXIV-1(March, 1986):26-43.
- Arthur, W. Brian, Geoffrey McNicoll. 1978. "An Analytical Survey of Population and Development in Bangladesh." *Population and Development Review* 4(1)(March, 1978):23-80.
- Biddlecom, Ann, Napaporn Chayovan, and Mary Beth Ofstedal. "Intergenerational Support and Transfers." pp. 185-230 in *The Well-Being of the Elderly in Asia: A Four-Country Comparative Study*. Hermalin, Albert I. (editor). Ann Arbor, MI: University of Michigan Press.
- Cain, Mead T. 1978. "The Household Life Cycle and Economic Mobility in Rural Bangladesh." *Population and Development Review* 4(3)(Sept., 1978):421-438.
- Cain, Mead T. 1991. "The Activities of the Elderly in Rural Bangladesh." *Population Studies* 45(1991):189-202.
- Cain, Mead, Syeda Rokeya Khanam, Shamsun Nahar. 1979. "Class, Patriarchy, and Women's Work in Bangladesh." *Population and Development Review* 5(3)(Sept., 1979):405-438.
- Caldwell, John C. 1976. "Toward a Restatement of Demographic Transition Theory." *Population and Development Review* 2(3/4) (Sept.-Dec., 1976):321-366.
- Chan, Angelique. 1999. "The Role of Formal Versus Informal Support of the Elderly in Singapore: Is There Substitution?" *Southeast Asian Journal of Social Science* 27(2):87-110.
- Cowgill, Donald O. 1986. *Aging Around the World*. Belmont, CA: Wadsworth.
- Dube, Leela. 1997. *Women and Kinship: Comparative Perspectives on Gender in South and South-East Asia*. Tokyo, Japan: The United Nations University.
- Durand, Jorge, William Kandel, Emilio A. Parrado, and Douglas S. Massey. 1996. "International Migration and Development in Mexican Communities." *Demography* 33(2) May:249-64.
- Faveau, Vincent. 1994. "Matlab: Physical Setting and Cultural Background." Pp. 13-28 in *Matlab: Women, Children, and Health*. Vincent Faveau (editor). ICDDR,B Special Publication No. 35. Dhaka, Bangladesh: Pioneer.
- Feeney, Griffith and Andrew Mason. 2001. "Population in East Asia." pp. 61-95 in Andrew Mason (editor) *Population Change and Economic Development in East Asia*. Stanford: Stanford University Press.
- Frankenberg, Elizabeth and Duncan Thomas. "The Indonesia Family Life Survey (IFLS): Study Design and Results from Waves 1 and 2. 2000. DRU-2238/1. NIA/NICHD. RAND.
- Gertz, Clifford. 1963. *Agricultural Involution: The Process of Ecological Change in Indonesia*. Berkeley and Los Angeles, CA. University of California Press.
- Goode, William, J. 1963. *World Revolution and Family Patterns*. New York. The Free Press of Glencoe
- Hart, Gillian. 1988. "Agrarian Structure and the State in Java and Bangladesh." *Journal of Asian Studies* 47(2)(May, 1988):249-267.
- Heaton, Tim B., Mark Cammack and Larry Young. 2001. "Why is the Divorce Rate Declining in Indonesia?" *Journal of Marriage and Family* 63(May 2001):480-490.
- Hermalin, Albert I. 2002. "Societal Changes and Their Impact on the Elderly." pp. 111-114 in *The Well-Being of the Elderly in Asia: A Four-Country Comparative Study*. Hermalin, Albert I. (editor). Ann Arbor, MI: The University of Michigan Press.

- Hogan, Dennis P., David J. Eggebeen, and Clifford C. Clogg. 1993. "The Structure of Intergenerational Exchanges in American Families." *American Journal of Sociology* 98(6)(May, 1993):1428-1458.
- Hugo, Graeme J., Terence H. Hull, Valerie J. Hull, and Gavin W. Jones. 1987. *The Demographic Dimension in Indonesian Development*. Singapore: Oxford University Press.
- Hugo, Graeme. 1982. "Circular Migration in Indonesia." *Population and Development Review* 8(1):59-83.
- Ikkink, K., Tilburg, T., & Knipscheer, K. (1999). Perceived instrumental support exchanges in relationships between elderly parents and their adult children: normative and structural explanations. *Journal of Marriage and the Family* 61:831-844.
- Indra, Doreen Marie and Norman Buchignani. 1997. "Rural Landlessness, Extended Entitlements and Inter-household Relations in South Asia: A Bangladesh Case." *The Journal of Peasant Studies* 24(3)(April 1997):25-64.
- Inglehart, Ronald and Wayne E. Baker. 2000. "Modernization, Cultural Change, and the Persistence of Traditional Values." *American Sociological Review* 65(February):19-51.
- Jones, Gavin W. 1994. *Marriage and Divorce in Islamic Southeast Asia*. Kuala Lumpur: Oxford University Press.
- Kabir, Zarina Nahar, Marta Szebehely and Carol Tishelman. 2002. "Support in old age in the changing society of Bangladesh." *Ageing & Society* 22(2000):615-636
- Keasberry, I.N. 2001. "Elder Care and Intergenerational Relationships in Rural Yogyakarta, Indonesia." *Ageing and Society* 21:641-665.
- Knodel, John, Jed Friedman, Truong Si Anh and Bui the Cuong. 2000. "Intergenerational Exchanges in Vietnam: Family Size, Sex Composition, and the Location of Children." *Population Studies* 54:89-104.
- Knodel, John, Napaporn Chayovan, and Siriwan Siriboon. 1992. "The Impact of Fertility Decline on Familial Support for the Elderly." *Population and Development Review* 18:79-103.
- Lee, Ronald. 2000. "A Cross Cultural Perspective on Intergenerational Transfers and the Economic Life Cycle." In Andrew Mason and Georges Tapinos (eds.), *Sharing the Wealth: Demographic Change and Economic Transfers between Generations*. Oxford: Oxford University Press, 2000.
- Lee, Yean Ju, William Parish, and Robert Willis. 1994. "Sons, Daughters, and Inter-Generational Support in Taiwan." *American Journal of Sociology* 99:1010-1041.
- Lee, Yean Ju. 2000. "Support between Rural Parents and Migrant Children in a Rapidly Industrializing Society: South Korea." In Andrew Mason and Georges Tapinos (eds.), *Sharing the Wealth: Demographic Change and Economic Transfers between Generations*. Oxford: Oxford University Press, 2000.
- Lillard, Lee A. and Robert J. Willis. 1997. "Motives for Intergenerational Transfers: Evidence from Malaysia." *Demography* 115-34.
- Litwak, Eugene. 1960a. "Occupational Mobility and Extended Family Cohesion." *American Sociological Review* 25(February):9-21.
- Litwak, Eugene. 1960b. "Geographic Mobility and Extended Family Cohesion." *American Sociological Review* 25(3)(June):385-394.
- Lucas, Robert E.B. and Oded Stark. 1985. "Motivations to Remit: Evidence from Botswana." *The Journal of Political Economy* 93(5):901-918.
- Mahmood, Tahir. 1992. "Law and the Elderly in the Islamic Tradition." In D.R. Philips (Editor), *Aging in East and Southeast Asia* (Chapter 16, pp. 227-235). London: Edward Albert.

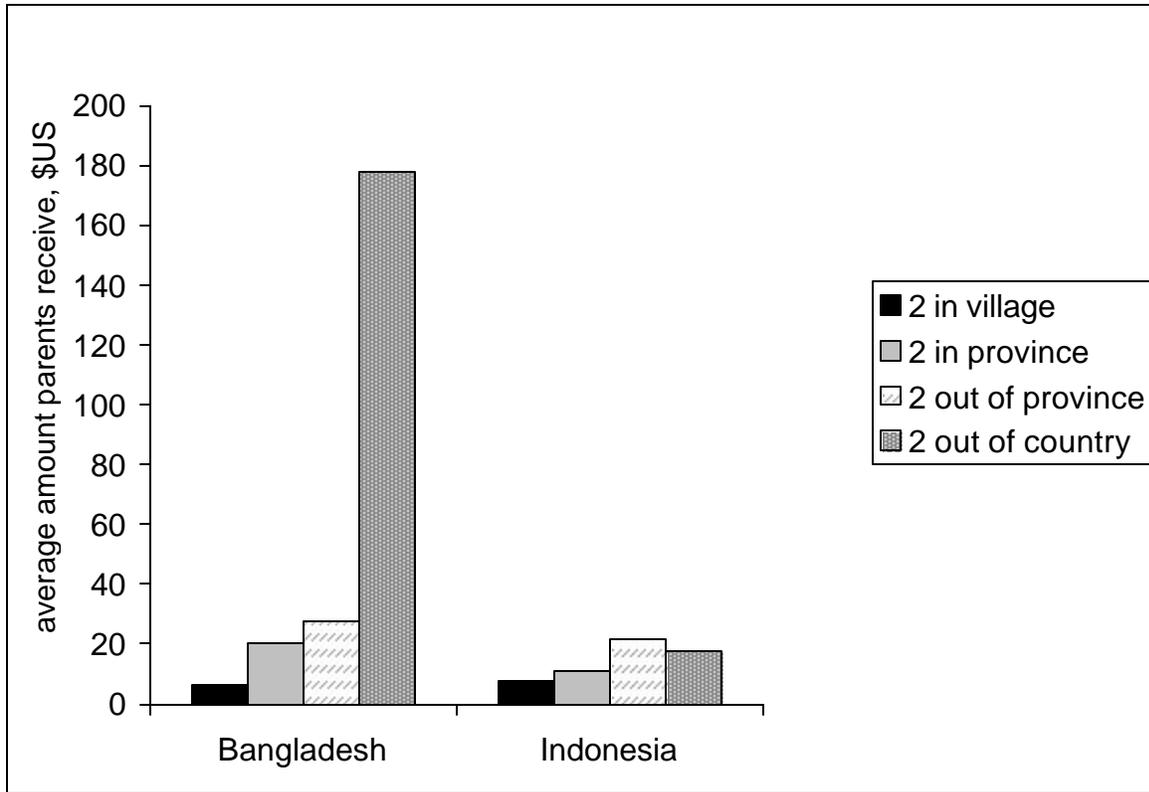
- Malhotra, Anju. 1997. "Gender and the Timing of Marriage: Rural-Urban Differences in Java." *Journal of Marriage and the Family* 59(May 1997):434-450.
- Mason, Karen Oppenheim. 1992. "Family Change and Support of the Elderly in Asia: What Do We Know?" *Asia-Pacific Population Journal* 7:13-32.
- National Research Council. 2001. *Preparing for an Aging World: The Case for Cross-National Research, Panel on a Research Agenda and New Data for an Aging World, Committee on Population and Committee on National Statistics, Division of Behavioral and Social Sciences and Education.* Washington DC: National Academy Press.
- Ngin, ChorSwang and Julie Da Vanzo. 1999. "Parent-Child Coresidence and Quasi-Coresidence in Peninsular Malaysia." *Southeast Asian Journal of Social Science* 27(2):43-64.
- Parsons 1943. "The Kinship System of the Contemporary United States." Pp. 177-196 in Parsons, Talcott. 1954. *Essays in Sociological Theory.* Glencoe, Illinois. The Free Press.
- Parsons 1946. "Population and Social Structure of Japan." Pp. 275-297 in Parsons, Talcott. 1954. *Essays in Sociological Theory.* Glencoe, Illinois. The Free Press
- Portes, Alejandro and John Walton. 1981. *Labor, Class, and the International System.* New York: Academic Press.
- Rahman, Md. Mizanur. 2000. "Emigration and Development: The Case of a Bangladeshi Village." *International Migration* 38(4)(2000)109-130.
- Rahman, Omar, Jane Menken, Andrew Foster, Christine Peterson, Mizanur Khan, Randall Kuhn, and Paul Gertler. 1999. *The 1996 Matlab Health and Socioeconomic Survey: Overview and Users' Guide.* DRU-2018/1. RAND.
- Rahman, Omar. 1999. "Family Matters: The Impact of Kin on the Mortality of the Elderly in Rural Bangladesh." *Population Studies* 53: 211-225.
- Rahman, Sanzidur. 2000. "Women's employment in Bangladesh agriculture: composition, determinants and scope." *Journal of Rural Studies* 16(2000):497-507.
- Shah, Nasra M. and Indu Menon. 1999. "Chain Migration Through the Social Network: Experience of Labour Migrants in Kuwait." *International Migration* 37(2)1999:361-382.
- Simmons, Ruth. 1996. "Women's Lives in Transition: A Qualitative Analysis of the Fertility Decline in Bangladesh." *Studies in Family Planning* 27(5)(Sept-Oct 1996):251-268.
- Skinner, G. William. 1997. "Family Systems and Demographic Processes." Pp. 53-95 in *Anthropological Demography: Toward a New Synthesis.* David I. Kertzer and Tom Fricke (eds). Chicago: University of Chicago Press.
- Thornton, Arland and Thomas E. Fricke. 1987. "Social Change and the Family: Comparative Perspectives from the West, China, and South Asia." *Sociological Forum* 2(Fall):746-779.
- Treiman, Donald J. 1970. "Industrialization and Social Stratification." In *Social Stratification: Research and Theory for the 1970s.* Laumann, Edward O (editor). Indianapolis: The Bobbs-Merrill Company.
- Williams, Linda B. 1989. "Postnuptial Migration and the Status of Women in Indonesia." *National Center for Health Statistics* 51(November 1989):895-905.
- Willis, Robert. 1980. "The Old Age Security Hypothesis and Population Growth." pp. 43-69 in *Demographic Behavior: Interdisciplinary Perspectives on Decision-Making.* Thomas K. Burch (editor). Boulder: Westview Press.
- World Development Report. 1978. World Bank. New York: Oxford University Press.
- World Development Report. 1982. World Bank. New York: Oxford University Press.
- World Development Report. 1989. World Bank. New York: Oxford University Press.
- World Development Report. 2000. World Bank. New York: Oxford University Press.

Figure 1
 Variation in Net Transfers Parents Receive
 by the Gender and Marital Status of non Coresident Children



Predictions are made based on the regression coefficients in Table 4, with variables at their mean values. The total number of children out of the household is held constant (at the mean), but the number of children in each marital status-gender category varies according to the legend. An increase in the number of children in a particular category is necessarily accompanied by a proportionate decrease in the number of children in other categories.

Figure 2
 Variation in Net Transfers Parents Receive
 by the Location of non Coresident Children



Predictions are made based on the regression coefficients in Table 4, with variables at their mean values. The total number of children out of the household is held constant (at the mean), but the number of children in each location varies according to the legend. An increase in the number of children in a particular location is accompanied by a proportionate decrease in the number of children in other locations.

Table 1
Characteristics of Parents and their Children

	Bangladesh		Indonesia	
	Fathers	Mothers	Fathers	Mothers
Characteristics of parents				
% currently married	94	66	92	64
Average age	63	55	61	55
Average years of education	2.8	.9	3.3	1.8
% who work	78	51	84	52
Number of parents	1476	2133	922	1478
Characteristics of children 15 years and older				
	Sons	Daughters	Sons	Daughters
All children				
Average number per couple/single parent	2.9	2.6	2.3	2.3
% married	57	73	62	70
% of married children who live in the parents' household	30	3	8	15
% of unmarried children who live in the parents' household	72	81	61	59
Children out of the household				
Average number per couple/single parents	1.5	2.0	1.7	1.6
Average age	34	32	33	32
Average years of education	5.1	2.8	6.6	5.7
Distribution by location				
% out of country	17	2	4	3
% out of district/province	45	30	26	20
% in district/province	9	54	33	35
% in village	29	14	37	42

Parents are 50 years or older and have at least one non-coresident child age 15 or older. Bangladesh data are from the 1996 Matlab Health and Socioeconomic Survey. Indonesia data are from the 1997 Indonesia Family Life Survey

Table 2
Transfer activities and flows

	Parent-Child Dyads		Parent-All Children	
	Bangladesh	Indonesia	Bangladesh	Indonesia
	(1)	(2)	(3)	(4)
Transfer activity				
% of parents who:				
receive or give transfers	25%	68%	50%	79%
receive transfers only	19	43	36	42
both receive and give transfers	1	17	7	30
give transfers only	5	8	7	7
Transfer flows				
Mean net transfers received (parental receipts-gifts)	\$48	\$11	\$159	\$33
Mean per capita income in parents' household			\$92	\$285
Share of total transfer flows accounted for by gifts to children (among those involved in transfers)				
Median			0	0
75 th percentile			.06	.45
Percentage of parents whose net receipts are positive	19%	49%	40%	58%
Median amount parents receive	\$44	\$15	\$100	\$41
Mean amount parents receive	\$285	\$47	\$455	\$116
% receiving less than 10% of income			29%	49%
% receiving more than 50% of income			53%	31%
Percentage of parents whose net receipts are negative	6%	12%	10%	16%
Median amount parents give	\$16	\$17	\$16	\$33
Mean amount parents give	\$154	\$103	\$249	\$203
% giving less than 10% of income			40%	56%
% giving more than 50% of income			25%	18%
N	7701	4911	2234	1556

Income includes labor income, business income, and asset income.

Table 3: Type and Amount of Transfers between Parents and Adult Child Dyads

	Bangladesh					Indonesia				
	Multinomial Logit		OLS Regression			Multinomial Logit		OLS Regression		
	Parents receive net transfers	Parents give net transfers	Amt parents receive (receipts - gifts)	Amt parents receive (if net receivers)	Amt parents give (if net givers)	Parents receive net transfers	Parents give net transfers	Amt parents receive (receipts - gifts)	Amt parents receive (if net receivers)	Amt parents give (if net givers)
<i>Ref: 0 net transfers</i>		<i>If greater than 0</i>			<i>Ref: 0 net transfers</i>		<i>If greater than 0</i>			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Demographic characteristics										
Child is a daughter	-0.326	-0.226	-1.237	-2.800*	-6.384**	0.145	-0.356	0.156	-1.039	0.209
Child is married	0.113	-0.463	0.040	-0.579	-2.066	0.312*	-0.182	0.397	-1.271*	0.185
Child is a married daughter (Ref: child is unmarried son)	-1.187**	0.878*	-1.417	-2.656	0.376	-0.173	0.249	0.051	1.161	1.131
Location characteristics										
Child is in district / province	0.028	0.403	0.514	0.469	-2.205*	0.064	0.006	0.177	0.366	-1.321*
Child is out of district / province	1.061**	-0.054	1.518**	-0.178	-3.002*	-0.125	-1.065**	1.044**	1.706**	-4.340**
Child is out of country (Ref: child is in parents' village)	1.820**	-0.598	9.183*	13.385**	23.165**	-0.201	-1.101*	3.909**	7.369**	-7.461
F test: children's demographics	137.8**	7.5	34.7**	8.1**	7.2**	4.8	2.8	1.1	2.2	1.8
Married daughters = married sons	132.3**	6.4*	70.4**	16.2**	5.5*	0.1	0.5	1.2	0.3	3.4
Married daughters = unmarried daughters	20.6**	1.3	8.7**	3.6	0.1	0.8	0.1	1.7	0.1	2.1
F test: children's locations	113.2**	8.8*	31.7**	15.6**	4.5**	3.8	32.9**	8.4**	17.8**	6.5**
Child out of province = child out of country	16.1**	2.2	39.6**	32.2**	8.9**	0.1	0.0	5.7*	18.3**	0.6
N	7701		7701	1499	375	4911		4911	2399	572

Level of observation is a child/parent dyad: a non coresident child and a parent (if single) or couple (if the reporting parent is married). The parent or one member of the couple must be 50 years of age or older. Controls include each parent's marital status, age, education, work status, and (for Indonesia) province of residence; household income and asset values; whether the child is working; whether the child is in school; total number of children out of the household; total number of children in each of the residence locations, total number of children working and in school; the average age and education of children outside the household; total number of children in the household, and total number of married children in the household. * $p < .05$, ** $p < .01$

Table 4: Type and Amount of Transfers between Parents and all Adult Children

	Bangladesh					Indonesia				
	Multinomial Logit		OLS Regression			Multinomial Logit		OLS Regression		
	Parents receive net transfers	Parents give net transfers	Amt parents receive (receipts – gifts)	Amt parents receive (if net receivers)	Amt parents give (if net givers)	Parents receive net transfers	Parents give net transfers	Amt parents receive (receipts - gifts)	Amt parents receive (if net receivers)	Amt parents give (if net givers)
	<i>Ref: 0 net transfers</i>		<i>If greater than 0</i>			<i>Ref: 0 net transfers</i>		<i>If greater than 0</i>		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Demographic characteristics										
# of married daughters	-0.317*	0.167	-1.655*	-1.419	-0.524	0.317*	0.408*	0.011	-0.104	-0.385
# of married sons	-0.025	0.020	-0.352	-0.132	1.344	0.182	0.338	-0.029	0.027	0.065
# unmarried daughters	0.018	0.397	-1.307	-1.879	-1.144	0.250	0.157	0.082	-0.407	-0.685
Location characteristics										
# of children in province	0.161	0.206	1.086*	1.615	1.400	0.161*	0.031	0.709**	0.291	-0.606
# of children out of province	0.370**	0.248	1.689**	1.202*	-0.480	0.206*	0.005	1.564**	1.237**	-0.428
# of children out of country	0.537**	-0.107	5.904**	7.148**	10.931*	-0.118	-0.261	1.150	2.403**	7.558**
F test: children's demographics	11.0*	2.5	2.6	1.6	0.7	5.8	5.8	0.0	0.4	0.3
Married daughters = married sons	8.7**	1.0	4.5*	1.7	1.7	1.9	0.3	0.0	0.3	0.4
Married daughters = unmarried daughters	2.5	0.6	0.3	0.3	0.2	0.3	1.8	0.0	0.6	0.1
F test: children's locations	21.6**	5.0	16.8**	12.7**	3.1*	8.0*	1.0	17.3**	23.8**	7.8**
Child out of province = child out of country	1.3	2.7	23.2**	33.6**	5.6*	2.1	0.6	0.4	3.9*	18.8**
N			2202	878	189			1556	915	253

Level of observation is a parent (if reporting parent is single) or a couple (if the reporting parent is married). The parent or one member of the couple must be 50 years of age or older. Controls include each parent's marital status, age, education, work status and (in Indonesia) province; household income and asset values; total number of children out of the household; total number of children working and in school; the average age and education of children outside the household; total number of children in the household, and total number of married children in the household.

*=p<.05, **=p<.01