

ABSTRACT

Title of Dissertation: THE ROLE OF ELDERS' RESOURCES IN THE
RECEIPT OF FAMILY SUPPORT IN MATLAB,
BANGLADESH.

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Family support for the South Asian elderly is usually considered to be given automatically to all, without taking into consideration the available resources of the elder, or their gender and marital status. These assumptions are problematic because they do not accord agency to the elder, nor do they account for their differential access to resources. Elders' own characteristics could play an important role in the transfer of support between generations, and it is likely that these relationships differ by gender and marital status. The main objective of this dissertation is to assess intergenerational transfers in Bangladesh from the perspective of the elderly to provide a benchmark study of the level of support given by adult children, and to examine the role of elders' own resources in intergenerational dynamics.

Using a sample of 3354 men and women aged 50 and over from the 1996 Matlab Health and Socio-economic Survey, I use logistic regression techniques to assess the impact of ownership of land and physical functionality on elders' receipt of transfers of space, money and time. I use a theoretical framework that builds on altruism and exchange theory, and the empirical literature, to present factors associated with transfers to elder parents in rural Bangladesh.

The results demonstrate that vulnerable elders are receiving support, but, as well, their resources influence their receipt of transfers. Specifically, widows and elders with poor ability to function on a daily basis are likely to receive support from their children in the form of sharing of space and the transfer of money. Married men and widows who own land are more likely to receive money transfers from non-resident children. Gender, marriage and coresidence are important conditioning factors in the receipt of support from adult children.

THE ROLE OF ELDERS' RESOURCES IN THE RECEIPT OF FAMILY SUPPORT
IN MATLAB, BANGLADESH

by

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CHAPTER 1: INTRODUCTION AND OVERVIEW

Falling fertility and mortality rates all over the world have focused the attention of policy makers and social scientists on the issue of aging populations. Currently, there are more elderly people in the developed world than ever before, and life expectancies have increased in most countries of the world (Martin, 1988). Old age brings with it increasing vulnerability for the individual, both in terms of physical and financial well-being. This is the period when one's physical health starts declining. It is also the point at which individuals reduce the hours that they work, or stop working entirely. Hence, they no longer draw a steady income. An added factor for concern among older persons is that, with the passage of time, the odds of them spending their lives alone increase because the chances of losing a spouse increase. Thus, old age is one of the most vulnerable periods in an individual's life.

The major thrust of the research on aging populations has been on the determinants of the physical, mental and financial well-being of older individuals, and the sources of support that they can count on when they are in need. In the past, the main source of support for a vulnerable individual was the family. With economic development, most governments in industrialized countries have been able to, first, supplement the role of the family in an elder's well-being, and then, play a more comprehensive role. Thus, formal systems have been put into place to extend financial help and health care to the elderly, with the role of immediate families being one of providing the social support that is needed.

However, the scenario in the developing world has changed little. The main support for a vulnerable individual remains the individuals' family. This research aims to

address a lacuna in our understanding of elderly welfare in developing countries. By examining the impact of elder's resources on support from children, it seeks to understand the dynamics of intergenerational transfers of space, money and time from children to parents. It also attempts to throw light on the plight of the aged and the policy implications for poor countries like Bangladesh.

In less developed countries, rapid declines in fertility and mortality will lead to even faster population aging in much greater numbers. Among developing regions, Asia, has witnessed considerable declines in fertility and mortality in the last few decades of the 20th century. As a result, the percent of those who are aged 65 and older is expected to increase from 5.1 in 1980 to 13.3 in 2025 in East Asia, from 3.5 to 8.3 in South East Asia and from 3.8 to 8.2 in South Asia (United Nations, 1986).

At the same time, many countries in South East Asia have been able to industrialize and develop economically. Some South-East Asian countries have initiated programs that supplement the role of the family in elder care (for example, Singapore). In these countries, besides the family, there are formal systems in place that help to maintain the economic well-being and health of individuals when they become vulnerable in the later stages of life. Hence, a number of studies on the topic of the well being of the elderly in developing countries have been situated in the region of South East Asia (see for example Hermalin et. al. 2002).

In South Asian countries, on the other hand, while the numbers of those in the older age groups are burgeoning, the level of economic development is still distressingly low. In Bangladesh, the percentage of the population that is aged 65 and over is expected to increase from 3.4 percent in 1990 to 4.3 percent in the year 2025 (United

Nations, 1986). This is not a large increase in terms of the proportion of the total population, nor is it as large a percentage point increase as that faced by two of its neighbors, India and Sri Lanka (from 4% to 9.7%, and from 4.3% to 11.8%, respectively), but for a small country with a large population (138 million in 2000), it translates to large absolute numbers. The rapid growth of the elderly population is due to a fall in both fertility and mortality rates. Advances in medicine and technology has meant that life expectancy at birth in Bangladesh has increased by more than 10 years between 1950-55 and 1980-85, and is expected to increase to 62.5 years in 2020-2025 (United Nations, 1986).

While the above trends in longevity are considered to be an improvement for the country, the nearly tripling of the expected elderly population over the next 25 years raises some questions about the well-being of this population. In the societies of South Asia, the role of the family in elder well-being remains paramount. There are no comprehensive formal systems in place that provide support for the elderly. While pension schemes and other employment-linked social security programs are in place for a small proportion of workers, for the majority of the largely rural, agro-based populations of South Asia (India, Bangladesh, Pakistan, Nepal, Bhutan and Sri Lanka), the family is still the primary source of physical, financial and emotional support for the elderly.

Family support for the elderly ranges from the continuous transfer of resources (material and otherwise) to the elderly, to periodic transfers of money and/or time when there is a need¹. In an environment where the family is the only source of institutional

¹ The elderly are also providers of support to younger family members. However, this study focuses on the receipt of support by the elderly, and hence, the discussion is restricted to the flow of support towards them.

support, and is likely to remain so for some time to come, it is important to know the extent to which vulnerable elderly are actually given support.

The issues of elder well-being, and the ability and willingness of the family to provide for them are important for various reasons. As a group, the elderly are a vulnerable part of society. Hashimoto and Kendig (1992) have identified 3 ways in which their vulnerabilities can be conceived – 1) socially structured vulnerabilities (for example, negative attitudes towards old people in the workplace), 2) the heightened risk of becoming physically disabled in advanced old age, and 3) vulnerabilities arising from social change which can adversely affect the elderly (for example, family nuclearization, increasing poverty and landlessness). Since everyone is certain to be exposed to one or more of these vulnerabilities in their lifetime, it is important to examine available and alternate sources of support for persons, as they advance through the life course.

Family support for the elderly

This dissertation is a benchmark study of the level of support provided to elders by the younger generation in Bangladesh. Are adult children providing support to their elderly parents? And, more importantly, are they doing so to the ones who need it the most? How do the characteristics of elders influence the receipt of support from their children? The following are the research questions which I aim to address. 1) What impact do the needs and resources of elders have on the receipt of support from their adult children? 2) Is there a difference between older men and women in the receipt of support from their children, given that the resources at their command, and therefore, their needs differ? Support from family has important implications for the physical, economic, and emotional well-being of elders.

Aging in South Asia is taking place amid low levels of economic development especially in rural areas. Agriculture is still the main source of income for majority of the populations who live in the rural areas of Bangladesh, India, Pakistan and Sri Lanka. There are few employment related pensions and savings plans available in the agricultural sector, and family support is vital for those without inherited wealth and assets.

There are various ways in which the transfer of support to elderly parents can be understood. In South Asian countries, the ties between parents and children are considered to be strong, and expectations of support for parents in old age are normative. There are a multitude of homilies on the duty of children to take care of their parents. Thus, in this model, all parents, rich or poor, should receive support in the form of shared living space, or money or time. A second model suggests that children might be altruistic, and thus, provide more support to parents who have fewer economic resources, or are in poor health. A third model implies that children are self-interested, and provide support to parents who have certain resources to offer them in return. An example of this might be adult children sharing living space with an elder parent who is in good health so that the elder can help with caring for grandchildren.

If transfers fall short of societal norms, then resource poor individuals might become more vulnerable as they age. Further, if their families are unwilling to support them, women are at a disadvantage since there are social constraints on women's work. On the other hand, the provision of support from adult children also has implications. Children are a good insurance against risk only if they support parents in their old age.

Parental investments in children's human capital are likely to be influenced by societal expectations of children's support toward parents when parents age.

Bangladesh is a good setting for the analysis of family support from children. More than 70% of the population lives in rural areas and works mainly in agriculture. In this scenario, support from children is an important aspect of elder well-being. However, increasing poverty and landlessness is expected to affect the ability of children to provide support. Using data from the 1996 Matlab Health and Socio-economic Survey (MHSS), a nationally representative dataset, this study aims to understand the current situation of Bangladeshi elders in order to provide a benchmark analysis of the support they receive from their children. My dissertation will contribute to the existing literature by examining the impact that the characteristics of the elderly have on the transfer of support from adult children. By incorporating all three types of family support that are commonly studied, this study can offer a more complete picture of the dynamics of family interactions. Last, but not least, using a gender perspective will add to the growing literature on the gender division of labor and its implications for the welfare of half the elderly population, that is, older women.

Family support and elder well-being

The family has always been a major source of support for the elderly the world over. However, the responsibilities of families to their vulnerable members, have changed over time, and differ across cultures and individuals. Traditionally, kinship systems (with a lateral or bilateral focus) and family structure (nuclear or extended) determined the relationships between members and their living arrangements (Keith, 1992). The ties between family members might be strong or weak, depending on the time

and the place. In low-income environments, where there are no formal social welfare programs for the elderly, demands for support from family members are high. In this regard, kin availability and residential patterns of elders are important factors in their well-being for they determine who is available for the elderly person to live with, and who the potential providers of support are. While it is certainly not true that all elders are better off living with their family, or that, indeed, they would prefer to do so if they had a choice, a major assumption in the literature is that intergenerational coresidence is positively related to elder well-being. The rationale is an economic one. More people in the household mean that there are more potential resources available for the elder. In South Asian countries, the cultural and normative expectation is that children, and sons in particular, are obligated to take care of their parents. Thus, there are high rates of coresidence in the countries of this region. Martin (1998), in her review of the literature on aging in Asia, concludes that 75% to 90% of Asian elders live in households containing at least one adult child. South Asian countries like Bangladesh, India and Pakistan are at the higher end of that spectrum.

At the same time, family support and coresidence are not the same thing. Interaction and economic support flow across households, as well. In Sri Lanka, for example, children living outside the household are almost as likely as those living in the same household to provide support in the form of money and services for their elderly parents (Uhlenberg, 1996). In this study, I will focus on multiple forms of support in order to provide a comprehensive assessment of elder support in Bangladesh.

Class and gender differentials in well-being among elders

Besides direct family support there are other determinants of elder well-being, even in less developed countries. Inherited and accumulated wealth and assets, and old age pensions and retirement income from employment are factors that condition the welfare of persons as they reach older ages. Since there is variation in the economic status of the elderly (for example, Gore, 1992), it is clear that certain sub-groups are more vulnerable, and are more likely to depend on their families for support.

Economic class aside, there is another basis on which stratification exists in South Asia. Among the elderly, the well-being of women as a group is of particular concern (Martin, 1988). In South Asian countries, patriarchal kinship systems and social structures have historically limited the economic role of women. Customary inheritance patterns and employment opportunities keep women dependent for their financial well-being on the men in their life, beginning with their fathers, then their husbands. At widowhood, this dependence is transferred to children, making family support an important issue for older women in these countries. Further, as they age, the odds of out-surviving their spouse increase. Women tend to marry older men and they have a lower likelihood of remarrying after becoming widowed. The result is evident in the increasing numbers of widowed women in each successively older age group. In this context, support from other kin is crucial for older women.

Changing family structure

Recent social and economic changes mean that there might be corresponding change in the willingness and/ or ability of the family to care for their aged members. A

variety of macro factors influence the patterns of family support for older people². These are demographic, economic and cultural. Demographic factors such as fertility and mortality influence availability of family support. The level of economic development of the country determines the resources that are potentially available for redistribution within families. Cultural norms and expectations influence the ties that bind family members together and determine the structure of support patterns.

Until recently, the concern about aging populations was seen as a luxury that could be afforded only by the more developed countries. Besides, it has been assumed that the Asian family was ideal, and unlike western ones, could be counted on to take care of its more vulnerable members. However, demographic, social and economic change in Asia has meant that the family structure has been changing in recent times. Fertility and mortality have fallen, even in the high fertility countries of Asia. Bangladesh's total fertility rate is currently at an all time low of 3.3 children per women (PRB, 2001). This drop means that there will be fewer children available for each elder as probable sources of support in the future. At the same time, reduced mortality rates translate into an increase in life expectancy. Thus, elders are living longer and, potentially, they require support for longer periods of time.

Economic development has brought about an increase in education, urbanization, migration, and women's labor force participation. Urbanization is related to the increasing nuclearization of families, and corresponding life style changes. Rural to urban migration leading to increased distances between relatives is expected to create obstacles to reciprocal family support between households. These societal changes are

² See Hashimoto and Kendig (1992) for a more detailed discussion.

likely to influence the ability and willingness of the family to support its vulnerable members.

Thus, the intersection of age-related vulnerability, family support and social change is an important issue to examine in any context. In Bangladesh, the elderly population is of special concern for many reasons. There is rising landlessness and poverty, and increasing rural to urban migration, which can be expected to reduce the ability of families to take care of their less able members. Labor market roles for women are markedly restricted, making Bangladeshi women dependent, to a large extent, on their male relatives. Further, widowhood places older women in Bangladesh in positions of multiple disadvantages. Bangladesh will be discussed in more detail in a following section.

Using the Matlab Health and Socio-Economic Survey (MHSS), fielded in 1996, under the aegis of the RAND Corporation, I examine patterns of family support for the elderly in rural Bangladesh. The MHSS is a particularly relevant dataset to use in this context. It is rich in demographic, economic and health-related information on the lives of elderly Bangladeshis and their households, and the characteristics of their non-household kin (parent, spouse, children, siblings). The MHSS is nationally representative dataset, unlike those used in previous studies on the family in Bangladesh (for example, Amin1996, Cain 1991; 1986).

At the core of the analysis of family support for the elderly is the household, which is the basic unit around which domestic life is organized. While coresidence in Bangladesh is normative, support for the elderly is also provided by non-resident kin. Hence, living arrangements and kin availability are important lynchpins of the analysis of

family support for the elderly in rural Bangladesh. Further, elder women as a group are a particular cause for concern because of their dependence on men, and their likelihood of being widowed at the older ages.

With this dissertation I explore the current situation of Bangladeshi elders, in order to provide a benchmark study of the support that is received from their families. The main objective of the dissertation is to add to the literature on the topic of developing countries. Further, this dissertation will examine the differentials in family support by gender and marital status.

Overview of the dissertation

In the next chapter, I will review the concepts involved and correlates of family support that are discussed in the literature. I explore research on the levels of support, as well as the correlates of the sharing of space and money and time transfers to older parents.

In the third chapter, I will provide a brief overview of the context in which the study takes place. The economy, population, family organization and gender discrimination in Bangladesh is discussed to better understand the factors which condition family dynamics.

The fourth chapter discusses the conceptual framework that I will be using to organize my analysis. First, I lay out the theoretical foundations which inform my study, and develop a conceptual model for understanding family interactions in Bangladesh. Then, I propose testable hypotheses regarding the determinants of support for elders from their adult children.

The fifth chapter describes the analytic strategy, data and methods involved in the analysis. I discuss the methods used to test the hypotheses that have been laid out, and issues of data, variable measurement and statistical techniques involved in the analysis.

The results of the analysis are presented in Chapters 6 and 7. The sixth chapter deals with the sharing of space between elders and adult children, while the seventh chapter is devoted to the receipt of money and time transfers from non-resident children. Each chapter first presents the results of descriptive analyses of the receipt of support, showing varying need among elders, and the bivariate relationships between elders' characteristics and transfers of space, money and time. Then, the results of the multivariate analyses are presented and discussed, addressing the influence of elders' resources on the receipt of support, by gender and marital status of the elder respondent.

In the last chapter, I present my conclusions which consist of a review of the issues involved and the results of the analyses, along with a discussion relating to the methodological and policy issues raised by the study. Finally, the limitations of study and proposed future research plans are laid out.

CHAPTER 2: REVIEW OF CURRENT LITERATURE ON FAMILY SUPPORT FOR THE ELDERLY

The study of the demography of aging in developing countries is a relatively recent endeavor. Previously, anthropologists had been studying the economic and social aspects of aging in developing societies. Simmons' classic work in 1945 stands out for calling attention to the idea that the elderly did not necessarily have high status in pre-modern societies. About 20 years later, Cowgill published his famous thesis that the status of elders declines with socio-economic development (1974) sparking much research within Sociology and Gerontology on the relationship between development and aging.

Almost a decade later, declining fertility and mortality in Asia and Latin America, and the resulting aging of the population, turned the attention of social scientists to the study of aging of populations in these regions. Further, the concerns of policy makers in developing countries raised by these demographic projections, as well as the UN World Assembly on Aging in 1982, highlighted this area of study for researchers. Martin and Kinsella (1994) suggest that the comparative research on developing countries has been motivated by the desire to better understand the 'influences of culture and ethnicity, the particular effects of aging in low income environments, changing roles of families, and the consequences of new policies and programs.'

Demography of aging in developing countries

The result of initial demographic research in developing countries indicates that populations are indeed growing older. In 1991, 56% of the world's 65 and over population lived in developing countries (Martin, 1988). The countries of East and South

East Asia are aging at faster rates than the West (Chen and Jones, 1989). In South Asian countries, the proportion of elderly is not high when compared to other regions in Asia, but the numbers of elderly are. Further, the proportion of the population that is in the older age groups is expected to double between 2000 and 2025 in most South Asian countries (Martin, 1988).

In developing countries aging research is mostly focused on sources of support within the family because, here, the family is the main source of support for older adults. This is especially relevant when studying the well-being of the elderly in South Asia because there are few comprehensive old-age plans set in place by the governments of these countries. At the same time, since large proportions of the population in these regions are involved in the agricultural sector, there are few employment related insurance and pension plans available to majority of the elderly.

In the past, the literature has tended to idealize the role of the family in developing countries (Nydegger, 1983). In Asian countries conventional wisdom holds that the family takes care of its vulnerable members. There are plenty of homilies on the duty of children toward their parents. Empirical research certainly supports this idea with studies showing that anywhere from 75% to 90% of Asian elders live with their adult children (Martin, 1988). However, it is not clear how much of this support is directed toward parents who need it. Ethnographic research in India shows that older parents consider the transfer of their property as an important mechanism to retain the attention of their children (cited in Martin, 1988). Further, studies in Sri Lanka reveal that parents feel that they should make a contribution to the household in return for living with their offspring (Uhlenberg, 1996). These studies suggest that the interactions between older

parents and their adult children are not clear cases of children taking care of their parents in their old age. There is some negotiation taking place in these relationships. The nature of this negotiation requires clarification. Thus, the role of the family in eldercare needs to be critically studied.

Most research on developing countries has been aimed at understanding who provides support to whom, what types of support are involved, and why the transfer takes place. These are a subsection of the different dimensions in the analysis of intergenerational transfers that have been identified in the literature. Holtz-Eakin and Smeeding (1994) provide the following list: types, direction of flow, timing, motives, division among recipients, and the impact on donors, recipients and the economy as a whole. In the analysis of family support for the elderly in developing countries, the relevant dimensions are 1) the availability of family members to provide support, 2) the types of support provided by family and 3) the motivation behind the provision of support. I discuss each of these three dimensions in the following section.

Kin availability

In order to study the behavior of family in the support of the elder population, identifying the availability of support for elders in times of need is essential. The primary sources of support for elders within the family are children. The trend in numbers of children has to be taken into consideration when thinking about the future well-being of elderly populations because the decrease in children has the potential to reduce the number of the primary providers of support. For example, studies from Taiwan and China show that, though fertility has declined in the last four decades of the 20th century, the effect of the decline on the number of children available to elders will not be felt until

after the first quarter of the 21st century (Hermalin and Christianson, 1992; Zeng, 1986, 1988, Tu et al. 1993).

Care is not always intergenerational. Spouses are also identified as primary providers of care for elders. This is more so in the case of older men, possibly due to differences in age between spouses, and therefore, greater disability among men compared to their wives. Also, the age difference between spouses means that women are more likely than men to have lost their partners. Chen and Jones (1989) report a higher level of care from spouses for men compared to women (34% compared to 8%) in the ASEAN countries (South East Asian countries like Malaysia, Singapore etc), whereas, care from children showed the opposite trend with 48% of men and 72% of women reporting care from children.

Further, types of support, whether physical or financial, are provided by different family members. The MHSS data show that more than 80% of older men report their wives as primary sources of support when they are in physical need or suffering from illness, but only about 2% of them report wives as sources of support during times of financial need. Instead, 40% are likely to turn to their sons, and 10% are likely to turn to their brothers. In the case of women, only 6% expect to rely on their spouses for physical support and 16% name themselves in this category. For thirty eight percent of women daughters-in-law are primary sources of support when they are in physical need or ill, with about 20% relying on their daughters. When it comes to financial need, women report sons (51%) and husbands (21%) as the persons they are likely to turn to. Thus, in analyzing the receipt of support among the older population, identifying the types of support that kin can provide is crucial.

Types of family support

Current empirical analyses of family support center around three main types: coresidence, money and informal care. However, there are other types that are referred to in the literature. There is a long tradition in Sociology of studying the dynamics within families. In order to explain the ties that bind generations within families, the term solidarity has developed over time to mean the extent to which families are integrated. The term ‘solidarity’ originates from Durkheim’s grand theory of the division of labor in society and his use of the terms *mechanical solidarity* and *organic solidarity* to distinguish between the two types of societies (Mangen, Bengston and Landry, 1988). The former type emphasizes similarity of shared norms, while the latter emphasizes differentiation between members who are, nevertheless, inter-dependent on each other. Another influence that has to be mentioned is Homans’ work on social behavior. Homans (1950) identified four basic elements of social behavior – activity, interaction, sentiment and norms – as dimensions of group cohesion.

The influence of these two strands of work on American family demographers can be seen in the dimensions of family solidarity that have since been conceptualized and measured. The multiple dimensions of family solidarity or integration which have been identified are: affectual, associational, consensual, functional, normative and goal integration (Bengston and Schrader, 1982; Mangen, Bengston and Landry, 1988; Nye and Rushing, 1969). These dimensions relate to the various phenomena shared by family members - positive sentiments, interactions, agreement on values, attitudes and beliefs, exchange of services, conformity to family norms, and subordination of individual goals to those of the family – which reveal the extent of cohesion within families.

While the dimensions of family solidarity identified by Bengtson and colleagues are broader in scope, studies on the role of the family in the well-being of elders have, not surprisingly, tended to focus on affective (social-emotional interaction) and instrumental (or material) support. Rather than studying the extent of cohesion or solidarity within families, here, social science researchers want to know about the ways in which family members provide emotional and functional support toward its vulnerable members. Bringing the discussion back to Durkheim, in the shift from studying the extent of cohesion to the extent of support, there has been a move away from focusing on similarity between members (mechanical solidarity) toward inter-dependence of members (organic solidarity).

When studying intra-family support, researchers have focused on the transfer of functional support among family members. The term that is broadly used to refer to the flow of these resources within families is *Intergenerational Transfers*. Intergenerational transfers are considered to be the main method of redistributing material resources within families. It is one of the most important metrics for studying the role of the family in elder well-being. There is general agreement in the literature that there are three currencies of support that can be transferred between generations – space, time and money (Soldo and Hill, 1991). The transfer of space, also known as coresidence, is the most common focus of studies in developing countries. Money is the direct transfer of financial support between generations. Transfers of time may take place in the form of instrumental or emotional support (for example, older parents spending time with their grandchildren, or adults visiting or caring for their elderly parents).

Even with just three currencies, the empirical study of intergenerational transfers is complicated by the structure of each transfer. In a simple lineal family, the transfer can flow from the parent to the child, or from the child to the parent. The transfer can skip a generation and flow between grandparents and grandchildren. Or, it might pass through three generations. A child might transfer to his/her parent, who in turn, transfers to the oldest generation. To complicate matters a little, in developing countries, extended kin (i.e., brothers, sisters, nephews and nieces) can be important providers of support.

The structure of the transfer also raises issues when we attempt to measure it. Time and space transfers are difficult to quantify. Further, in the sharing of space, it is not always easy to see who the donor is and who the recipient of the transfer. Finally, the time frame of the transfer is an important aspect. Typically, transfers are measured in one point in time or within a specific period. However, transfers take place throughout the life course, and longer time frames are needed to establish a full picture of what exactly is transferred and who the participants are.

Motivations for family support

The dimension of family support that has been most studied in the literature is the motivation behind it. Economists have focused on the reasons behind intergenerational transfers in developed countries and its implications for consumption, savings, supply of labor, insurance against risk, investments in human capital, private-public trade offs, etc (Holtz-Eaken and Smeeding, 1994). Sociologists and Gerontologists have studied elder care and its effect on families and on society (Soldo and Hill, 1992). In developing countries, the relationship between security in old age and its implications for fertility

levels has received much attention. This dimension of intergenerational transfers is discussed in more detail in the following section.

Economic and sociological perspectives on intergenerational transfers

Intergenerational transfers have been approached from various perspectives and at different levels. At the macro-level, the focus of social scientists has been on the welfare of each generation, and therefore, on the prevalence and the direction of flow of resources. The first major theorizing in the field was done using Modernization Theory, wherein, social scientists considered the consequences of economic development on the older population. Factors like urbanization, industrialization, bureaucratization, the move from extended to conjugal families, etc., were thought to decrease the social status of the elderly (Cowgill, 1986). Since then questions have been raised regarding the veracity of the high status of the elderly prior to economic development, as well as the ability of the theory to predict the status of the elderly in all contexts. However, this hypothesis was useful in bringing attention to the relationship between social and cultural contexts and the status of the aged.

Within the cultural context of South East Asia and South Asia, the most popular macro-level hypothesis is the Old Age Security thesis. This hypothesis arose out of early research on high fertility in developing countries. It postulates that individuals depend on their children to provide for them in their old age in situations where alternative forms of asset accumulation are unavailable. With further economic development of the country, the economic benefits of having children may diminish. In this situation, parents start depending on the market and the public sector for resources and stop relying on their children (Willis, 1980).

At the micro-level, Economists have studied transfers to children from the perspective of early childhood investments or as bequests from deceased parents to their children. Only recently have they begun looking at transfers between parents and their adult children. A majority of the research in this field is based on money transfers (Soldo and Hill, 1993). The two models that are used to understand the decision making behavior behind transfers are *Altruism* and *Exchange*.

Initial work on motives for the transfer of resources within families focused on the altruism model posited by Becker (Becker, 1974, 1981). According to this model, families care about the welfare of family members. Transfers are made to weaker members to improve their well-being (Stark, 1995; Stark and Falk, 1998).

In direct contrast, a second type of model used to analyze motivations to transfer is based on the principle of exchange. Exchange models are derived from rational choice theory. The major assumption here is that individual behavior is determined by a cost-benefit analysis, wherein, individuals undertake to maximize their utility and minimize their costs (Becker, 1974). Exchange models have been used in family research to determine motives of bequests made to children as ‘payments’ for services such as visits and phone calls (Cox 1987).

Other applications of rational choice theory have focused on self-interested motivations. An example of this is the *demonstration effect* hypothesis. The demonstration effect argues that adult children are motivated to transfer resources to their aging parents to set an example to their own children, so that they themselves will eventually receive transfers (Cox and Stark, 1992).

Sociologists, on the other hand, have studied family support in the form of informal care and coresidence, as well as financial transfers. Within Sociology, the concept of reciprocity has been used to understand transfer behavior within families. Reciprocity is similar to the exchange model in that the transfer is made to either repay a debt owed, or with the expectation of a return in the future. Unlike economic exchange models, reciprocity can include a long-term transfer relationship (Silverstein et. al. 2002).

Empirical findings

Prevalence of Support

Whereas in the U.S, the flow of support is most often towards adult children from older parents (Altonji, Hayashi and Kotlikoff, 1992; Hill, Morgan and Herzog 1993; Morgan, Schuster and Butler 1991; Spitze and Logan 1992), this is not so in developing countries. High rates of coresidence are found in most developing countries. At least 3/4ths of elderly Asians live with one or more of their adult children (Martin, 1988). However, there is evidence that in some countries the number of elderly that are living with their children has gone down over time. In Japan, the percent of three generation households containing persons aged 65 and older decreased from 56% in 1972 to 33% in 1995 (Ogawa and Retherford, 1997). There is evidence that the numbers are declining in Taiwan and Korea as well (De Vos & Lee, 1988). Changing economic and social conditions are expected to change the way in which families relate to each other. Migration, women's labor force participation, urbanization are all factors which reduce the ability and willingness of families to take care of their elderly members. At the same time, elders might prefer their privacy.

Prevalence of financial and instrumental support from children to older parent is also higher in developing countries. For example, in Sri Lanka, Uhlenberg (1996) finds that elders receive more financial assistance, goods and services from both coresident and non-coresident children than that which they give to their children. However, there is a dearth of research on the levels of time and money transfers between parents and children in these regions.

Factors associated with support for the elderly

A review of the literature identifies various factors that are associated with the transfer of support to the older generations. In general, provision of support in terms of money, space and time are associated with the needs and resources of the elder, and the size, composition and ability of kin.

Most of the multivariate analyses of support for older parents in developing countries have focused on the living arrangements of the older generation. More recently, new data sources which include detailed information on the elder respondent's kin, within the household and across households, have become available. This has resulted in more research that focuses on the transfers of money and time, and on children's abilities. Most of these datasets are from the countries of East and South East Asia (for e.g., the University of Michigan 5 country study, the Indonesian and Malaysia fertility surveys conducted by RAND). Studies on living arrangements of the elderly tend to identify the characteristics of the older generation that are associated with various types of living arrangements. The main children's variables of interest in the analysis of living arrangements of the elderly are number of living children and their composition. The recent extension of the focus of empirical research to time and money transfers has

meant the inclusion of various characteristics of children's ability to transfer, including proximity and economic ability, as explanatory variables.

Coresidence

Important life course transitions – marital dissolution, disengagement from economic activities, and the onset of chronic health problems and functional impairments – often occur at the older ages. These transitions have important implications for the well-being of the elderly, and thus, indirectly for transfers to them from their adult children. The assumption is that as people age there is a likelihood that their needs increase. Elder's need is expected to be an important predictor of transfers.

In fact, coresidence has been shown to be related to the special needs of the elderly – old age and widowhood. Being widowed increases the probability of living with a child in Korea, Fiji, Malaysia, Philippines, Singapore, Thailand, and Taiwan (De Vos & Lee, 1988; Martin, 1989; Casterline et.al, 1991; DaVanzo and Chan, 1994).

The effect of age of the elder on their living arrangement is not as consistent. De Vos and Lee (1988) found that in Korea, the older the person was the greater the likelihood of living with a child. However, including a control for the ability to perform activities of daily living inverted the relationship between age and the likelihood of coresidence (Martin, 1989). Casterline et.al. suggest that this puzzling effect is due to the presence of children in the households of the younger-old. On controlling for the age of the youngest child, the negative effect of age on coresidence was eliminated (Casterline et. al., 1991).

Having more children is likely to affect an elder's living arrangements since there are more options for elders to choose from. In Fiji, Korea, Malaysia, the Philippines,

Singapore, Thailand and Taiwan, having a larger number of children was associated with the greater probability that the older person was living with at least one of them (Martin, 1989; Casterline et al, 1991).

The relationship between health and coresidence is not well understood (Martin and Kinsella, 1994). Although it seems likely that elders who need help with day to day functioning are more likely to live with a child, Martin (1989) found no effect of the ability to perform activities of daily living on coresidence in Fiji, Korea, Malaysia and the Philippines. DaVanzo and Chan (1994) suggest that this lack of effect in Malaysia might be due to the pooling of married and unmarried seniors in Martin's (1989) study. When they analyzed coresidence separately by married and unmarried seniors, they found that married men with poor health were more likely to coreside than married men with good health. For married women, fair health was much more significantly associated with coresidence compared to good health. Poor health was not found to be significant for married women. Health had no effect in the unmarried sample, which is again unexpected since unmarried elders are likely to be more vulnerable.

Researchers have also looked at the relationship between 'modernization' and living arrangements. Economic resources, education, urban-rural location are expected to influence the living arrangements of the elderly. Casterline et.al. (1991) found that in the Philippines, Singapore, Taiwan and Thailand, education was negatively associated with coresidence. However, they also found that there was more coresidence in the largest cities compared to smaller cities and rural areas. DaVanzo and Chan (1994) found the same effects for urban-rural location in Malaysia, even after controlling for the effects of

housing costs on coresidence. The urban, peri-urban and rural differences in coresidence require further exploration.

Income is a difficult variable to measure in surveys on developing countries, but DaVanzo and Chan (1994) included an indicator of income and found that those who had more economic resources were less likely to live with their children. Does this mean that some Asians might prefer their privacy to living with adult children? Knodel et. al. (1992) concluded on the basis of focus groups that there were costs and benefits to coresidence despite its normative basis in Asian cultures, and that, in the future, elderly persons might prefer to purchase privacy as their economic well-being increases.

Money and time transfers

As mentioned earlier, intergenerational support is not solely confined to that received from within the household. Money and instrumental care flow across households, and are an important aspect of support for older parents. The research on inter-household flows of resources is sparse. The few existing studies tend to focus on the children's ability to provide transfers. Socio-economic characteristics like gender, marital status, education and income of children determine their ability, and the likelihood of providing support to older parents. They also determine the type of transfer that is provided. Sons and daughters, children in close proximity and those who live further away, are each likely to provide different types of support.

In Taiwan, sons are the most important providers of financial assistance, whereas, both sons and daughters are important sources of material goods, and daughters-in-law and spouses provide personal assistance (Hermalin et.al.1992). Further, children's life course stage is related to the type of assistance that they provide to their elder kin.

Knodel et. al. (1996) found that in Thailand, single non-coresident children, living some distance away from parents are more likely to provide support in the form of money, whereas married non-coresident children living in the same community are more likely to provide food and clothing.

The economic ability of children determines the amount of transfers they give. Lillard and Willis (1997) find that, in Malaysia, the aggregate level of monetary transfers from the younger to the older generation is strongly related to the education levels of children.

Of the studies that focused on financial and instrumental support for elders, only one focused on the role of elder characteristics. Zimmer and Kwong (2003) confirmed that, as with coresidence, lack of resources in elders increases the likelihood of receiving support from children. Poor health and loss of a spouse increased the likelihood of receiving instrumental support (help with shopping, washing, etc), while low income and no spouse increased the likelihood of receiving financial support from children. The authors also examined the effect of coresidence on the likelihood of receiving financial and instrumental support. In rural areas, coresidence with an offspring decreased the probability of receiving financial support, but increased the likelihood of receiving instrumental support³. Zimmer and Kwong (2003) suggest that there might be a tradeoff between instrumental help and financial support, whereby those who live with the parents provide the former, while those who do not provide the latter.

Discussion

The review of the literature suggests that the needs and resources of elders, and the availability and composition of their kin are important correlates of intergenerational transfers. In examining the living arrangements of elders, researchers tended to focus on elders' own characteristics and the availability of children as determinants, whereas, when examining time and money transfers, the focus tended to be on children's ability to transfer. While it is true that children's ability to transfer is a significant aspect of the transfer process, elders are not passive recipients of support. They play a role in determining their 'solidarity' with their adult children. I aim to highlight this aspect of the transfer process in this study.

Most of the studies reviewed focused on just one currency of transfer. This does not give us a complete picture of family support for the elderly. It is important to see whether older men and older women receive the same types of transfers since their needs and abilities can differ according to the social and cultural context. Further, few studies in developing countries looked at the combination of transfers made to parents (Zimmer and Kwong (2003) and Knodel et.al. (1996) are some exceptions). Children who do not reside with their parents tend to transfer more money than children who do live with their parents. In fact, money and coresidence are found to be substitutes rather than complements in the U.S. (Altonji, Hayshi and Kotlikoff, 1992). How does the receipt of one type of transfer condition the receipt of the other types? Analyzing within-household support, as well as inter-household support would provide a clearer picture of transfers within families.

³ In this study source of support was any child, one that lived within the household, or outside. Coresiding elders have more access to and receive more instrumental support since they live with a source of that

Last, but not least, in examining the associations between parents' resources and transfers from children in developing countries, researchers have tended to focus on economic resources of elders, but not on other tangible resources like land or property ownership.

Data from the MHSS 1996 are ideal for these purposes, since information on space, money and time transfers are collected. Further, extensive information on children who do not live in the same household has also been gathered. The main goal of this study is to extend the analysis to the context of South Asia – a mostly rural, agro-based society, which is still in the process of demographic, economic and social transition – to examine how elders' needs and abilities are associated with the three types of transfers identified in the literature.

CHAPTER 3: BANGLADESH – COUNTRY AND FAMILY CONTEXT

Overview

Bangladesh, a densely populated country, lies between India and Myanmar, in South Asia. It is a low-lying country, and its many rivers form a fertile delta. The country experiences periodic flooding from these rivers. It is also prone to frequent cyclones. Historically, Bangladesh separated from India in 1947, when it formed a part of Pakistan. Subsequently, it separated from Pakistan in 1971 after fighting a war of independence. In the last 3 decades, it has faced severe political turmoil. Political instability, coupled with recurring natural disasters has meant that Bangladesh is one of the poorest countries in the world.

The situation in Bangladesh is similar to other under-developed countries where the largely rural population, working in the agricultural sector, does not have access to government social security schemes, private pensions or health insurance at the older ages. By tradition and practice, the family has been the mainstay of support for its members when they are in the most vulnerable stages of their lives. Since the Bangladeshi population has a young age structure, and rising poverty and landlessness, the focus of the government is not on the older population. The main responsibility of taking care of vulnerable members still falls on the family.

The Economy

With a Gross National Income (GNI PPP) per Capita⁴ of \$1,770 in 2002, Bangladesh is one of the poorest countries of South Asia. Its neighbors, Sri Lanka

⁴ *Gross National Income or GNI (formerly GNP), current dollars* is the sum of value added by all resident producers plus any product taxes (less subsidies) not included in the valuation of output plus net receipts of primary income (compensation of employees and property income) from abroad. In other words, GNI

(\$3,510), India (\$2,650) and Pakistan (\$1,960) have higher GNI PPP per Capita (World Bank, 2003). In terms of economic and social indicators, it ranks quite low among the countries of the world. In 2004, the United Nations placed it 138 among 177 countries according to its human development index (HDI)⁵ (United Nations, 2004). However, economic trends show that the country has improved since 1971, when it became an independent sovereign nation. The annual growth rate of GDP was 3.2 per cent during the period from 1991 to 1995, and 5.5 per cent during 1996-1999 (Bangladesh Bureau of Statistics).

Almost 80 percent of the population live in rural areas (WDS, 2001), and are likely to be involved in the agricultural sector. In 1996, the labor force participation rate was 88.8% for men and 55.9% for women. A breakdown of the labor force by sector indicates the importance of agriculture in Bangladesh. In 1990, among male workers, 54% were engaged in agriculture, while the service sector and industry employed 26% and 16%, respectively. On the other hand, 85% of female workers were involved in agriculture, while services and industry employed merely 2% and 9%, respectively (ILO, 2001).

Jute is the main non-food crop that is grown in Bangladesh. It is also the main cash crop. The main food crop is rice, and together with jute, these two crops account for about 80% of the cropped land area.

measures the total income of all people who are citizens of a particular country while GDP (gross domestic product) measures the total output of all persons living in that particular country's borders.

Population

Since independence, Bangladesh's population has doubled, rising from 66.3 million in 1970 to approximately 138 million in 2000 (United Nations, 2005). The country's population density was 824 people per square kilometer in 1999. Bengalis form the largest ethnic group in Bangladesh. Eighty-five percent of the population are Muslims, 12 % are Hindus, and the remaining practice Christianity and other religions. Bangladesh has a young age-structure, with nearly 45% of the population below the age of 15 years (Bangladesh Bureau of Statistics, 1997). At 56 years each, life expectancy is low for both men and women.

The share of the population that is over age 65 has remained under 5% during the three decades after independence, but with the increase in population size, the total number of elderly people has increased. Additionally, in the future, the proportion of the population that is older is expected to rise due to falling fertility and mortality rates and increases in life expectancy. In 1970, the percentage of the population that was 60 and older was 5.8%. That figure is expected to triple by the end of the first half of the century (United Nations, 2005). One consequence of this change in population structure is the expected drop in the potential support ratio (PSR)⁶, from 19 in 2002 to 6 in 2050 (United Nations, 2002). The PSR points to the increasing burden that will be placed on potential workers.

In 1981, more than 65% of Bangaldeshi males aged 65 and older were in the workforce. However, female labor force participation tends to be very low in South

⁵ The HDI is based on three indicators: longevity, as measured by life expectancy at birth; educational attainment, as measured by a combination of adult literacy and gross enrolment ratio; and standard of living, as measured by real GDP per capita (PPP\$).

⁶ The PSR is the number of persons aged 15 to 64 years per one older person aged 65 years or older.

Asian countries, and lower still among the elderly women in Bangladesh. Only about 4 % of women aged 65 and over were in the paid labor force in the same year (Bangladesh Bureau of Statistics, 1984).

The family system

Kinship and family support

Kin relationships and relationships among other members of the same community are strong (Cain, 1991; Ellickson, 1988). Islam is the religion of the vast majority. An important tenet of Islam is the strong sense of obligation to one's elderly parent (Ellickson, 1988). Thus, at the older ages, parents expect to depend on their children and kin for their well-being.

The living arrangements in Bangladesh are organized by the bari system, which is prevalent in most parts of the country. Baris consist of a series of distinct households sharing a common courtyard. The households are linked by relationships determined by patrilineal descent, and they constitute the primary residential and social unit of life in Bangladesh (Rahman, 1986). As adults, sons form their own households in the baris of their fathers at some point after marriage, and daughters move to their husbands' homes. The usual pattern is that parents live with one son, most often the youngest, with other sons maintaining separate households (adjacent or otherwise) (Cain, 1986). Another likely scenario is that elderly couples live by themselves (possibly next to adult sons) until the loss of one partner. Then, the widowed parent is absorbed into the household of one of the sons (Cain, 1988).

The majority of Bangladesh's elderly still live with, or near an adult son. For example, in a 1991 survey of two villages, Amin (1998) found that between 80 and 90%

of persons aged 60 and over lived with, or adjacent to an adult son. Most male children settle close to their parents, thereby maintaining close ties to them. Children who migrate out of the village, usually to Dhaka, the capital city, in search of work send back remittances to the family (Frankenburg and Kuhn, 2001).

Gender division of labor

Bangladesh is a strongly patriarchal society. Men retain the power and control over household resources, while women remain dependent on them. Islam, the religion of the majority, reinforces the patriarchal ideology. According to Cain et.al. (1979), Islam has been interpreted as making the clear distinction between men's role, which is to earn, and women's, which is to serve men. As a result, women's economic roles have been limited, and their access to resources dependent, to a large extent, on their male relatives. These factors place women in vulnerable positions at the older ages.

Daughters are married at young ages, but retain strong ties with their natal families. They are not expected to financially or materially help their own parents after they are married. However, initial analyses of the MHSS data show that daughters are considered to be important contributors of support for women in times of physical need. When it comes to financial need, sons are the primary sources of support for all elders.

Women are discouraged by religion and practice from working. Further, customary land inheritance patterns do not favor women. By law women receive smaller shares of their parents' and husbands' properties, compared to their brothers and sons respectively. Further, most women find it difficult to claim their shares, or even keep them (Aggarwal, 2000). Thus, women are financially dependent on the men in their lives, first on their husbands, and then as widows, on their sons.

One of the biggest causes of concern for older women in Bangladesh is the loss of status after the death of a husband. Women are more likely to be widowed in the older ages, since they marry men who are on average 10 to 15 years older than them. According to statistics gathered by the UN population division, around 1990, 43% of women 60 and older were in the currently married group, while among men of the same age, 95% were married (UNDP, 2002). Part of the reason for the gender differentials in marital status is that, as elsewhere in the world, men have higher rates of remarriage than women (Cain, 1981).

Thus, the fact that women tend to be heavily represented among the poor and landless (Holcombe, 1995) is no surprise. Women, and widows, in particular, the childless, and the very old tend to be marginalized in society (Cain, 1986; Martin, 1988; Amin, 1998).

In conclusion, an examination of the interactions between the elderly and their family, and living arrangements can provide important information with regard to their well-being. Data from the MHSS would enable us to analyze the inequities within the family, and across families with regard to flow of resources.

CHAPTER 4: CONCEPTUAL FRAMEWORK FOR THE RECEIPT OF SUPPORT FROM ADULT CHILDREN BY THE ELDERLY

Having reviewed the existing literature on family support for the elderly and having described the situation in Bangladesh, in this section I will set up the conceptual framework on which the current study is based drawing from the theory in the field of aging and family support. The main interest of the analysis is the impact of elders' needs and abilities on the transfer behavior of their adult children. An elder's needs and abilities are part of the same continuum and can reflect material, emotional and physical aspects.

Economic and sociological models of family support

The literature on family support identifies various macro and micro factors that influence the receipt of transfers by elders. At the macro level, socio-economic structures influence the donor, the recipient, the type and amount of support given to elders by their adult kin, while demographic factors set the limits for family support. The economy, the gendered division of labor and religion influence the needs and abilities of elders and their supporters by determining what types of economic opportunities are available to elders and their kin, the normative roles prescribed for men and women (i.e., are men and women both expected to fulfill both the economic and domestic roles, or whether there is a division of labor in this regard), and the societal expectations placed on adults with regard to support of their elderly family members. The limits are set on that support by fertility, mortality and migration patterns which determine the pool of kin which is available to provide support for the elderly. Broadly, these processes influence the material needs that elders have and the ability of their kin to provide support.

At the micro level, researchers have tried to model the decision making behavior behind support for elders. Given the ability of adult children to provide support, why would they do so? Is their behavior influenced by the desired well-being of their aging parents? Or is there self-interest behind the transfer of space, money or time from the younger generation to the older generation? The two models that have been used to determine the motivation behind family support are the altruism and exchange models. The principles of altruism and exchange operate along the same spectrum, with pure altruism at one end and solely self-interested exchange at the other (Stark, 1995). In simple terms, if transfers increase with the needs of the elder then there is support for the altruism model. On the other hand, if greater transfers are made to people who are rich in resources (in anticipation of future transfers from them) then there is support for the exchange model. Most researchers agree that both motivators may be present in any transfer relationship. These two perspectives have developed in the fields of economics and sociology, and are discussed below.

The main assumption in the altruism model is that transfers are made because each donor cares about the recipient's well-being. The donor's utility is increased when the recipient's utility is increased (Stark, 1995). This model is useful because it takes into account need on the part of the elder. In the context of high levels of societal expectations of children's obligation toward their older parents, such as is found in Bangladesh, this model is very appropriate. One implication of this model from the perspective of equity is that vulnerable elders are being taken care of. Resources move from those who have them to those who do not, thereby moving towards a more equitable distribution of resources. A larger implication of the altruism model is that children are a

good insurance against risk of poor health or loss. Thus, in a setting where altruism is at play within families, it would make sense for parents to invest in their children.

Exchange models are based on the rational choice framework wherein the basic assumption is that individuals tend to maximize rewards and minimize costs (Becker, 1974). In other words, individuals use a cost-benefit analysis to make decisions. Most of the economic analyses of the intergenerational flow of resources are based on the decision-making process that underlies the transfer. The idea is that the amount, type, and direction of flow of transfer (whether from elderly parent to adult child or vice versa) are subject to a cost-benefit analysis. Most economic models using exchange as a motive for transfers are focused on self-interested exchange which is based on the assumption that the transfer is made in exchange for some past, current or future return service from the recipient such as past education, caring for grandchildren or bequest of land, assets or wealth.

The exchange model is useful because it allows us to model the behavior of both donors and recipients. It takes into account the power of recipients to negotiate for material and time support from their adult kin. The exchange model assumes that transfers are not automatic. It implies that there is some negotiation between the recipient and the donor. This aspect is missing from the rhetoric that is used to describe the Asian family. The exchange model emphasizes the importance of examining the bargaining power of each participant. It is not just a matter of all elders being needy and, therefore, recipients of transfers. Rather, they are allowed to be agents in the transaction. Thus, we can model differentials in the receipt of transfers according to the bargaining power of elder persons using the exchange model.

The theories of Altruism and Exchange help us understand the underlying motivations of transfer behavior. The actual motive behind the transfer is not directly measured. However, the principles identified by the models can influence preferences (economics) and/or norms (sociology) to transfer, so that an individual child who has the ability to transfer might respond more to the need of his/her elderly parent if s/he were altruistic, or more to resources of parent if s/he were motivated by exchange. *The needs and resources of elderly parents and the abilities of adult children are the proximate determinants of transfers. These can be measured to a considerable extent by available data.*

While each model might explain certain aspects of transfers toward parents, they fail to appropriately model the situation in Bangladesh when set up as opposing alternatives. In the act of a transfer, both principles (altruism and exchange) might be operating. For example, altruistic children might support their parents who are in need of help with daily physical activities, while also responding more to those parents who are ill as well as resource-rich. At the same time, one principle might be a motivator for transfers of space, whereas the other might motivate the transfer of time or money. This study uses the principles of exchange and altruism to develop a framework within which the influence of various dimensions of elders' resources on their receipt of support can be gauged.

The literature on family support for the elderly suggests that two other perspectives have to be considered. These are the life course perspective, and the gender perspective. The life course is seen as a sequence of stages through the life of a person as s/he goes through the aging process (Elder, 1985). Retirement and widowhood are

important life-course transitions that greatly affect an elder's life. While the majority of Bangladeshis living in rural areas do not have a formal retirement per se due to the nature of the agro-based industry, the onset of old age brings with it deteriorating physical capacity, resulting in diminished ability to perform economically. Thus, old age brings with it reduced economic independence, and therefore, increased financial need for elders in Bangladesh. The loss of a spouse is another life course transition that an elder is likely to go through. Widowhood can be expected to adversely affect Bangladeshis in the older ages as it removes an existing source of physical, social and/or economic support.

Gender is a major dimension of stratification, and there are significant differences in the way that aging affects men and women. Because of the gendered nature of family and work, any analysis of aging needs to incorporate a gender perspective. In the case of Bangladesh, the gender lens should be particularly applied to the analysis of transfers to elders because women and men have substantially different access to resources. Further, marriage patterns imply that women are likely to spend more of their lives without a spouse compared to men. Thus, they have different levels of resources and needs from that of men. This factor has to be recognized in any analysis of the role of elders in the receipt of support.

These two perspectives are especially relevant to Bangladesh where both groups, the elderly and women, are accorded a high degree of respect in society, and are expected to be taken care of by the family. Thus, compared to other countries, Bangladeshi elders, and women in particular, are expected to receive high levels of family support.

A Model of Family Support for the Elderly in Bangladesh

Societal norms in South Asia require that adult children take care of their parents as they age. However, not all elders receive support in the form of space, money and time from their adult children. According to the two studies cited in an earlier section, between 80 and 90% of elders who are over 60 years of age live with or near an adult son (Cain, 1986; Amin, 1998). Thus, upto 20% of elders do not live with or near an adult son. Further, household formation patterns in Bangladesh indicate that unmarried sons are likely to remain in the households of their parents until they get married and set-up independent households of their own. Defining coresidence as living with a married son is likely to give us a better assessment of support towards elder parents⁷. While unmarried sons are likely to contribute to the support of the parents they live with, the arrangement may not be permanent. In addition, the marriage of a son brings in another source of physical and emotional support to elders – the daughter-in-law. Thus, using a more permanent indicator of the transfer of space, that is, coresidence with a *married* son, we find that only 38 percent of persons aged 50 years or over in the MHSS sample receive this form of support. Thus, more than 60% of elders in a nationally representative sample do not receive this form of support from their children. Further, only 40% of them receive money from non-coresident children, and only 36 percent see their non-coresident children at least once a week. Finally, 23% of all elders (31% of men and 16% of women) do not receive any of the above transfers from their children (refer to Table 5.2 in the next chapter).

⁷ Having a married son living in the same compound is a form of support for elder parents that needs to be considered. However, in this study I focus on the sharing of living space, and therefore, direct access to physical, financial and informal support from children.

Some of this gap could be explained by the fact that certain elders do not need support. They are either financially able to take care of themselves or young enough to not need help on a daily basis. A large part of it is likely to be due to the inability of adult children to support their parents, especially in terms of time and/or money. However, there is some evidence that in South Asia, vulnerable elders (e.g., the oldest old and women) are being neglected (Martin, 1986). Also, the literature shows that in South Asia, parents sometimes have to negotiate for attention from their kids by withholding the transfer of land and other property (as is the case of older residents in India) and that they feel that they have to reciprocate for the support they are currently receiving (as is the case of coresident elders in Uhlenberg's study in Sri Lanka). So, some of the gap seen in the figures mentioned above could be because adult children's unwillingness to provide support to parents. It is not clear from the literature on Bangladesh whether vulnerable parents who do not coreside with their children or do not receive time and money transfers from them are being ignored by their families because of norms breaking down or because of structural changes in the economy, or both. That is, are children unwilling to take care of their needy parents or are they unable to do so? Thus, in Bangladesh, children are likely to fall into one of these categories: a) following the norm and looking after their parents, b) unwilling to support them or c) unable to do so⁸.

The important question, from the perspective of this study, is whether children's decisions to support parents are determined by the needs of parents or their resources. In the literature, motivations for transfers within families are modeled using the altruism and exchange rationales. Both are, in turn, influenced by societal norms of expectation, and

⁸ Parents might have a preference as well, whether to receive the transfer or not. Parents who have resources might prefer not to coreside, or indeed, might themselves respond to children's need for support.

demographic and socio-economic factors. Socio-economic structures and demographic factors influence and limit support given to elders by their adult kin. These processes determine the needs that elders have and the ability of their kin to support.

Given an older parent's level of needs and resources, an adult child's transfer behavior would be influenced by the altruism or exchange rationale. Simply stated, altruism would be the motivator if transfers from children are responsive to parent's need, taking into account the ability of children to provide support. On the other hand, if children respond to resources, then they are likely to be transferring in expectation of a future return from parents⁹.

Needs and abilities have different dimensions ranging from those based on health to socio-economic to psycho-social. Along each dimension, a lack of a particular resource translates into a need. For example, a lack of good health would signify a need on the part of an elder. George and Bearon (1984) have identified various factors that are thought necessary to ensure quality of life in the older ages. These are life satisfaction, self-esteem, general health and functional status, and socio-economic status. In terms of measurement, the first two are subjective and the latter two are objective. For this analysis, I will focus on the two objective dimensions of resources identified above. Further, the degree of need of elders varies along each of the two dimensions by gender and marital status. Each of these factors will be taken into consideration. At the same time, transfers are determined by the characteristics of children. An adult child's opportunity to provide support is influenced by his/her ability – namely, own financial resources, gender, and life course stage, proximity.

In this study, I investigate the relationship between parental resources and the transfers of space, time and money from adult children by focusing on the following research questions.

1) Do different dimensions of resources operate in the same way for each ‘metric’ of transfer?

i) Which dimensions of resources influence each metric of transfer?

ii) How do gender and marital status mediate the relationship between elders’ resources and the receipt of transfers?

2) What patterns, if any, can be found across the different metrics of transfers?

i) How does coresidence condition the receipt of transfers across households?

I will discuss the conceptual relationships behind each question and list a number of hypotheses to be tested in my dissertation.

Which are the important resources of elders?

As mentioned before, the literature identifies two types of objectively measurable resources that are likely to influence the quality of life of individuals as they age. These are functional and socio-economic resources, and they, in their turn, are expected to influence the likelihood and types of support that adult children provide. Within the context of Bangladesh, gender and marital status are important factors that mediate these basic resources. In this study, I focus on the question of how particular resources influence each type of transfer. To address this question I have selected two important resources of elders in Bangladesh, i.e., **physical ability** and **land ownership**.

⁹ Children could be both altruistic as well as self-interested. A child could transfer to a mother because he is altruistic, and at the same time, transfers to his father because he is interested in his father’s assets. However, this study is aimed at understanding the transfer of support from the perspective of the elder.

Physical ability is necessary for independent functioning. Further, since pensions are not available, the work life of older people in less-industrialized countries is longer than their counterparts in more developed countries. Thus, functionality is a very important resource for elders in Bangladesh.

Since agriculture is the main source of livelihood for a majority of Bangladeshis, land is the most important resource in rural Bangladesh. The ownership of land is crucial for financial well-being in this context. Land is used for two major purposes – to live on (homestead land) and to cultivate (agricultural land). The other important financial resource is income. However, the measurement of this variable is problematic in developing countries. Hence, education and occupation are used as proxies for financial resources.

There are two important factors that condition the way in which these resources impact the lives of elders. The social division of labor in Bangladesh dictates that men and women have differential access to economic resources over their lifetimes, and thus, their needs at older ages differ accordingly, **gender** is an important aspect of an elder's life that has to be considered when examining needs. Women derive economic security from husbands, whereas men do not derive economic security from their wives. Women are also less likely to own land, or to work. By custom and practice, women rarely own and administer land. Often, their access is through their husbands. Bangladeshi law grants widows the right to inherit a portion of their husband's property. However, in practice this is not so common. Thus, older women's economic needs are expected to be higher than that of older men.

Marriage is an important aspect of life in Bangladesh. Both health-based and financial needs of elders are likely to differ according to marital status. The assumption is that currently married women derive their economic security from their husbands. Since widows no longer receive financial support from husbands they have to depend on their own abilities or on that of their children. Further, they no longer have a spouse to provide them with functional help. Widowed men are also a very vulnerable group. They do not have a source of physical support after their wives are gone. Men who have outlived their wives tend to be among the oldest old – and are the frailest. So, they are likely to be very vulnerable. Thus, women tend to be more financially needy than men, and widowed women are more financially needy than married women. In terms of physical need, widowed men and widowed women have higher needs than their married counterparts since they no longer have a spouse to provide them physical support at home.

To restate, the aim of this study is to examine the role of health and financial resources of elders in motivating transfers from children. In this study, health and land are conceptualized as resources that elders either have or do not have. Gender and marriage mediate the relationship between possessing these resources and receiving support from children. Thus, depending on whether the child is motivated by altruism or self-interest, each resource will either be positively associated with transfers or negatively associated or unrelated.

In order to understand the decision making behavior behind transfers, children's abilities have to be taken into account. However, children's economic abilities are related to parent's economic abilities. Those families which have economic resources are

better able to invest in their children, and thus, it is likely that children of well-off families are, themselves, well-off and children of more needy families are, themselves, more needy. Thus, children might not be able to provide support to an elder parent who needs it. To understand the dynamics behind the transfer of support to resource rich or resource poor parents in Bangladesh, I will have to control for the effects of their children's ability to transfer. Thus, after taking into account children's ability to transfer, I make the assumption that whatever the case (rich or poor) a child is 'able' to provide support to his/her parent.

The characteristics of children that are associated with their ability to provide support are similar to the ones mentioned for parents. These are gender, age, education, occupation, marriage and children. Sons are more likely to provide financial support, whereas daughters are important providers of informal care. Marriage and children are likely to decrease the ability of adult children be able to provide support for parents because there are competing demands from their own households. Higher socio-economic status - occupation, education, land ownership – increase the ability of children to make transfers.

Transfers to elderly parents

The role of parent' need

Clearly health, measured as functionality, is an important factor in the sharing of space between elders and their adult children. Deteriorating health means that elders may be less able to work and bring in an income. It also means that elders may require help with day to day activities. Further, they may need assistance with hospital visits and bills. The worse the health of the elder the more likely he/she needs physical support

from family members. Thus, poor health on the part of an elder is likely to increase his/her need to live with other adults who can provide this support. Poor physical ability in the older ages also means that it is more difficult to earn an income from daily labor. Thus, poor health is likely to increase the need for financial assistance. Finally, poor health also requires care on a day to day basis. Thus, it is likely to mean an increased need for informal care from other adults.

At the same time, financial need, independent of health, is also likely to affect transfers from children. If an elder is no longer working for income, his/her need for help/ or an alternate source of income/ support increases. For those elders who own no land, support in the form of at least two types of transfers is necessary. The landless form the poorest section of society in Bangladesh. Elders without land are likely to need the support that an added earner can bring, and thus, are more likely to need to live with adult children. The lack of this resource is likely to increase their need for financial support from their children. The relationship between owning no land and time transfers from the perspective of the elder is unclear.

The role of parents' resources

Elder parent's good health might work in the opposite way to poor health. Elders with good health are less needy in terms of physical support. Thus, their need to coreside is less than the need of elders with poor health. The same is true for the relationship between good health and money and time transfers, from the perspective of the elder. However, children might be more likely to provide transfers to elder parents who are in good health because of the benefits their parents bring (that is household labor or income). Parents in good health are potential providers of childcare for grandchildren.

Parents in good health might also be able to work, and would, thus, be another source of income for the household. Thus, adult children might be more likely to share space with older parents who are in good health than with parents who are in poor health. The relationships between good health and money and time transfers are not very well established.

Elders who own land are likely to need less financial support from their children. However, children who live with and take care of parents usually inherit a bigger share of the parent's estate. Thus, there is an incentive for children to live with their parents. Those who do not reside with parents might send remittances to parents as a way of staking a claim on parental property. Similarly, children might also spend more time with parents as a way of maintaining good relations with parents who have not yet transferred their property.

Gender and marital status

Differentials in transfers to men and women might be due to the varying need that men and women have. Older women usually report higher disability than older men. This could be due to both the higher levels of morbidity among older women compared to older men, and due to norms about health. Thus, the influence of poor health on transfers from children could work in different ways for men and women. This is further influenced by the presence or absence of a spouse. For both men and women, the loss of a spouse as well as poor health indicates extreme vulnerability. Elders in this condition are very dependent on support from their children because they no longer have a partner to care for them.

On average, women have greater financial need than men because of their economic dependence over the life course. They are also, more likely to need support from their children because women marry men who are older than them, and thus are more likely to lose a spouse in the older ages. This economic dependence means that women are more likely to need all three types of support from their children, compared to men. At the same time, women who are widowed are more needy than women who are still married since married women have access to their partner's financial and physical help.

Coresidence as a mediating factor

The receipt of the different types of transfers is not independent of each other. The decision to support parents is made among children. One child might live with the parent and provide in-house support while the other children might send money and/ or spend time with them. Do parents who receive one type of transfer receive the others as well? Or, does the receipt of one preclude the receipt of the other two?

Of the three, coresidence can be considered the more comprehensive form of support, since it is likely to include the basic necessities of shelter and food. Thus, one can assume that coresiding parents are less financially and functionally needy than non-coresiding parents because the former have in-house support. Both coresiding and non-coresiding parents could have resources of their own, which in turn could influence children's transfers of money and time. Altruistic children are more likely to provide at least one other form of support to parents who are not receiving support in the form of coresidence. If children are likely to be more influenced by parent's resources than parent's need, then they might be interested in some form of exchange.

Elder resources and the receipt of space, money and time transfers

The main question I attempt to answer is whether different dimensions of resources operate in the same way for each metric of transfer. In the literature, poor health of elders has been found to be positively associated with coresidence between the elder and a child. On the other hand, economic resources are negatively associated with coresidence, as in the case of Malaysia. There is not enough evidence on the relationship between poor health and money and time transfers.

These relationships might differ by the elder's marital status. Married men and women both have a partner to support them when they are in need of help with day to day activities. Thus, health might be less of an influence in motivating transfers from children. Men and women who have lost their partners and who suffer from poor health are in greater need of support from their children. The ownership of land could also be influenced by marriage. A child might be less likely to transfer to a resource rich parent who is married, since it is more likely that the surviving spouse will inherit the land.

A third mediating factor is the coresident status of elders. If a parent is living with an adult child, other siblings might be influenced in their decision on whether to make transfers or not. Thus, the interaction of coresident status with each parental resource needs consideration. Coresidence can be thought of as a resource, similar to marriage. Elders who coreside have alternative sources of financial and physical support to count on. Thus, coresidence is likely to decrease other types of support, namely money and time. Following the marriage-land argument, coresident elders who own land are less likely to receive other forms of support from other children, since it is expected that the adult child who is living with the parent will inherit the land. Those elders who

are not coresiding do not have alternative sources of support within their household. At the same time, they do not have adult children in the household who are likely to inherit. Thus, non-coresident elders who own land are more likely to receive other forms of support, and non-coresident elders who enjoy good health are less likely to receive other forms of support.

In general, resources have different influences on transfers. Better health is likely to decrease transfers, while land ownership is expected to increase transfers. Being married, being male, and coresiding with a married son are all three likely to be negatively related to transfers. Money and time transfers are negatively related with coresident status of elders.

The above relationships are summarized as follows.

H1: Parents who have good health are less likely to receive all three metrics of transfers compared to parents who suffer from poor health.

H2: Elders who own land are more likely to receive transfers compared to elders who do not.

H3: Women are more likely than men to receive transfers of space, money and time.

H4: Elders who have lost their spouses are more likely to receive all three forms of support compared to elders who are still married.

H5: Widowed women who own land are more likely to get all three types of support.

H6: Widowed women who are in good health are less likely to get all three types of support.

H7: Non-coresident elders who own land are more likely to get money and time transfers.

H8: Non-coresident elders who suffer from poor health are more likely to receive money and time transfers than healthy non-coresident elders.

What is the relationship between coresidence, money and time transfers?

The literature shows that in the transfers of money and time, children's ability to make these transfers is significant. The two types of transfers have different requirements. For example, in the transfer of time proximity between parent and child is a crucial factor. The closer the distance between them, the more likely they are to see each other regularly. For money transfers, distance does not matter as much. Children who live farther away can still send money to their parents. Thus, in Thailand, Knodel et al. found that children who lived further away tended to send money, while those who lived close by provided material support (1996).

The life course stage and economic resources of children are likely to operate in different ways as well. As children get older, and have families of their own, there are competing demands on their economic resources from their partners and children. Thus, they are less likely to be able to send money to their parents. However, having their own children might mean that their interactions with their parents might increase. Both higher education and better ranked occupations suggest that children are more able to provide financial support for their parents. However, certain highly ranked occupations would make it less likely that they would have the time to see their parents on a regular basis, or be able to provide informal care when it is needed. Thus, these factors suggest that

children's resources influence the type of transfer they make to their older parent. These relationships are summarized as follows –

H9: Adult children who are older are less likely than non-coresident adult children who are younger to provide financial support and more likely to provide time support.

H10: Adult children who have higher education levels are more likely than children who have lower levels of education to transfer money and less likely to transfer time.

H11: Adult children who have better paying occupations are more likely to than children who do not to transfer money and less likely to transfer time.

The expected direction of the relationship between each resource and each metric of transfer is presented in Table 4.1.

Table 4.1 Summary of expected directions of relationships between elder and child resource variables and types of support for elders

<u>Elders' resources</u>	Coresidence	Money	Time	Multiple transfers
<u>Elders' characteristics</u>				
Health	-	-	-	-
Land	+	+	+	+
Men	-	-	-	-
Marriage	-	-	-	-
Coresidence	NA	-	-	-
Married Men				
Health	-	-	-	-
Land	+	+	+	+
Unmarried men				
Health	-	-	-	-
Land	+	+	+	+
Married women				
Health	-	-	-	-
Land	+	+	+	+
Widows				
Health	-	-	-	-
Land	+	+	+	+
Coresident elders				
Health	NA	-	-	-
Land	NA	+	+	+
Non-coresident elders				
Health	NA	-	-	-
Land	NA	+	+	+
<u>Children's characteristics</u>				
Life course stage (1 to 20 years)	+	+	-	?
Education (No education)	+	+	-	?
Occupation (No occupation)	+	+	-	?
Proximity (In same bari)	NA	+	-	?

CHAPTER 5: DATA AND METHODS

In this chapter, I describe the data, measures, and estimation techniques used to test the hypotheses advanced in the previous chapter. In the first section I discuss the data used in this study. In section II, I develop the definitions and measures of variables used in the analysis and present basic descriptive statistics of the independent variables. Finally, I present the methods I employ to test my hypotheses, and discuss the methodological problems encountered in this study and their resolution.

Data

This analysis uses data from Matlab, Bangladesh. Matlab is a rural region where there is an ongoing Demographic Surveillance System under the aegis of the Rand Corporation and the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B). The Matlab Health and Socio-Economic Survey (MHSS) was fielded in 1996. The MHSS consists of four distinct surveys with separate samples. The four components are (1) the main survey with data on households and the individuals within, based on a one-third random sample of the total bars in the Matlab Surveillance area, (2) the determinants of natural fertility survey (DNFS), an individual level followup survey of women, originally interviewed about their health and their pregnancy status in the mid-1970s, (3) the outmigrant survey with information on a group of 552 migrants who had left the households of the primary surveillance sample between 1982 and the date of the MHSS, and (4) a community/provider survey of the community infrastructure and services in the constituent villages of the primary sample respondents. The MHSS contains detailed information on consumption and expenditures of each respondent household, and employment, borrowing and lending history, income and earnings,

remittances and transfers, demographic characteristics, health care, social networks, and reproductive health for each individual selected from the respondent households.

The MHSS data are well suited for the study of aging in rural Bangladesh. One of the main aims of the MHSS was to address issues of interest to Bangladeshi adults and their elderly relatives in rural areas. To gather as much information as possible on important socio-economic and health aspects of the life of the elderly, all respondents aged 50 years and older in the randomly selected bari were picked. Also, for all randomly selected respondents, parents who were living in the same household or bari are also included in the survey.

Of particular relevance to this study, the Main Survey with questions pertaining to household and individual characteristics includes questions on material and time transfers between individuals and their extended kin allowing us to analyze the intergenerational transfers across households in Matlab. Another major strength of the data is that it includes information on all the elder's children, those living in the same household as the individual respondent, as well as those living in other households. The degree of detail, however, differs between the two sets of children. For the former, information is collected within the household roster, while the latter has a whole section of the survey devoted to them.

Besides the fact that the information on both sets of children is not identical, certain crucial details, from the perspective of this study, are not included for the in-house children. For example, a major variable that is used in the analysis is land ownership. While this information is collected at the individual respondent level for each of his/her non-resident children, the information on children living within the household is collected

at the household level. Thus, information on the land owned by each child within the household is not available.

A more serious weakness of the data, for the purpose of analyzing intergenerational transfers, is that information on within-household transfers of money and time has not been collected in the methodical way that has been for kin outside the household. As mentioned in an earlier chapter, the three common currencies of intergenerational support are space (coresidence), money and time (informal support). These three currencies are valuable means of supplementing the elder's own income in situations where formal means of support are absent. Living arrangements are important in determining an older person's well-being because of the pooled household resources that are potentially available for an elder co-residing with his/her child or sibling. Given that not all elderly live with their children or other kin, and that those who do might have other children or close kin, the flow of transfers across households is another form of economic support that requires due attention. An ideal analysis would include all three currencies of transfer, within and across households, using longitudinal data. Each child is a potential donor and receiver of support. However, the MHSS does not collect data on the money and time spent by children within the household in caring for elder parents. It only does so for children that live in separate households.

Accordingly, the analysis of transfers to older parents has been done in two stages. The first stage focuses on support from within household children or coresidence between elders and their children. The second stage focuses on support from children outside the household or more particularly, the transfers of money and time. This strategy will be explained in the following section.

Analytic strategy

The MHSS contains information at the individual level on 4,364 households in 2,687 bari. Within each bari up to two households were selected, and within each household, individuals were selected. The first pick within each bari was a randomly selected household (denoted as status=1). In bari that had more than one household, a second household was also selected (denoted as status=2). The second household to be picked was the one that contained the father or mother of the head of the first sample household. If there was only one other household in the bari, it was selected. Failing these conditions, the second household was picked if it contained a son of the head of the first household, or a brother, in that order. If none of these conditions were met, the second pick was a random one.

For each individual respondent, there is information at the household level – i.e., household roster, household characteristics, consumption patterns, assets owned by household – as well as at the individual level. The latter includes information on education, work, assets, unions, transfers, social networks and non-resident kin.

This study will focus on support given to elder Bangladeshis by their children. All three currencies of support - space, money and time - will be examined in turn. Since the transfer of space (coresidence) is the type of support that is most commonly found in Asian societies, its analysis will form the first part of the study. This also makes sense because coresidence encompasses the other two forms of support. Children who live at home are likely to be the primary providers of informal care to their parents.

Therefore, the first section will focus solely on the sharing of space between elder parents and their children. The analysis of intergenerational transfers can be conducted

from the perspective of the elder or from the perspective of the child. This analysis will use the elder respondent as the unit of observation. Since the focus of the analysis is on the role that elder resources play in triggering transfers from children, the perspective of the elder is the more salient one here.

For the purpose of this study, coresidence is defined as the sharing of space between an elder and his/her married son. The pattern of household formation in Bangladesh, described in an earlier section, suggests that children are likely to remain in their parent's households till they get married and form households of their own, or in the case of daughters, join that of their husband's. The normative pattern in Bangladesh is for daughters to move to the household of their husbands, whereas, sons live with or near their parents. At some point, at or after marriage, they form separate households, usually in the same compound as their parents. If married sons are sharing a home with elderly parents it is much more likely to be a permanent arrangement, and to reflect support for elderly parents, than if unmarried adult sons share space with their elderly parents¹⁰. An unmarried adult son's stay is much more temporary than a married adult son's stay as the latter is likely to get married and form a separate household of his own. Since this study is aimed at analyzing the determinants of coresidence as a measure of support for parents as they age, I define coresidence as the sharing of space between parents and a married son. Bivariate and multivariate analyses will be conducted on the sample of elders aged 50 and over who have at least one married son with whom they have the potential to coreside.

¹⁰ In the process of household formation, there might be a few years after marriage during which a married son who intends to form a separate household, remains in his parent's household temporarily. Controlling for children's life course stage might help in this case.

After establishing the determinants of coresidence, from the perspective of the elder, the determinants of money and time transfers made by non-resident children to their parents will be analyzed separately. The first stage focuses on the household that the elder lives in. The second part of the analysis will focus on inter-household transfers. The analysis of money and time transfers is restricted to elder parents with non-resident children because of data limitations. There is no methodical collection of information on within-household transfers of money and time to parents in the MHSS. On the other hand, the non-resident kin section includes detailed information on transfers to and from parents, as well as on the economic and demographic characteristics of each kin.

Money and time transfers from non-resident children, will each be analyzed from the perspective of the elder. The aim of the dissertation is to understand the role that elders' characteristics play in their receipt of support from their children. Hence, this section will be devoted to the bivariate and multivariate analysis of the relationships between elder's resources, and money and time transfers from non-resident children.

Samples

Most studies on aging in developed countries focus on the post-retirement ages, that is 65 years and over. However, research on elders in developing countries often include younger age groups in their samples suggesting that in low-income environments, early aging might be taking place. Qualitative evidence from Sri Lanka shows women aged 50 and over, and men aged 55 and over felt that they had already made the transition into old age (Uhlenberg, 1996). Further, life expectancies are much lower in these countries. In Bangladesh, life expectancy at birth is 59 years for men and women.

Accordingly, the sample that will be used in this study will include men and women aged 50 years and over.

This study relies on the main survey which has information on 4,364 households located in 2,687 baris (or residential compounds). These are the households which are of status 1 or 2 within the bari. Further, individual respondents who are over 50 years of age but have parents in the respondent group are dropped from the analysis since their parents are counted in the sample. Thus, to start with there are 1705 men and 1649 women aged 50 or over in the households of interest. In order to maximize the number of older persons represented the sample for this study includes men and women who are married to each other, rather than randomly selecting a person from each household¹¹.

While there were 3354 individuals in this age group in the original data, the sample for the study of living arrangements will be restricted to those elders with at least one married son. This brings the total sample to 2462, with 1373 women and 1073 men. This is about 73% of the original sample of elders in the MHSS.

The second part of the study involves transfers from non-resident children only. The sample for this section of the analysis is larger than the previous one, and includes all those elder respondents who have at least one non-resident child who is 21 years of age or older. The second sample consists of 2969 elders, of whom 1398 are men and 1571 are women.

Dependent variables

Coresidence

In order to measure coresidence between elders and their children, I create a categorical dependent variable that has two discrete outcomes: (1) living with at least one married son and (2) not living with a married son. The decision to use married son rather than adult son is based on the normative patterns in Bangladesh, wherein, most unmarried sons remain in the households of their parents, until they marry and form independent households. The information for this variable was culled from the household file which contains information on all the members in the same household as that of individual respondents.

Financial transfers from non-coresident children

The variable measuring financial transfers is a dichotomous transfer variable gauging whether the respondent received a transfer or not. This will be coded from the question asking respondents, at the individual level, whether they received help from their non-resident child in the form of goods and services, and whether they provided help to the same kin. The timeframe for the transfer is the year prior to the survey. That is, respondents were asked if they received help in the previous year from each child. This variable is coded as one if the response is that they received any help, and as a zero if they did not.

There is a second question in the survey that attempts to measure the monetary value of the transfer. Here, the respondent is asked what the value of the goods and services that were transferred is. This measure, of the extent of financial support given to elders,

¹¹ To adjust for the bias introduced by including observations that are not independent of each other, the analysis will be corrected for non-independence within households using the cluster command in *STATA*.

has been left out of the current analysis since there is not enough variation in the amount of financial support received.

Time transfers from non-resident children

The variable measuring time transfers from non-resident children to elder parent is a dichotomous variable with 2 discrete outcomes: (1) daily or weekly meetings with any child (2) less frequent meetings with any child. This will be coded from the question asking respondents, at the individual level, how often they met each of their non-resident children in the previous year, whether it was daily, weekly, monthly, annually or not at all. Splitting the categories in this way will capture the regularity of the interactions between elders and their adult children. The more frequent the number of meetings between parents and children, the more informal support the parent is likely to be receiving. Meeting on a weekly basis was included, because, children who live further away are unable to see their parents on a daily basis even if they want to.

Combination transfer variable

The fourth dependent variable is a multi-category ordered one which measures the number of transfers given to parents by their non-resident children. It is coded from the two questions referring to the receipt of financial and time transfers and has three discrete outcomes: 1) the elder parent receives neither money or weekly visits from any non-resident child 2) receives at least one transfer, either time or weekly visits and 3) receives both money and weekly visits. It is assumed that the second is a preferred outcome to the first, and that the third is the most desired of the three. The transfer of space to elder parents does not depend on the transfer of money or time to them, and thus, is not included here. However, I will examine the effects conditional on coresidence.

This procedure controls for within group bias.

Table 5.1. Definition of key variables used in multivariate analysis of living arrangements

Variable	Definition
<u>Dependent Variables</u>	
Coresidence	Live with at least one married son = 1
Money transfers	Received money in the last year = 1
Time transfers	Visits with non-resident child on a weekly basis = 1
Multiple transfers	No transfers = 0, money or time = 1, money and time = 2
<u>Independent Variables</u>	
<u>Elder Respondent</u>	
Gender	Male or female
Married	Married = 1, Never married/divorced/separated/widowed = 0
Age group	50 to 59 years, 60 to 69 years, 70 to 79 years, 80+ years
Health	At least one of 4 ADL capabilities is difficult or worse=1
Education	No school, upto 9 years of school, secondary certificate, some graduate school or graduate degree.
Primary Occupation	No occupation, household production, agriculture, labour, business, professional.
Land Ownership	No land, homestead land only, upto 2 acres of agricultural land, more than 2 acres of agricultural land
<u>Children</u>	
Age	At least one child in each of the following age categories: 1 to 20 years, 21 to 35 years, 36 to 50 years, 50+ years
Education	At least one child in each of the following categories: No school, upto 9 years of school, secondary certificate, some graduate school or graduate degree
Occupation	At least one child in each of the following categories: No occupation, household production, agriculture, labour, business, professional.
Proximity	At least one child in each of the following categories: In different household same bari, in the same village, in the same district, in another district, in Dhaka, abroad
<u>Children's composition</u>	
Number sons	Total number of coresident and non-resident sons
Number of daughters	Total number of coresident and non-resident daughters
Number of unmarried children	Total number of coresident and non-resident unmarried children

Independent Variables

The key independent variables that will be used in the analyses were selected based on the important associations reported in the theoretical and empirical literature on intergenerational transfers. The independent variables are grouped according to the following categories - need for family support, ability of child to provide support, control variables. A summary of variable definitions is provided in Table 5.1. The average distributions of these variables are presented in Table 5.2. These distributions are based on all elders who have at least one living child. For the study, two smaller samples are used, as per the dependent variable of interest: 1) elders who have at least one married son and 2) elders who have at least one non-coresident child. The distributions of these two samples are presented and discussed in the following chapters.

Measurement of elder resources

Social dimension

One of the most important variables in the analysis is gender. It is a dummy variable coded 1 for men and 0 for women. In general, women are expected to receive more transfers of each currency than men due to higher need on their part.

The life course experiences of both the donor and recipient of transfers are important in determining whether the transfer takes place or not. Marital status is coded as a dummy variable, with married versus divorced/separated/widowed as the two categories. An elder who is widowed is likely to be in more need of support from children. The age of the elder respondent is an important aspect of need. Continuous age is converted into four categories, those in the 50 to 59 age group, those in the 60 to 69 age group, those in the 70 to 79 age group and those over 80 years of age.

Table 5.2 Distribution of older men and women in Matlab, Bangladesh, MHSS 1996

	Total	Men	Women
Marital status			
Currently Married	76.31	95.27	56.80
Divorced/separated	0.17	0.22	0.12
Widowed	23.52	4.51	43.08
Age			
50-59	49.75	43.46	56.22
60-69	34.77	37.89	31.56
70-79	12.27	15.39	9.06
80+	3.21	3.27	3.16
Education			
No education	65.33	48.25	82.90
Some school	29.17	41.13	16.88
Secondary certificate	3.66	7.00	0.23
Graduate or post-graduate	1.83	3.62	0.00
Occupation			
None	34.00	16.10	52.41
Home-based production	24.14	4.81	44.02
Agriculture	23.09	44.68	0.88
Labor	6.67	12.54	0.64
Business	7.70	14.78	0.41
Professional	3.37	6.02	0.65
Land Ownership			
No Land	40.94	5.37	77.73
Homestead Land Only	11.49	16.52	6.29
Upto 2 acres of Land	40.19	64.42	15.14
Over 2 acres of Land	7.37	13.70	0.84
Health Status			
<u>Self-Reported</u>			
Healthy	33.88	39.97	27.63
Fairly healthy	28.45	28.66	28.23
Unhealthy/ sick	37.67	31.37	44.14
<u>Activities of Daily Living</u>			
Difficulty with at least one of 4 ADLs	15.23	9.70	20.92

Table 5.2 continued on next page

Table 5.2 Distribution of older men and women in Matlab, Bangladesh, MHSS 1996, continued

	Total	Men	Women
Children			
Percent with at least one child in each age group			
1-20	18.80	23.80	13.66
21-35	76.16	76.66	75.64
36-50	42.33	26.82	28.28
50+	5.72	2.14	9.41
Highest level of education among all children			
No education	8.82	6.85	10.86
Some school	49.42	53.21	45.52
Secondary certificate	12.99	13.16	12.81
Graduate or post-graduate	24.78	24.69	24.87
Percent with at least one child in following occupations			
None	56.49	53.93	59.13
Home-based production	79.69	74.14	85.40
Agriculture	10.95	7.85	14.14
Labor	7.10	7.15	7.04
Business	24.13	21.93	26.39
Professional	40.01	37.28	42.81
Proximity			
at least one child in the same bari	22.44	17.39	27.65
at least one child in the same village	19.22	17.40	21.09
at least one child in the same district	62.25	57.21	67.44
at least one child in another district	37.38	34.51	40.32
at least one child in Dhaka	32.6	30.90	34.36
at least one child living abroad	20.07	18.72	21.46
Availability			
at least one married son	71.19	61.87	90.79
at least one married daughter	82.05	77.26	96.98
at least one son 21 years of age or older	85.77	81.87	90.82
at least one unmarried child	75.32	85.76	63.75
at least one adult child outside household	89.28	82.53	6.22

Table 5.2 Distribution of older men and women in Matlab, Bangladesh, MHSS 1996, continued

	Total	Men	Women
Transfers			
% coresiding with son aged 21 and over	58.56	54.72	62.51
% coresiding with married son	37.88	31.62	44.32
% receiving financial transfers from non-coresident	39.55	33.92	45.35
% giving financial transfers to non-coresident childre	13.07	14.46	11.63
% receiving daily visits from non-coresident children	27.45	23.40	31.61
% receiving weekly visits from non-coresident childr	8.49	9.32	7.63
% receiving monthly visits from non-coresident child	38.44	38.46	38.42
% receiving less frequent visits from non-coresident	25.62	28.82	22.33
% receiving no transfers from their children	23.36	30.66	15.76
N	3354	1705	1649

Note: Sample are all elders with at least one living child.

Occupations: None includes students, retirees, those unable to work, the unemployed and housewives

Health dimension

A variable that measures capability to perform activities of daily living (ADL) of the respondent will be used to control for physical need on the part of the elder.

Respondents are asked whether they have difficulty with any of four activities of daily living – (a) bathing without help, (b) the capability of going to the toilet without help, (c) dressing oneself without help, (d) getting up/down from/ to bed without help. It is expected that less physically able respondents are more likely to need transfers, as health is likely to be related to the ability to be economically productive. This variable measures extreme frailty. There is a second variable which measures health, that is, self-reported health. There are three values for this variable: self-reported health is good, self-reported health is fair, self-reported health is bad. However, the variable measuring extreme frailty is of more interest from the perspective of support for the elderly.

Financial dimension

To measure the financial aspect of an elder's resources, the analysis uses education, occupation and land ownership as indicators of financial ability. The education variable is divided into four categories, and is dummy coded from a variable measuring highest level of educational attainment. The four categories are (1) no education (2) some years of school (ranging from 1 to 9) (3) Primary or Secondary certificate and (4) Graduate or post-graduate degree.

The occupation of the respondent is used as a proxy for earnings, since income is a problematic variable in the developing country setting. Detailed occupations are coded into 6 categories from the question asking the respondent's main occupation in the year of the survey. These are farmer, laborer, business, professional, home production and

other. The first category, farmer, contains those who work on their own land, or on land that they have leased from others. Laborers include agricultural laborers, daily laborers and leader of laborers. Occupations that involve running a particular business (grocery shop or hotel, for example), as well as those that identify themselves with practicing a craft (potter or tailor for e.g.) are clubbed under the group called business. The next group, professionals, includes those in the government and civil service, as well as doctors and engineers. Home production includes those who grow fruit and vegetables, rear small farm animals, produce handicrafts, as well as those who help in husband's work. The last category, which is the reference category, includes housewives, retirees, the unemployed, as well as those who identify themselves as unable to work. See Appendix B for detailed listing of occupation codes.

To measure economic resources of the elder, ownership of land will be used. Access to land is an important factor in rural areas as agriculture is the main industry. There are 4 categories of land ownership used in this study. They are: (1) Own no land, (2) own homestead land only, (3) own up to 2 acres of agriculture land, (4) own more than 2 acres of agriculture land. Own no land will be used as the reference category in the multivariate analysis.

Adult Children's Ability to Provide Support

The age, education, and occupation of adult children will be used to measure the ability of donors to provide support. Since the unit of analysis is the elder, and an elder might have more than one child, summary variables are used to measure children's characteristics. Thus, for age, education and occupation of children, each indicator of children's ability is measured from the perspective of the elder. Variables are coded

according to whether or not the elder has at least one child in each category of each variable. These variables will be discussed in more detail below.

Life course stage

Children's life course stage is expected to influence the ability to provide support for parents. At younger ages, adult children are expected to have fewer competing claims on their resources (for example, from own children), and therefore, more ability to provide support. However, at older ages, they are more likely to have increased financial ability, and therefore, more ability to provide financial support. The indicator for life course stage of a respondent's children uses children's age as a proxy. It has four categories: 1 to 20, 21 to 35, 36 to 50 and 51 and over. If an elder has at least one child in a particular category mentioned above, then the corresponding variable is coded as 1, if not, it is coded as 0. These cut-offs were chosen to measure youth, early married life, mid-life, and later life. Since summary children's variables are being used this variable acts as a proxy for their marital and parental status.

Education and occupation

The variables for adult children's education and occupation have the same categories as that used to measure elder's education and occupation. The education variable has four categories, with no education used as the reference in the analysis. Occupation is coded into six categories, with no occupation as the reference category.

Proximity

The proximity of children is an important aspect of support to elders. I expect that having children who live within close distance will influence the transfers that parents receive. Those who live within close proximity are able to see their parents more

regularly. The indicator is coded from the variable that locates each non-resident child of the elder respondent. This is a summary measure similar to the other variables measuring children's ability, and, each category is coded as one if an elder has at least one child living in a particular location and 0 if this is not the case. This variable has five categories: (1) at least one child in the same bari, but different household, (2) at least one child in the same district, but different bari, (3) at least one child in a different district, (4) at least one child in Dhaka, (5) at least one child abroad.

Availability of children

Child availability determines the resource pool that the family can count on in times of need. Three continuous variables are used to measure the availability of children. These are the number of sons, the number of daughters and the number of unmarried children. Having sons increase the likelihood of receiving material support in old age. Daughters are important providers of informal care for elder parents. Unmarried children are likely to be part of the elder's household, in which case, they are potential providers of informal care. Each of these variables is also used as a control for family structure in the multivariate analysis since the larger the size of the family the more likely an elder is to receive support.

Weights

Individual population weights are used to account for individual and within-household selection as well as to make the sample representative of the rural population of Bangladesh.

Statistical Analysis

The analysis for this study will proceed in the following way. As mentioned previously, the analysis of the determinants of coresidence with a married son forms the first stage of the dissertation. The second stage will focus on transfers of money and time from non-resident children. In each stage, the first part will include extensive bivariate analysis of the dependent variables and important independent variables to identify current patterns in the transfers of space, time and money to older parents from their adult children. These results will be further assessed using logistic regression techniques.

The purpose of the multivariate analyses is to model the determinants of elders' receipt of transfers from their adult children. Of particular interest is the issue of how resources of elders condition the transfer of space, time and money to the elderly. To this end, the logit model will be used to estimate transfers of space, time and money. This model is appropriate in this situation because the first three dependent variables are categorical in nature, with 0 or 1 as the two possible outcomes (Long, 1997). For the analysis of the receipt of multiple transfers, the ordinal logit model will be fitted. Here, the dependent variable is whether the elder received no transfers, one (of two) transfers, or both transfers. Since, the outcomes are multi-categorical and can be ranked, an ordered probit is the most appropriate model to fit to this data. A multinomial logit model cannot be fitted in the estimation of this dependent variable because the assumption of non-independence of choices that is necessary for the use of such a model cannot be met.

The aim of the multivariate analysis is to model the transfer outcome (y) given a set of independent covariates (x). Since the outcome variables are probabilities, and the

covariates can take on any real value, the probabilities have to be transformed so that the range restrictions are removed. To do this, the probabilities are first converted to odds, or the ratio of the probability to its complement. Next, we take the logarithm of the odds to calculate the log-odds, and thereby, remove the bounds. Thus, as the probability varies between 0 and 1, the log odds vary between $-\infty$ and $+\infty$. Thus, the logit model transforms the probability which is restricted (between 0 and 1) so that the transformed probability can be modeled as a linear function of the covariates.

The probability of predicting a successful outcome 1, given the independent variables (x) is as follows:

$$\Pr(y = 1 | x) = \frac{\exp(\alpha + \beta x)}{1 + \exp(\alpha + \beta x)}$$

By converting the probability to its odds, and taking its logarithm, we get its linear form:

$$\ln\left(\frac{\pi_i}{1 - \pi_i}\right) = \alpha + \beta x + \varepsilon$$

The ordinal logit model is based on the same assumptions as above, but now there are more than two outcomes, and log odds will be calculated for the probability of each possible outcome.

Hypotheses 1 to 4, pertaining to research question one are tested using the basic model in each transfer. I then incorporate interaction effects between marital status, gender and living arrangements of the elder, respectively, and variables measuring elders' resources to test for significant differences within various groups in the effect of these factors (hypotheses 5 and 8). Finally, hypotheses 9 to 11 relating to research question 2

are tested by looking at the relationship between children's characteristics and transfers of money and time.

CHAPTER 6: THE EFFECTS OF ELDERS' RESOURCES ON CORESIDENCE WITH A MARRIED SON

In this section, the hypotheses regarding coresidence will be tested using the 1996 MHSS data. Before turning to multivariate analysis, however, it is necessary to get a better understanding of the current patterns of transfers to older parents by looking more closely at their distributions. Here, I present the distribution of the sample under observation according to their economic and socio-demographic characteristics, and the patterns of their living arrangements by important dimensions of resources identified earlier. I, then, present the results of the logit analysis, and discuss them to demonstrate the relationship between elder's resources and coresidence between adult children and their aged parents.

Descriptive Statistics

The importance of analyzing the relationship between different dimensions of resources and the transfers made to parents is immediately apparent by looking at the distribution of older parents across demographic and socio-economic categories of gender and marital status (Table 6.1). Of the group of elders (aged 50 years and over) who have at least one married son, 44% are men and 56% are women. While 93.3% of men who have at least 1 married son are still married, the corresponding figure for women is only 55.4%. That is, almost half the women (45%) are widows while only 7% of the men have lost their spouses. Thus, compared to older men of the same age, a significant proportion of older women have lost their spouses.

Table 6.1: Distribution of all elders with at least one married son by gender and marital status, MHSS 1996

	All men	All women	Married men	Currently unmarried men	Married women	Currently unmarried women
<u>Elder Respondent</u>						
Married	93.29	55.45	-	-	-	-
Age						
50 to 59 years	26.00	51.89	27.48	5.50	65.95	34.39
60 to 69 years	46.54	35.69	47.11	38.74	31.56	40.82
70 to 79 years	22.36	9.83	21.17	38.85	2.29	19.20
80 +	5.10	2.60	4.25	16.91	0.20	5.59
Education						
None	52.85	84.29	52.88	52.40	80.90	88.51
Some school	39.80	15.53	39.68	41.35	18.82	11.43
Secondary certificate	5.11	0.18	5.09	5.33	0.27	0.05
Graduate or post-graduate	2.25	0.00	2.35	0.91	0.00	0.00
Occupation						
None	23.01	54.63	20.50	57.83	46.14	65.21
Home based production	4.62	41.87	4.37	8.14	51.03	30.47
Agriculture	46.39	0.82	47.67	28.60	0.97	0.62
Labour	10.72	0.61	11.18	4.29	0.37	0.90
Business	11.67	0.51	12.43	1.14	0.74	0.22
Professional	2.75	0.57	2.94	0.00	0.46	0.71
Health						
Activities of daily living						
Difficulty with at least one ADL	13.01	22.25	12.16	24.96	14.97	31.30
Self-reported poor health						
Unhealthy/ sick	36.10	43.22	34.90	52.70	37.50	50.35
Land Ownership						
No Land	4.65	78.30	3.62	19.01	87.03	67.44
Homestead Land Only	17.88	5.96	18.06	15.31	2.86	9.82
Agriculture Land (upto 2 acres)	63.71	14.15	64.86	47.78	9.49	19.96
Agriculture Land (over 2 acres)	13.76	0.97	13.46	17.90	0.53	1.51

Table continued on next page

Table 6.1: Distribution of elders according to important characteristics, MHSS 1996, continued

Children's Age						
1 to 20	22.70	12.78	23.68	9.09	16.99	7.54
21 to 35	84.72	76.38	86.02	66.77	85.88	64.56
36 to 50	41.06	65.28	39.46	63.28	57.84	74.55
50+	3.20	10.19	2.23	16.63	3.64	18.34
Children's Education						
None	8.07	11.41	7.50	15.89	8.20	15.41
Some school	50.10	44.55	50.67	42.23	43.94	45.31
Secondary certificate	12.36	13.80	12.48	10.79	15.09	12.20
Graduate or post-graduate	26.63	25.11	26.89	22.96	29.02	20.26
Children's Occupation						
None	61.74	58.79	62.09	56.86	58.95	58.60
Home based production	83.49	85.32	84.07	75.51	86.10	84.34
Agriculture	11.76	17.32	10.72	26.25	13.84	21.65
Labour	10.92	8.52	10.20	20.95	7.89	9.31
Business	30.28	31.30	30.25	30.77	32.85	29.38
Professional	45.85	46.03	46.42	37.90	48.70	42.71
Children's Proximity and composition						
At least one child in bari	26.81	32.59	26.24	34.83	29.53	36.39
At least one child in village	22.19	21.47	21.43	32.87	21.63	21.26
At least one child in the district	66.10	69.50	65.67	72.09	68.15	71.17
At least one child in Dhaka	37.54	35.52	38.46	24.74	39.70	30.31
At least one child abroad	22.55	22.35	22.44	24.09	23.95	20.37
Number of sons	3.20	2.94	3.23	2.84	3.18	2.64
Number of daughters	2.57	2.45	2.59	2.28	2.60	2.27
Number of unmarried children	2.11	1.28	2.19	1.03	1.72	7.37
<u>Dependent variables</u>						
Living with married son	51.22	54.88	50.04	67.59	50.29	60.60
Money from non-resident children	43.05	47.43	43.27	40.08	45.61	49.70
Weekly visits with non-resident children	43.27	43.78	42.08	59.81	43.67	43.91
N	1081	1381	998	83	730	651

The distribution of the sample by age shows that there are more men in the older age groups compared to women. There are 27.46% men in the 70+ age group, but only 12.43% women. Not surprisingly, unmarried women and men (mostly widows and widowers) tend to be older than their married counterparts. Approximately 65% of widowed women and 95% of widowed men are older than 59 years of age, whereas the same figures for married women and married men are 35% and 73% respectively¹².

The differences in age among these groups further translate into differences in levels of schooling and occupations since younger cohorts are more likely to have attended at least some years of school compared to the older cohorts. On average, there are fewer men compared to women who have no education (53% to 84%), just as fewer men (23%) report that they have no occupation than women (54.6%). A little over 40% of the women do report that they are involved in home-production. More currently married women have at least some years of education (19%) and some occupation (54%) compared to widows (12% and 35%). These factors signify a higher degree of need for support from children for the widowed women and men as a group. Besides which, they no longer have a spouse to provide material and physical support.

This fact is further borne out by the higher degree of health-based needs reported by those who have lost their spouses. Both women and men who belong to this group are twice as likely to report having difficulty with at least one activity of daily living (ADL) compared to married women and men, respectively. Similarly, when looking at the other measure of health, unmarried men and women are more likely to report that they are unhealthy or sick compared to their married counterparts.

¹² The sample of men who have lost their spouses is small (87), and, hence, their averages are likely to be skewed toward the extremes.

In the ownership of financial assets, i.e., land, on average, women are much less likely to own land than men. Less than 5% of men, but 78% of women do not own any land. Eighty seven percent of married women and sixty seven percent of widows do not own land, but about 33% of widowed women and 13% of married women do. Widows are likely to have gained ownership over their land at the time of their spouses' death. On the other hand, among men, those who are married are more likely to own land compared to those who are currently unmarried. About 20% of men who have lost their spouses no longer own land, whereas less than 4% of married men are in this situation. Among the three categories of land ownership, each group is more likely to own at least some agriculture land, rather than homestead land only or more than 2 acres of agriculture land.

The second half of Table 6.1 contains summary information for the adult children of the elder respondents. On average, only about 10% of the elders in the study have children with no education. The remaining 90% have children with at least some years of school. In fact, more than a quarter of the sample has at least one child who has graduate or post-graduate levels of education. The distribution of children's education levels by gender and marital status of the elder reflect the age composition of respondent group. The men and women in the group who have lost their spouses are more likely than their still married counterparts to have older children with the lower levels of education, reflecting the more limited education opportunities for their cohort.

About forty percent of elders have children who have no occupation (students, unemployed, housewives). A significant proportion has at least one child who is involved in home-based production. Elders are least likely to have a child in occupations

that are involved with labor. Only 11% of men and 9% of women have at least one child in this category. About a third in each group has at least one child in a business occupation, while about 45% of each group has at least one child who is a professional.

The average number of sons that older men and women have hover around 3, and further, each group has an average of 2.5 daughters. Older women report fewer unmarried children than older men, because, on average, women have children at younger ages than men. With regard to proximity, elders are most likely to have a child in the same district, but not in the same bari or village. About 66% of men and 69% of women have at least one child in this category. They are each least likely to have a child abroad, but event that category has 22% of each group.

The distribution of elders according to their socio-economic characteristics provides a clearer picture of the situation with regard to needs and resources_of elders in Matlab. One significant variation between men and women is that majority of the men are still married, whereas about 45% of the women have lost their spouses. Where assets are concerned, elders still retain ownership of land, but men are much more likely to own land than women. On comparing married and widowed women, the distributions show that widows are more likely to report ownership of land than married women, but their health needs are higher than that of married women.

Coresidence with a married son

Of the group of 50 plus men and women who have at least 1 married son, slightly over 50% share living space with a married son¹³. The distributions by gender and marital status of the elder tell us that married men and women are less likely to live with

a married son compared to those elders who have lost a spouse. Since all the elders in the sample have at least one married son, this variation reflects the increased needs of elders who no longer have a spouse to support them on a daily basis.

It is clear that the sharing of space between elders and married sons varies by gender and marital status of the elder. While the distributions by elders' characteristics indicated varying levels of need among married and unmarried women and men, the relationship between each dimension of need and the support provided by adult children is shown in the following bivariate results.

Table 6.2 allows us to compare the coresidence patterns of married and unmarried, men and women according to their age, health and land ownership categories. We can see that widowed men and women are more likely than married men and women, respectively, to live with a married son. Sixty seven percent of men who have lost their spouses, and sixty percent of widows live with a married son, while only half of married men and married women do so. Some of this difference could be due to the differences in the ages of married and widowed persons, since the loss of a spouse is more likely to be experienced as one grows older.

Among men, the patterns of coresidence are similar for all the age groups. Older men are more likely to live with a married son than younger men. However, for women, those who are under 80 years of age are more likely to coreside with a married son compared to those in the older ages. For widows, the switch takes place for the earlier cohort. That is, widows under age 70 are more likely to coreside compared to widows

¹³ This figure is higher than that presented in the previous section due to the fact that the sample under analysis here is restricted to those elders who have at least one married son, whereas the previous figure was based on a sample of all elders who have at least one living child.

aged over 70 years. This is an unexpected finding because older women, widows in particular, are more likely to be in need of support from their children.

Women in each category of health (needy or not, difficulty with ADL or self-reported health) are more likely than men to coreside with a married son. However, women who report physical need are not very different in their coresidence status than women who report that they are physically able. The same is true of men. That is, while women are more likely to coreside than men within each category of health, and across the different health measures, there seems to be no variation by health status for each gender. For both men and women, those who report poor health are as likely to coreside as those who report that they are healthy. However for men without spouses, those who report difficulty with ADLs are more likely to coreside than their counterparts who report no difficulty.

With regard to land, both men and women who own homestead land are less likely than those of their gender in the other categories of land ownership to coreside with a married son. One difference between men and women is that men who own no land are more likely to coreside than men in all the other categories, whereas, women who own land and women who do not are similar in their patterns of coresidence.

To summarize, the results of the bivariate analysis provide initial support for some of the relationships being tested in this dissertation. Being a woman and being currently unmarried are positively associated with living with a married son. Lack of land resources is positively associated with this support variable for widowed women and for all men. Those who own homestead land are less likely to coreside with married son. However, difficulty with ADLs and reporting poor health does not seem to be associated

with coresidence in any discernable way. It remains to be seen how each of these characteristics influence the transfers from children net of other factors. I will now discuss the results of multivariate analysis, and in particular, the influence of needs on the likelihood of living with a married son.

Multivariate analysis

Logit results

In this section, I discuss the results of the logit analysis modeling the relationship between elder needs and children's ability to provide support on the likelihood of parents living with a married son. Table 6.3 presents the odds ratios and p-values for logit models predicting the likelihood of elders coresiding with a married son. The first set of results is for the whole sample of elders, the next three are for married men, married women and widowed women, respectively. Since there are only 87 men in the currently unmarried category, I have left out this group when running the regressions separately for each gender and marital status subgroup.

I first turn to examining the relationship between coresidence and elders' characteristics (their needs and abilities) to gauge whether parent's need influences the support they receive from children, given the ability of children to provide help. I discuss the full model first, before turning to the results by gender and marital status.

Contrary to the results found in the bivariate analysis, older men in Matlab are almost twice as likely as older women to coreside with a married son. On the other hand, in line with the bivariate results, elders who no longer have a spouse are 47% more likely to coreside than those elders who are currently married. Both these relationships are significant (at the .001 level).

Table 6.2: Percent of elders (50+) who are living with a married son according to various dimensions of need
Matlab, Bangladesh 1996

	All elders		Men		Women	
	Men	Women	Married	Currently unmarried	Married	Currently unmarried
Marital status						
<i>Not currently married</i>	67.59	60.60	-	-	-	-
Married	50.04	50.29	-	-	-	-
Age						
50 to 59 years	53.35	54.82	53.64	33.21	51.37	63.06
60 to 69 years	49.60	56.41	48.28	72.35	47.20	65.27
70 to 79 years	48.81	52.27	46.46	66.65	63.87	50.55
80 +	65.72	44.99	64.48	70.02	24.79	45.90
Health						
Activities of Daily Living						
<i>No difficulty with ADLs</i>	50.63	54.85	49.95	61.71	50.28	61.89
At least 1 of 4 ADLs is difficult or worse	55.18	54.99	50.74	85.25	50.33	57.77
Self-Reported health						
<i>Healthy or fairly healthy</i>	51.78	56.04	50.72	72.05	54.19	58.93
Unhealthy	50.22	53.36	48.77	63.58	43.79	62.25
Land Ownership						
<i>No Land</i>	67.93	56.87	63.44	79.79	50.49	67.13
Homestead Land Only	48.41	27.21	48.87	40.74	20.53	29.64
Agriculture Land (upto 2 acres)	50.85	54.49	49.40	78.17	58.85	51.91
Agriculture Land (over 2 acres)	50.93	51.86	51.09	49.32	16.51	67.19
%	51.22	54.88	50.04	67.59	50.29	60.60
N	1081	1381	998	87	730	651

Note: Sample includes all respondents who have at least one married son

Table 6.3: Odds ratios of model predicting elders' coresidence with a married son
 Matlab, Bangladesh, MHSS 1996

	All		Married Men		Married Women		Widowed women	
	OR	P> z	OR	P> z	OR	P> z	OR	P> z
<u>Elder Respondent</u>								
Gender								
Male	1.932	0.001	-	-	-	-	-	-
Female								
Marital Status								
Married	0.465	0.000	-	-	-	-	-	-
Divorced/Separated/Widowed								
Age								
50 to 59 years								
60 to 69 years	0.918	0.471	1.100	0.621	1.020	0.932	0.8624	0.579
70 to 79 years	0.666	0.041	1.029	0.916	0.489	0.343	0.5076	0.053
80 +	0.616	0.118	1.202	0.688	0.141	0.048	0.4781	0.131
Education								
None								
Some school	1.031	0.807	0.962	0.822	1.031	0.900	1.7471	0.064
Secondary certificate	0.752	0.393	0.779	0.490	2.909	0.399	-	-
Graduate or post-graduate	0.443	0.052	0.390	0.065	-	-	-	-
Occupation								
None								
Home based production	0.678	0.003	0.487	0.063	0.863	0.438	0.551	0.006
Agriculture	0.661	0.027	0.770	0.261	1.143	0.922	1.636	0.617
Labour	0.440	0.001	0.461	0.013	0.435	0.256	-	-
Business	1.047	0.856	1.070	0.822	4.861	0.119	-	-
Professional	0.796	0.484	0.877	0.748	0.864	0.923	0.736	0.748
Health								
Difficulty with at least one ADL	0.938	0.638	0.980	0.936	0.823	0.458	0.949	0.809
Land Ownership								
No Land								
Homestead Land Only	0.529	0.001	0.755	0.551	0.394	0.063	0.2176	0.000
Agriculture Land (upto 2 acres)	0.722	0.029	0.677	0.391	1.363	0.306	0.6903	0.096
Agriculture Land (over 2 acres)	0.696	0.135	0.617	0.336	0.538	0.530	1.4158	0.639

Table 6.3 continues on next page

Table 6.3: Odds ratios of model predicting elders' coresidence with a married son
Matlab, Bangladesh, MHSS 1996, continued

	All		Married Men		Married Women		Widowed women	
<u>Children's ability</u>								
Age								
1 to 20 years								
21 to 35 years	0.613	0.003	0.406	0.002	0.396	0.004	0.778	0.355
36 to 50 years	0.586	0.000	0.467	0.000	0.594	0.017	0.549	0.027
50+	0.500	0.005	0.694	0.502	0.643	0.437	0.478	0.023
Education								
None								
Some school	1.623	0.004	1.367	0.259	2.041	0.016	1.579	0.064
Secondary certificate	1.672	0.020	1.624	0.147	2.142	0.037	1.574	0.223
Graduate or post-graduate	1.576	0.032	1.386	0.335	2.053	0.041	1.359	0.376
Occupation								
None								
Home based production	0.733	0.108	0.633	0.104	0.842	0.627	1.312	0.433
Agriculture	0.298	0.000	0.324	0.000	0.252	0.000	0.366	0.000
Labour	0.219	0.000	0.168	0.000	0.101	0.000	0.489	0.057
Business	0.244	0.000	0.183	0.000	0.252	0.000	0.380	0.000
Professional	0.303	0.000	0.282	0.000	0.249	0.000	0.413	0.000
Proximity								
<i>In same bari</i>								
In same village	0.878	0.364	1.097	0.644	0.891	0.616	0.741	0.213
In same district	0.951	0.734	0.944	0.782	1.173	0.536	0.802	0.381
In another district	0.598	0.000	0.650	0.014	0.641	0.027	0.554	0.007
Dhaka	0.453	0.000	0.566	0.003	0.381	0.000	0.408	0.000
Abroad	0.583	0.001	0.549	0.007	0.628	0.045	0.499	0.014
<u>Composition</u>								
Number of sons	1.962	0.000	1.927	0.000	2.109	0.000	1.885	0.000
Number of daughters	1.241	0.000	1.197	0.017	1.208	0.026	1.266	0.026
Number of unmarried children	0.561	0.000	0.573	0.000	0.565	0.000	0.533	0.000
Number of observations	2460		997		729		651	
Pseudo R2	0.2172		0.239		0.222		0.1996	

Note: Sample consists of respondents aged 50 or over who have at least one married son

OR: Odds ratios

The model based on the pooled sample may obscure important differences by both gender and marital status. Examining the results separately for married men, married women and unmarried women will further clarify the relationships between elder need, resources and their likelihood of coresiding. Table 6.3 also shows models for these subgroups. I will discuss each group separately.

Financial dimension of elder resources

Education, occupation and land ownership are included in the model to measure the effect of economic resources on the likelihood of elders coresiding with a married son. The first two variables measure the ability of the elder to be financially independent. Land ownership is an important factor in the economic well-being of individuals in rural Bangladesh.

The results of the regression show that education, occupation and land provide some evidence of the hypotheses posited earlier. Elders with the most education (graduates or post-graduates) are less likely than those elders who have no education to coreside with a married son. This relationship is significant at the .05 level. The relationships between primary and secondary education, respectively, and coresidence are not significant.

Married men who have a graduate degree are 40% less likely than married men who have no education to live with a married son. Among women, there are only three categories of education because few elderly women in rural areas have high levels of education. This is further reduced to two for women who have lost a spouse. Here, the results are opposite that of men. Widows who have at least some years of secondary school are more likely to coreside with a married son than widows who have no

education. On the other hand, widows who are involved in home-based production are less likely than those who have no occupation to coreside.

Net of age and other variables, elders who work their own land (agriculturists), elders who hire their labor out to other agriculturists, and elders who are employed in home production are, each, significantly less likely to live with a married son compared to those elders who are not currently working (retirees, housewives, those unable to work, the unemployed). The relationship between coresidence and a business or professional occupation, respectively, is insignificant. Married men who are involved in agricultural labor or in home-based production are less likely to live with a married son, compared to those who have no occupation currently. Occupation is not associated with coresidence for married women, but for widows, those who are involved in home production are significantly less likely to coreside with a married son.

In the pooled sample, the ownership of land is a significant predictor of the likelihood of elders coresiding with a married son. However, the relationship is opposite to the one I hypothesized. Compared to those who do not own any land those elders who own homestead land are less likely to coreside with a married son. This relationship is very strong, and is significant at the .001 level. Similarly, those elders who own up to 2 acres of land are significantly less likely to coreside than those elders who own no land (at the .05 level). This negative relationship is most pronounced for women, especially widows. The ownership of homestead land reduces the likelihood of coresidence for married women by 40% compared to their counterparts who own no land. Land ownership is a significant variable in predicting coresidence for women who have lost their spouse. Widows who own homestead land and widows who own up to two acres of

land are each significantly less likely to live with a married son than widows own no land.

Health dimension of elder resources

Compared to those aged 50 to 59 years of age, all elders in the older age groups are less likely to coreside with a married son, with a monotonic downward pattern as age increases. However, only one age category shows a significant relationship with coresidence in the full model. At the .05 level of significance, those elders who are between 70 and 79 years of age are significantly less likely to coreside with a married son than elders who are between 50 and 59 years of age. When looking at the separate groups, it is clear that age is not significantly associated with coresidence for married men, but age is negatively associated with women's likelihood of coresiding with a married son. Married women who are over 80 years of age are significantly less likely than married women who are aged between 50 and 59 years to coreside, and widows who are between 60 to 69 are less likely than widows in the younger ages to coreside.

The variable measuring physical ability of the elder is not a significant predictor of coresidence with a married son. Only results for the model using functional limitation are presented. Regressions results which use the self-rated health measure are not presented, but they show the same results for coresidence for each group. There is not enough evidence to support my hypothesis that poor physical health increases the likelihood that an elder will live with a married son. Coresidence is normative, and both elders with functional limitations and those without are equally likely to coreside with a married son.

In sum, being male and having no spouse increase the likelihood of coresiding with a married son. Based on the indicators of health used in this study, the health status of elders does not seem to be related to coresidence. The decision to coreside for married men seems to be determined by their education and occupation, whereas, their health and land resources appear not to have an influence on their living arrangements. Few of their own resources influence the coresidence of married women, and surprisingly, ownership of land is one of them. For widowed women, own characteristics play a bigger role in predicting coresidence than they do for married women.

I will now discuss the multivariate relationships between elders' coresidence with a married son and the summary characteristics of their children. These results are presented in the continuation of Table 6.3.

Composition of children

The number of sons, daughters and unmarried children, each, significantly affect the likelihood of elders in each group, pooled, married men and women, widows, living with their married sons. Not surprisingly, the more sons an elder has the more likely he/she is to live with a married son because the more potential support providers there are for the elder to live with. An unexpected result is that the number of daughters an elder has does influence the likelihood of the elder living with a married son. However, this could be a reflection of high fertility families. The number of unmarried children each type of elder has is negatively associated with the likelihood of the elder coresiding. This makes sense because if there is an unmarried child at home this child can help take care of most of the daily needs that elders have.

Children's ability

The results provide evidence that children's ability to provide support is an important aspect of the transfer process. The literature identifies children's life course stage, education level and occupation as important determinants of the sharing of space between elders and their adult children. The results of the multivariate analysis using the MHSS data show that life course stage of children as measured by their age group is strongly related to coresidence. In the pooled model, parents who have children in each of the older age categories are 50 to 60% less likely to be coresiding compared to parents who have children in the below 20 age group. Married men and women who have children aged 21 to 50 years are less likely to coreside than their counterparts who have children in the lower age groups. For widows, those who have children in the older age groups (36 to 50+) are less likely to coreside compared to widows who have young children.

Holding all other variables constant, parents who have at least one child who has received an education are significantly more likely to coreside with a married son compared to parents whose children all have no education. This relationship is consistent for all the categories of children's education: at least some years of primary school, a secondary certificate, and a graduate or post-graduate degree. Parents with children in each category of education are about 150% more likely to coreside than parents with children who have no education at all. However, this association is significant only for married women. There is no association between children's education and coresidence for married men. Widows who have a child with at least some schooling are more likely to coreside than widows who have children with no education.

When examining the effect of children's financial ability using their occupation as a measure and controlling for their proximity, it appears that parents of children who are in occupations that are income producing are less likely to coreside compared to parents of children who are not working. Parents of children who are agriculturists, laborers, business persons or professionals are 22 to 30% less likely to coreside in comparison to parents whose children are not working. This is true of all the gender and marital status groups.

The geographical distribution of adult children has a strong association with the coresidence patterns of elders in Matlab. Parents who have children living further away are less likely to coreside than parents who have children living in the bari. This relationship between proximity and coresidence is unexpected. I expected that parents who have children nearby are less likely to need to coreside, and thus, less likely to coreside. However, it appears that having children living within close distance is positively associated with coresidence of parent, and having children live further away is negatively associated with coresidence.

In sum, children's abilities are important predictors of coresidence for elders in Bangladesh. Adults who have older children, who live further away, and who have agricultural, labor, business or professional occupations are all less likely to coreside with married sons. Parents who have children with education are more likely to coreside with a married son.

Summary

The multivariate analysis of the likelihood of elders coresiding with a married son provide evidence for some of the hypothesis I presented earlier, but fail to support some

others. I posited that women would be more likely to coreside than men, but this is not true in Bangladesh. Net of other factors, men are almost twice as likely to coreside as women. However, elders who are no longer married are more likely to coreside compared to elders who are married, suggesting that the loss of a spouse does trigger the transfer of space from adult children, and providing evidence in support of one of my hypotheses.

Health is not significant either in the pooled sample or when the sample is split by gender and marital status. For each of the models predicting coresidence for all elders, married men, currently unmarried men, married women and currently unmarried women, the relationship between the variable measuring extreme physical functionality is not significant in predicting coresidence with a married son. Thus, it would appear that elders who have good health as well as elders who suffer from poor health are equally likely to coreside with a married son. Using these measures of health, there is not enough evidence to support my hypothesis that elders in poor physical condition are more likely to live with their adult children. Some of this might be due to the living arrangements in Bangladesh. The bari system might mask some of these effects.

Land, on the other hand, has a strong association with coresidence, especially for widows. However, it is opposite to the relationship that I expected. In general, elders who own homestead land and up to 2 acres of agriculture land are less likely to coreside with married sons compared to elders who own no land. This relationship backs other research which found that elders with more economic resources were less likely to coreside with their children (for example, Da Vanzo and Chen).

CHAPTER 7: THE EFFECT OF ELDERS' RESOURCES ON MONEY AND TIME TRANSFERS

In this section, the hypotheses relating to the receipt of money and time transfers from non-coresident children will be tested using the 1996 MHSS data. First, the distributions of older parents with at least one adult non-coresident child will be presented according to their gender and marital status in order to compare this sample with the one used for the analysis of coresidence in the previous chapter. Then, I explore the bivariate relationships between various dimensions of elder's resources and their receipt of money and time transfers from non-resident children, respectively. I, then, present the results of the logit analyses of these two types of transfers from non-resident children, as well as that of the ordered logit analysis of the multiple transfer variable, and discuss them to demonstrate the relationship between elders' needs and children's transfers of money and time to older parents. Finally, I present and discuss the results of the ordered logit analyses of the receipt of the combination of money and time transfers by elders in Bangladesh.

Descriptive analysis

In this stage of the analysis the sample is restricted to all elders aged 50 years or more who have at least one adult child not residing in the same household. The sample for the analysis of the receipt of transfers from adult non-resident children includes only those elders who have the potential of receiving a transfer because they have an adult child who is a potential donor. This brings the total sample to 2,969 elders, of whom a little more than half (53%) are women. On comparison with the sample used for the analysis of coresidence, this group is slightly (about 2 percentage points each) younger,

more educated, and healthier than the sample of all elders who have at least one married son (compare with Table 6.1).

Now, the percent of all elders who coreside with a married son drops 17 points for men and 10% for women because the sample has increased by elders who might not have any married sons but do have married adult daughters or adult sons who live away from home. In comparison to the sample used previously, money received from non-coresident children remains at about 43 to 47%, but weekly visits from non-resident children falls by about 3 to 5%.

Bivariate relationships between elder resources and transfers from non-resident children

Bivariate relationships between parent's characteristics and their receipt of money and time transfers from non-resident children are presented in Tables 7.2 and 7.3, respectively. These results are presented separately for coresident and non-coresident elders, since the relationship between the three transfers forms an important aspect of the dissertation. In the following section a comparison is made between coresident and non-coresident men and women in the receipt of financial transfers, and, next, the receipt of time transfers is examined by gender and coresident status.

Table 7.1: Distribution of all elders with at least one adult non-resident child by gender and marital status, MHSS 1996

	All men	All women	Married men	Currently unmarried men	Married women	Currently unmarried women
<u>Elder Respondent</u>						
Married	94.40	57.04	-	-	-	-
Age						
50 to 59 years	35.32	55.52	37.19	3.72	70.07	36.19
60 to 69 years	42.57	32.32	42.69	40.63	27.85	38.25
70 to 79 years	18.16	8.95	16.84	40.42	1.91	18.31
80 +	3.95	3.21	3.28	15.23	0.17	7.25
Education						
None	48.79	82.77	48.91	46.87	78.78	88.07
Some school	41.68	16.99	41.54	44.04	20.84	11.88
Secondary certificate	6.75	0.23	6.66	8.27	0.38	0.05
Graduate or post-graduate	2.78	0.00	2.90	0.82	0.00	0.00
Occupation						
None	18.62	52.53	16.72	50.65	44.18	63.61
Home based production	4.79	44.25	4.64	7.33	53.07	32.53
Agriculture	44.81	0.87	45.33	36.10	1.02	0.69
Labour	11.35	0.53	11.77	4.28	0.30	0.83
Business	14.54	0.43	15.30	1.65	0.61	0.19
Professional	5.06	0.44	5.37	0.00	0.44	0.42
Health						
Activities of daily living						
Difficulty with at least one ADL	10.81	20.75	10.26	20.22	14.09	29.59
Self-reported poor health						
Unhealthy/ sick	33.28	43.50	32.19	51.79	38.27	50.45
Land Ownership						
No Land	4.90	77.72	4.18	16.92	87.52	64.71
Homestead Land Only	16.25	5.98	16.36	14.41	2.50	10.61
Agriculture Land (upto 2 acres)	64.88	14.78	65.89	47.84	9.33	22.00
Agriculture Land (over 2 acres)	13.85	0.86	13.43	20.83	0.43	1.44

Table 7.1: Distribution of elders by gender and marital status, MHSS 1996, continued

<u>Children's summary characteristics</u>						
Age						
1 to 20	23.63	13.37	24.61	6.95	17.56	7.80
21 to 35	92.85	78.64	94.02	73.08	89.10	64.73
36 to 50	32.48	60.55	30.96	58.03	51.49	72.58
50+	2.60	9.77	1.86	14.98	3.01	18.73
Education						
None	7.22	10.48	6.50	19.46	7.56	14.35
Some school	50.55	45.33	51.33	37.49	45.12	45.62
Secondary certificate	13.25	13.04	13.48	9.52	14.78	10.74
Graduate or post-graduate	26.48	25.32	26.52	25.80	29.27	20.08
Occupation						
None	62.37	60.89	62.97	52.24	61.43	60.18
Home based production	85.37	87.79	85.64	80.95	88.05	87.46
Agriculture	9.28	14.68	8.43	23.64	11.44	18.97
Labour	8.54	7.20	7.92	18.87	6.70	7.86
Business	26.27	27.31	26.13	28.75	28.26	26.05
Professional	44.52	44.09	45.05	35.58	45.91	41.67
Proximity						
At least one child in bari	20.95	28.50	20.29	31.99	25.87	31.98
At least one child in village	20.60	21.78	20.04	30.02	21.07	22.71
At least one child in the district	66.02	69.45	65.37	77.04	67.74	71.72
At least one child in another district	40.72	41.51	40.97	36.44	43.42	38.97
At least one child in Dhaka	36.30	35.45	37.04	23.73	39.17	30.51
At least one child abroad	22.31	22.23	22.35	21.70	23.75	20.21
Composition						
Number of sons	2.93	2.69	2.94	2.69	2.92	2.38
Number of daughters	2.73	2.58	2.75	2.37	2.74	2.36
Number of unmarried children	2.49	1.47	2.57	1.15	1.96	0.81
<u>Dependent variables</u>						
Living with married son	33.80	44.21	32.37	57.87	39.29	50.76
Money from non-resident children	40.36	46.55	40.53	37.54	44.07	49.84
Weekly visits with non-resident children	38.21	40.39	37.24	54.49	39.41	41.70
N	1398	1571	1311	87	848	723

Note: Sample consists of all 50 plus respondents with at least one adult non-resident child.

Table 7.2: Percent of all elders (50+) who received money from their adult non-coresident children
Matlab, Bangladesh 1996

	All elders		Coresident elders		Non-coresident elders	
	Men	Women	Men	Women	Men	Women
Marital status						
<i>Not currently married</i>	37.54	49.84	40.74	40.83	33.16	59.13
Married	40.53	44.07	31.43	31.14	44.88	52.44
Age						
50 to 59 years	31.16	44.39	21.68	33.20	33.75	52.05
60 to 69 years	43.33	50.86	30.99	39.57	50.69	62.81
70 to 79 years	47.73	49.78	38.31	37.92	54.81	59.67
80 +	56.78	31.55	54.24	28.36	61.22	32.92
Health						
Activities of Daily Living						
<i>No difficulty with ADLs</i>	39.11	45.79	30.86	32.64	43.06	55.81
At least 1 of 4 ADLs is difficult or worse	50.68	49.45	40.93	47.23	58.79	51.50
Self-Reported health						
<i>Healthy or fairly healthy</i>	40.31	48.44	34.10	36.87	43.28	58.09
Unhealthy	40.46	44.10	29.19	34.61	47.00	51.14
Land Ownership						
<i>No Land</i>	24.77	43.85	32.04	34.17	18.96	52.21
Homestead Land Only	35.69	56.16	20.33	48.42	43.21	58.22
Agriculture Land (upto 2 acres)	41.55	53.77	34.09	39.24	45.25	63.94
Agriculture Land (over 2 acres)	46.17	90.60	37.89	80.74	50.53	100.00
Time transfers from non-resident children						
<i>Did not receive weekly visits</i>	42.23	47.42	34.93	36.89	45.82	55.43
Received weekly visits	37.35	45.28	28.35	34.58	42.21	54.28
%	40.36	46.55	32.32	35.92	44.47	51.98
N	1398	1571	480	718	918	853

Note: Sample includes all respondents who have at least one adult non-coresident child

Table 7.3: Percent of all elders (50+) who had weekly visits with their adult non-coresident children
Matlab, Bangladesh 1996

	All elders		Coresident elders		Non-coresident elders	
	Men	Women	Men	Women	Men	Women
Marital status						
<i>Not currently married</i>	54.49	41.7	49.19	42.03	61.78	41.36
Married	37.24	39.41	38.66	41.48	36.56	38.07
Age						
50 to 59 years	29.00	36.13	25.40	39.84	29.98	33.60
60 to 69 years	39.94	43.13	45.69	40.92	36.51	45.47
70 to 79 years	49.88	50.79	41.19	50.41	56.41	51.10
80 +	48.13	57.52	39.84	64.21	62.63	54.65
Health						
Activities of Daily Living						
<i>No difficulty with ADLs</i>	37.68	37.20	38.46	40.39	37.30	34.77
At least 1 of 4 ADLs is difficult or worse	42.57	52.59	46.79	46.42	39.06	58.29
Self-Reported health						
<i>Healthy or fairly healthy</i>	35.40	38.64	36.12	41.32	35.06	36.42
Unhealthy	43.83	42.66	45.93	42.35	42.61	42.89
Land Ownership						
<i>No Land</i>	53.57	40.31	66.85	40.90	42.96	39.80
Homestead Land Only	48.50	40.91	44.01	44.89	50.70	39.85
Agriculture Land (upto 2 acres)	36.19	40.11	37.81	44.22	35.38	37.24
Agriculture Land (over 2 acres)	30.51	23.05	30.83	34.39	30.35	12.24
Money transfers from non-resident children						
<i>Did not receive money</i>	40.14	41.36	42.00	42.63	38.98	39.92
Received money	35.35	39.29	34.80	40.19	35.56	38.82
%	38.21	40.39	39.67	41.75	37.46	39.32
N	1398	1571	480	718	918	853

Note: Sample includes all respondents who have at least one adult non-coresident child

Elders' resources and the transfer of money

On average, women are slightly more likely to receive financial support than men (47% and 40%). The difference between married and currently unmarried elders is not great, with unmarried women slightly more likely than married women to receive money transfers, and married men marginally more likely to receive money than unmarried men. When looking at the group separately by coresident status, the percent of coresident men and women who receive financial transfers is low, with 32% of coresident men and 36% of coresident women receiving this form of support, whereas the corresponding figures for non-coresident men and women are 44% and 52%. Unmarried men and women who coreside are more likely to receive money transfers than married coresident men and women, respectively. For non-coresident elders, women who are not married are more likely to receive money than women who are married but the reverse is true for men.

The proportion of elders who receive money increases with each consecutive age group for all groups of men, pooled, coresident as well as non-coresident. With each increase in age group non-coresident women are more likely to receive money, except for those aged over 80 years of age. Women in that age group are more likely to be widows, and thus, more likely to be in need of financial support from their children. On average, coresident women are less likely to receive money in the younger (50-59) and older (80+) age groups.

For all elders, pooled, coresident, non-coresident, those who report difficulty with at least one of four ADLs are more likely to receive financial support than their counterparts who report no difficulty, except for non-coresident women. However, both these groups are likely to receive money transfers. The bivariate results using the second

measure of health, self-reported health are varied, ranging from no difference by health status (all men) to healthy elders being more likely to receive transfers (all women, coresident men and women and non-coresident women).

For the pooled sample, both men and women are increasingly likely to receive money transfers with each category of landownership status (owned no land, owned homestead land only, owned up to 2 acres of agriculture land, and owned more than 2 acres of agriculture land). This is more so in the case of women, with 90% of those who own more than 2 acres of land receiving money transfers. However, women who own more than 2 acres of land form less than 1% of the total sample. On average, coresident men's receipt of money is low for each category of landownership, with the lowest being those who own homestead land with only 20% of this group receiving money.

Coresident women who own homestead land and more than 2 acres of agriculture land are more likely to receive money than women who own no land. Among non-coresident men, only 19% of those who own no land receive financial support whereas, more than twice that figure of women in the same category of land ownership and coresidence status are likely to receive money from non-resident children.

Men and women in each group, pooled, coresident and non-coresident, who do not see their non-resident children on a weekly basis are slightly more likely to receive money than those elders who see their non-resident children regularly, suggesting that children might be substituting one type of support for the other.

In sum, women are slightly more likely than men to receive money. Being unmarried is associated with money transfers for women as a group, and for coresident men and women, and for non-coresident women. On the other hand, for non-coresident

men, being married is associated with money transfers. In general, there is a positive association between age and receipt of money for each group of pooled, coresident and non-coresident, men and women. Elders in each of the above groups who report difficulty with at least one of four ADLs are more likely to receive money transfers than elders who report no difficulty. For each group, land ownership is positively associated with money transfers, with the relationship being strongest for non-coresident women and men. Those who did not see their children on a regular basis are slightly more likely to receive money transfers than those who did. The next table presents results of the bivariate analysis of various dimensions of elders' resources and time transfers from their non-resident children.

Elders' resources and time transfers

On average, in each group, pooled, coresident, non-coresident, women are only slightly more likely to see their children every week compared to men. The bivariate results differ by marital status for men much more than they do for women. For each group of men, those who are not currently married are much more likely to see their children on a regular basis compared to those who are married. However, unmarried men are in the minority, with only about 6% of the male sample in this group. For women, there isn't much variation by marital status.

Time transfers increase with age for both men and women. For coresident and non-coresident women, time transfers increase with age, but the results for coresident men are mixed. However, the youngest age group (50 to 59) is the least likely among the various categories of age among coresident men to receive time transfers.

With regard to health, for each group, pooled, coresident and non-coresident, men and women, those who report difficulty with ADLs are more likely to receive time transfers compared to their counterparts who report no difficulty, although, non-coresident women who report difficulty with ADLs are much more likely (58%) to get time transfers than any other category of gender, health and non-coresidence. In the case of time transfers, the pattern holds for the second measure of health as well. Men and women who report that they are unhealthy or sick are more likely to see their children on a weekly basis compared to those who report that they are healthy.

Unlike money transfers, men who own no land or who own homestead land only are more likely to receive this transfer compared to men who own either categories of agricultural land. Among women, there is not much variation between those who own no land, those who own homestead land or those who own less than 2 acres of agricultural land. They are all as likely to meet their children regularly. Those who own more than 2 acres of agricultural land are the least likely to meet their children every week. Similar patterns hold for coresident and non-coresident women.

Women who receive money transfers are just as likely to meet their children regularly compared to women who do not receive money transfers. On the other hand, men who did not receive money are more likely to see their children every week, with the association being strongest for coresident men, suggesting that children substitute time for money in this case.

In sum, being unmarried was more strongly associated with time transfers for men compared to women. For all groups, time transfers increased with age category. Poor health is associated with more time transfers, with the relationship being stronger for

women. On the other hand, land ownership does not seem to have a strong relationship with time transfers for women. Men who owned no land were the most likely to see their children on a regular basis. For both men and women, those who received money from their children were less likely to get time transfers from their children.

Multivariate analysis

I now discuss the results of the logit and ordered logit analyses estimating the receipt of money and time transfers by elders. Non-resident children's transfer of time and money to elderly parents is expected to be influenced by the resources of the elder, and the availability and ability of children. The next set of tables present the odds ratios (and coefficients where appropriate) and probabilities of the likelihood of the elder receiving money, time and a combination of the two. Table 7.4 contains the results of the multivariate analysis of money transfers to all elders, married men, married women and widows. Table 7.5 presents the results of the estimation of money transfers by the coresident status of the elder. The next two tables (7.6 and 7.7) are arranged the same way, but this time the dependent variable is the receipt of time transfers, in this study, measured as weekly meetings between elders and their non-resident children. The two tables which follow (7.8 and 7.9) are based on a three-category dependent variable measuring the range of transfers that a parent is likely to receive from non-resident children – no transfers, at least one transfer (money or time), or two transfers (money and time).

Table 7.4: Odds ratios of model predicting elders' receipt of financial transfers from non-resident children, Matlab, Bangladesh, MHSS 1996

	All		Married Men		Married Women		Widowed women	
	OR	P> z	OR	P> z	OR	P> z	OR	P> z
<u>Elder Respondent</u>								
Gender								
Male	0.640	0.010	-	-	-	-	-	-
<i>Female</i>								
Marital Status								
Married	0.680	0.002	-	-	-	-	-	-
<i>Divorced/Separated/Widowed</i>								
Age								
50 to 59 years								
60 to 69 years	1.072	0.533	1.135	0.455	1.170	0.466	1.0192	0.937
70 to 79 years	1.042	0.808	1.238	0.393	0.757	0.708	0.9059	0.754
80 +	0.963	0.884	1.573	0.281	1.871	0.537	0.4462	0.077
Education								
None								
Some school	0.973	0.795	0.909	0.540	0.833	0.364	1.3397	0.269
Secondary certificate	0.895	0.647	0.754	0.317	0.714	0.754	-	-
Graduate or post-graduate	0.888	0.727	0.881	0.742	-	-	-	-
Occupation								
None								
Home based production	1.004	0.974	0.954	0.883	1.070	0.687	1.021	0.918
Agriculture	0.866	0.363	0.856	0.450	0.952	0.950	0.657	0.591
Labour	0.663	0.076	0.748	0.316	0.696	0.780	0.227	0.156
Business	0.672	0.060	0.696	0.163	0.342	0.282	-	-
Professional	0.782	0.381	0.635	0.173	4.143	0.068	2.068	0.719
Health								
Difficulty with at least one ADL	1.523	0.001	1.395	0.163	1.361	0.226	1.6243	0.022
Land Ownership								
No Land								
Homestead Land Only	1.520	0.011	1.838	0.099	1.931	0.171	1.3034	0.388
Agriculture Land (upto 2 acres)	1.543	0.001	1.797	0.089	1.138	0.625	1.8647	0.003
Agriculture Land (over 2 acres)	1.333	0.155	1.508	0.277	0.595	0.578	3.9015	0.093
Coresiding with a married son	0.600	0.000	0.564	0.001	0.642	0.017	0.5103	0.001
<i>Not coresiding with a married son</i>								

Table 7.4 continues on next page

Table 7.4: Odds ratios of model predicting elders' receipt of financial transfers from non-resident children, Matlab, Bangladesh, MHSS 1996

	All		Married Men		Married Women		Widowed women	
<u>Children's ability</u>								
Age								
<i>1 to 20 years</i>								
21 to 35 years	1.009	0.956	0.708	0.328	1.246	0.464	0.882	0.585
36 to 50 years	0.940	0.599	0.878	0.524	0.947	0.778	0.843	0.481
50+	0.920	0.685	0.493	0.165	2.949	0.062	1.009	0.976
Education								
<i>None</i>								
Some school	1.266	0.111	1.358	0.283	0.903	0.721	1.322	0.235
Secondary certificate	1.577	0.014	2.050	0.031	1.160	0.664	1.406	0.293
Graduate or post-graduate	1.732	0.002	1.798	0.068	1.355	0.347	1.903	0.043
Occupation								
<i>None</i>								
Home based production	1.008	0.960	0.747	0.166	0.785	0.405	2.584	0.001
Agriculture	1.038	0.804	0.811	0.439	1.776	0.029	0.926	0.760
Labour	1.025	0.878	0.741	0.275	0.998	0.995	1.966	0.040
Business	1.251	0.043	1.208	0.266	1.314	0.163	1.567	0.035
Professional	2.323	0.000	2.701	0.000	2.233	0.000	1.824	0.003
Proximity								
<i>In same bari</i>								
In same village	0.984	0.883	1.154	0.411	0.799	0.273	0.924	0.711
In same district	1.106	0.359	1.147	0.401	1.193	0.396	1.021	0.926
In another district	1.467	0.000	1.570	0.002	1.596	0.007	1.567	0.016
Dhaka	2.420	0.000	2.749	0.000	3.105	0.000	1.491	0.068
Abroad	1.885	0.000	2.451	0.000	1.480	0.060	1.582	0.068
<u>Composition</u>								
Number of sons	1.071	0.131	0.999	0.986	1.010	0.901	1.187	0.064
Number of daughters	0.918	0.040	0.850	0.009	0.916	0.217	0.972	0.751
Number of unmarried children	1.003	0.939	1.017	0.789	1.039	0.634	1.007	0.940
Number of observations	2967		1310		847		721	
Pseudo R2	0.1575		0.1817		0.1660		0.1690	

Note: Sample consists of respondents aged 50 or over who have at least one adult non-resident child

OR: Odds ratios

Receipt of money transfers

Social dimension of elder resources

Looking at the results of the regression modeling the receipt of money by all elders presented in Table 7.4, we see that women are much more likely than men to receive money from their non-resident children. Men are only 64% as likely as women to receive money transfers. This relationship is significant at the .01 level. Elders who have lost their spouse are much more likely to receive money from their non-resident children. This relationship is significant at the .001 level. So, it appears that adult children are concerned with the welfare of women and unmarried elders in Bangladesh.

Health dimension

Age shows no strong association with the likelihood of receiving financial transfers. On the other hand, poor functionality is strongly associated with the receipt of money transfers. Elders who report difficulty with at least one of four Activities of Daily Living (ADLs) are one and a half times more likely to receive money from their non-resident children compared to elders who report that they have no difficulty with ADLs¹⁴. When the regression is run separately for each gender and marital status group, the health variable loses its significance in all the models except the one for widows. Widows who report difficulty with at least one of four daily activities are more likely to receive transfers of money from their non-resident children. This relationship is significant at the .05 level. Thus, it is apparent that adult children provide support to their widowed mothers.

¹⁴ As with the model estimating coresidence, a second measure of health was tested, that is, self-reported health. The relationships and significance between this variable and all the dependent variables (money, time, combination) were similar to the variable measuring physical functioning. Hence, the results are not reported separately, but are available.

Economic dimension

Elder's level of education is insignificant in determining the receipt of financial transfers. However, both occupation and land are associated with the receipt of money from non-household children. Among occupations, the two strong relationships are between no occupation and labor, and no occupation and business. Those who work in labor-related occupations and those who work in business related occupations are about 67% less likely, each, to receive money from their non-resident children, compared to those elders who have no occupation (retirees, housewives, unemployed). These two groups are in less financial need than those elders who have no occupation. However, by splitting the group by gender and marital status this relationship is lost.

Land ownership is strongly associated with receiving more money from non-resident children. Elders in both categories of land ownership, owning homestead land and owning up to 2 acres of agriculture land, are each about one and a half times as likely to receive money from non-resident children compared to elders who don't own any land. It is interesting to see that ownership of land is significant in predicting receipt of money from non-resident children for married men and widows. For married men, those who own homestead land or up to 2 acres of agricultural land are more likely to receive transfers than those who do not own any land. Widows who own agricultural land are more likely to receive money from their non-resident children compared to widows who own no land. Widows who own up to 2 acres of agricultural land are about 180% more likely than widows who own no land to receive this form of support from their children. This relationship is significant at the .01 level. Widows who own more than two acres of land are almost 4 times as likely as widows who own no land to receive financial support.

Thus, there is some evidence that women, elders who are not married, elders who are not working, and those who suffer from poor health are more likely to receive money from their non-resident children suggesting that adult non-resident children are altruistic. On the other hand, there is also evidence to support the thesis that land resources increase the likelihood of receiving transfers.

For each group, coresidence with a married son is associated with less financial transfers from non-resident adult children. This makes sense since most needs are provided within the household. The relationship between elder resources, their coresident status and receipt of money from non-resident children is discussed in the next section.

Effect of coresidence on the receipt of money

It is clear from the pooled model that widows, those elders who suffer from poor health, as well as those elders who own land are more likely than others to receive financial support from their children. Analyzing the relationship between needs and resources of elders and financial transfers separately for coresident and non-coresident elders further illuminates the ways in which various dimensions of elders' resources are associated with financial transfers from children. Again, elder's health and land ownership are expected to operate in different ways.

Table 7.5: Odds ratios of model predicting elders' receipt of financial transfers
Matlab, Bangladesh, MHSS 1996

	All		Coresident		Noncoresident	
	OR	P> z	OR	P> z	OR	P> z
Elder Respondent						
Gender and marital status						
<i>Married male</i>						
Currently unmarried male	1.475	0.130	2.308	0.027	1.063	0.868
Married female	1.565	0.014	1.918	0.030	1.447	0.119
Currently unmarried female	2.298	0.000	3.281	0.000	1.890	0.006
Age						
<i>50 to 59 years</i>						
60 to 69 years	1.072	0.533	1.171	0.388	1.036	0.804
70 to 79 years	1.042	0.808	1.010	0.972	1.069	0.769
80 +	0.963	0.883	1.642	0.211	0.668	0.257
Education						
<i>None</i>						
Some school	0.973	0.795	0.973	0.876	0.964	0.788
Secondary certificate	0.895	0.647	2.186	0.097	0.680	0.182
Graduate or post-graduate	0.888	0.727	0.866	0.869	0.819	0.604
Occupation						
<i>None</i>						
Home based production	1.004	0.975	1.068	0.732	0.970	0.840
Agriculture	0.863	0.367	1.309	0.334	0.734	0.125
Labour	0.663	0.077	0.791	0.651	0.562	0.035
Business	0.672	0.061	0.914	0.827	0.591	0.040
Professional	0.782	0.384	1.224	0.751	0.669	0.204
Health						
Difficulty with at least one ADL	1.523	0.001	2.042	0.000	1.183	0.345
Land Ownership						
<i>No Land</i>						
Homestead Land Only	1.521	0.011	1.052	0.863	1.809	0.005
Agriculture Land (upto 2 acres)	1.544	0.001	1.415	0.093	1.643	0.005
Agriculture Land (over 2 acres)	1.333	0.158	1.051	0.889	1.484	0.122
Coresiding with a married son	0.600	0.000	-	-	-	-
<i>Not coresiding with a married son</i>						

Table 7.5 continues on next page

Table 7.5: Odds ratios of model predicting elders' receipt of financial transfers
Matlab, Bangladesh, MHSS 1996

	All		Coresident		Noncoresident	
		P> z		P> z		P> z
<u>Children's ability</u>						
Age						
1 to 20 years						
21 to 35 years	1.009	0.956	0.883	0.589	1.144	0.556
36 to 50 years	0.940	0.599	0.894	0.557	0.999	0.997
50+	0.920	0.686	0.444	0.015	1.735	0.044
Education						
None						
Some school	1.266	0.111	0.997	0.988	1.438	0.059
Secondary certificate	1.577	0.014	1.437	0.205	1.637	0.042
Graduate or post-graduate	1.732	0.002	1.295	0.363	1.995	0.002
Occupation						
None						
Home based production	1.008	0.960	0.977	0.922	1.029	0.882
Agriculture	1.038	0.804	1.296	0.249	0.946	0.782
Labour	1.025	0.879	0.897	0.703	1.109	0.610
Business	1.251	0.043	1.130	0.506	1.324	0.042
Professional	2.323	0.000	2.538	0.000	2.196	0.000
Proximity						
<i>In same bari</i>						
In same village	0.984	0.883	0.936	0.718	1.037	0.805
In same district	1.107	0.359	1.338	0.139	1.052	0.714
In another district	1.467	0.000	1.492	0.013	1.483	0.001
Dhaka	2.420	0.000	2.634	0.000	2.474	0.000
Abroad	1.885	0.000	1.864	0.001	1.967	0.000
<u>Composition</u>						
Number of sons	1.071	0.131	1.150	0.066	1.015	0.794
Number of daughters	0.918	0.040	0.894	0.140	0.924	0.118
Number of unmarried children	1.003	0.938	1.057	0.475	0.993	0.901
Number of observations	2967		1197		1770	
Pseudo R2	0.1575		0.1783		0.1458	

Note: Sample consists of respondents aged 50 or over who have at least one adult non-coresident child

OR: Odds ratios

The results presented in Table 7.5 show that having difficulty with ADLs is associated with receiving money for coresident elders, but does not appear to have any association with the dependent variable for non-coresident elders. Coresident elders who report difficulty with at least one of four ADLs are one and a half times more likely to receive financial support from non-resident children compared to coresident elders who report no difficulty. This relationship has a .001 level of significance. It was seen in the previous chapter that poor health had no association with coresidence. Thus, it is not a case of elders with poor health being more likely to coreside. The relationship between health, coresidence and money transfers is likely to be due to the fact that siblings are cooperating to take care of their parents. One (or more) sibling shares space with the parent, but when the parent falls ill, other siblings chip in with money. Also, nonresident children are more likely to hear about the illness of their parents from coresident children.

Ownership of land significantly increases the likelihood of receiving financial support from non-resident kin. For coresident elders, those who own up to 2 acres of agricultural land are more likely than those who do not own any land to receive money from their non-resident children. The relationship is only marginally significant. On the other hand, for non-coresident elders, the association holds for two categories of land ownership, homestead land and up to 2 acres of agricultural land. Those non-coresident elders who own homestead land are 180% more likely to receive money from non-resident children compared to non-coresident elders who own no land. Non-coresident elders who own agriculture land are 1.6 times more likely than non-coresident elders who own no land to receive financial transfers from their non-household children. Both these relationships are highly significant (at the .01) level.

Among those who are coresiding, unmarried men, married women and widowed women are all more likely than married men to receive financial support from non-resident children. Among those who are not coresiding, only widows are significantly more likely than married men to receive financial support from non-household children.

I next discuss the multivariate relationship between children's characteristics and money transfers for all groups of elders. The results of the analysis by gender and marital status refer to Table 7.4 (presented earlier), and the results by coresidence status refer to Table 7.5 (presented earlier).

Children's composition and ability

The gender composition of children is not significantly associated with the receipt of financial transfers. Number of children is only significant in predicting financial transfers for widows.

As with the determination of coresidence, children's characteristics play an important role in predicting the transfer of money to older parents. In this case, children's ability is, in general, positively associated with transfers to parents. Parents who have at least one child with a secondary education are one and a half times more likely to receive money from their non-resident children compared to parents whose children have no education. Having a child who is a graduate or post-graduate increases the likelihood of an elder parent receiving money by 170 % compared to the likelihood of having a child with no education. These relationships remain somewhat strong for married men, but disappear for married women. The positive relationship between having a child with a graduate degree (compared to having a child with no education) is significant for widows. When looking at the effect of children's education by coresident

status of elder, the monotonic relationship between children's levels of education and the receipt of financial transfers is strong only for the non-coresident sample. This makes sense because they are more in need of support than the coresident group.

Having a child in a business or a professional occupation is positively associated with the receiving transfers of money from non-resident children. Parents who have at least one child in a business occupation is 1.25 times as likely as a parent with children who have no occupation (student, unable to work, unemployed) to receive this type of transfers. Having a child in a professional occupation increases the likelihood of receiving a transfer over a parent whose children have no occupation by 230%. All elders benefit from having children in professional occupations regardless of gender, marital status or coresidence. Widows are especially more likely to receive financial transfers if they have children in all the occupational categories, except for agriculture.

Proximity of child to parents is also strongly associated with money transfers. Compared to having children who live in the same bari, having children outside the district, in Dhaka or abroad increases the likelihood of receiving money transfers for all groups of elders. This result makes sense because children in cities have higher earnings than children in rural areas, and if they are inclined to help their parents, money is more feasible than time.

Children's education, occupation and proximity are strongly associated with the elder's receipt of financial transfers. Those children who have a higher ability (that is, are more educated, in higher ranked professions, or in Dhaka or abroad) are more likely to provide support to their parents.

Table 7.6: Odds ratios of model predicting elders' weekly meetings with non-resident children
Matlab, Bangladesh, MHSS 1996

	All		Married Men		Married Women		Widowed women	
	OR	P> z	OR	P> z	OR	P> z	OR	P> z
<u>Elder Respondent</u>								
Gender								
Male	1.101	0.604	-	-	-	-	-	-
Female								
Marital Status								
Married	1.254	0.089	-	-	-	-	-	-
Divorced/Separated/Widowed								
Age								
50 to 59 years								
60 to 69 years	0.942	0.610	0.926	0.667	1.028	0.908	0.818	0.432
70 to 79 years	0.838	0.350	0.774	0.320	6.807	0.006	0.546	0.108
80 +	0.986	0.965	0.750	0.522	2.181	0.545	0.858	0.780
Education								
None								
Some school	0.985	0.893	0.931	0.659	0.970	0.898	1.361	0.304
Secondary certificate	1.213	0.515	1.194	0.597	-	-	-	-
Graduate or post-graduate	0.814	0.589	0.760	0.517	-	-	-	-
Occupation								
None								
Home based production	0.931	0.582	1.074	0.834	1.058	0.770	0.805	0.329
Agriculture	1.082	0.645	1.119	0.605	0.692	0.690	-	-
Labour	1.354	0.190	1.302	0.348	2.355	0.627	1.035	0.971
Business	1.019	0.932	1.039	0.889	0.437	0.255	-	-
Professional	1.275	0.426	1.456	0.280	0.585	0.357	0.552	0.444
Health								
Difficulty with at least one ADL	1.361	0.023	0.735	0.236	1.768	0.042	1.878	0.004
Land Ownership								
No Land								
Homestead Land Only	1.133	0.479	1.395	0.317	1.530	0.318	0.712	0.331
Agriculture Land (upto 2 acres)	1.062	0.659	1.162	0.625	1.172	0.584	1.093	0.694
Agriculture Land (over 2 acres)	0.956	0.840	1.000	0.999	4.421	0.130	0.634	0.554
Coresiding with a married son	0.692	0.003	0.680	0.029	0.823	0.363	0.592	0.018
Not coresiding with a married son								

Table 7.6 continues on next page

Table 7.6: Odds ratios of model predicting elders' weekly meetings with non-resident children Matlab, Bangladesh, MHSS 1996

	All		Married Men		Married Women		Widowed women	
<u>Children's ability</u>								
Age								
<i>1 to 20 years</i>								
21 to 35 years	1.358	0.097	1.607	0.270	1.442	0.320	1.282	0.351
36 to 50 years	1.366	0.018	1.445	0.077	1.012	0.959	1.961	0.006
50+	1.282	0.345	2.371	0.143	0.362	0.100	1.471	0.271
Education								
<i>None</i>								
Some school	0.740	0.071	0.607	0.068	0.547	0.067	0.811	0.431
Secondary certificate	0.711	0.106	0.501	0.038	0.591	0.170	1.105	0.770
Graduate or post-graduate	0.560	0.005	0.472	0.025	0.388	0.014	0.618	0.191
Occupation								
<i>None</i>								
Home based production	1.732	0.002	1.410	0.161	1.389	0.342	3.024	0.002
Agriculture	6.467	0.000	5.305	0.000	12.305	0.000	6.449	0.000
Labour	4.876	0.000	5.921	0.000	4.731	0.000	3.516	0.001
Business	2.625	0.000	2.277	0.000	3.534	0.000	2.669	0.000
Professional	1.090	0.494	1.212	0.289	0.952	0.832	1.035	0.883
Proximity								
<i>In same bari</i>								
In same village	3.684	0.000	4.555	0.000	3.560	0.000	2.827	0.000
In same district	0.713	0.008	0.951	0.782	0.838	0.468	0.429	0.001
In another district	0.586	0.000	0.599	0.002	0.777	0.213	0.363	0.000
Dhaka	0.314	0.000	0.330	0.000	0.299	0.000	0.280	0.000
Abroad	0.725	0.023	0.695	0.075	0.636	0.053	0.859	0.567
<u>Composition</u>								
Number of sons	1.437	0.000	1.478	0.000	1.416	0.000	1.391	0.001
Number of daughters	1.200	0.000	1.220	0.003	1.319	0.001	1.022	0.817
Number of unmarried children	0.720	0.000	0.682	0.000	0.725	0.000	0.885	0.261
Number of observations	2967		1310		844		716	
Pseudo R2	0.2762		0.2816		0.3103		0.2841	

Note: Sample consists of respondents aged 50 or over who have at least one adult non-resident child

OR: Odds ratios

I turn next to the discussion of the multivariate relationship between elders' resources and their receipt of informal support, that is, time transfers. Unlike with the receipt of money, the receipt of time has few significant relationships with elders' resources. The results of the multivariate analyses for each group are presented separately in tables 7.6 (by gender and marital status) and 7.7 (by coresidence).

Receipt of informal support

Elders' resources

Gender and marital status

In the estimation of elders' receipt of weekly visits from non-resident children, there are interesting results for the socio-demographic explanatory variables. The gender of the elder respondent is not strongly associated with visits from non-resident children, but marital status is. At the .10 level of significance, those elders who are married are more likely to receive regular visits from their non-resident children than those who are not currently married.

The health dimension of elders' resources is much more strongly associated with the receipt of informal support than the financial dimension. While age, education, occupation and land ownership of the elder are not able explain the variation in the informal support dependent variable, the variable measuring poor health is strongly associated with the receipt of time transfers. Elders who report difficulty with activities of daily living are 1.4 times more likely to see their non-resident children on a weekly basis than elders who report no difficulty. This relationship is significant at the .05 level.

The results (in Table 7.6) show that health needs do not have any significant relationship with visits with children for men, but they are strongly associated with visits

for both groups of women. Among married and unmarried women, respectively, those who report difficulty with ADLs are more likely than those who report no difficulty to have weekly meetings with their non-resident children. Widowed women who have poor health are 1.9 times as likely as widowed women who report no problems with health to see their children on a regular basis. This relationship is significant at the .001 level. For married women with poor health the odds of seeing their children regularly are 1.8 (at the .05 level of significance).

In the pooled model, elders who coreside are only 70% as likely as those who do not coreside to receive weekly visits from their non-resident adult children. While the relationship between coresidence and the receipt of time transfers is significant, the relationship remains strong only for married men and widowed women. Coresidents in each group are less likely to see their children on a regular basis compared to their counterparts. I briefly discuss the results of the multivariate analysis of time transfers for coresident and non-coresident elders.

Coresident status

As with money transfers, the transfer of time from non-resident children is strongly associated with elder's coresidence status. Those elders who coreside are less likely to see their non-resident children on a weekly basis. I ran the regression separately for coresiding and non-coresiding elders and present the results in Table 7.7, but do not discuss the results at length because, except for the relationship between time transfers and one dimension of need, they do not add to our knowledge of the relationship between elders' need and time transfers. There is a strong association between poor health and weekly visits with children for elders who are coresiding with a married son.

Table 7.7: Odds ratios of model predicting elders' weekly meetings with non-resident children Matlab, Bangladesh, MHSS 1996

	All		Coresident		Noncoresident	
	OR	P> z	OR	P> z	OR	P> z
Elder Respondent						
Gender and marital status						
<i>Married male</i>						
Currently unmarried male	0.939	0.809	0.838	0.598	1.340	0.481
Married female	0.951	0.796	0.871	0.623	0.940	0.819
Currently unmarried female	0.730	0.109	0.667	0.152	0.715	0.225
Age						
<i>50 to 59 years</i>						
60 to 69 years	0.945	0.630	0.898	0.564	0.932	0.657
70 to 79 years	0.836	0.345	0.566	0.061	1.079	0.767
80 +	0.983	0.957	0.408	0.068	1.959	0.110
Education						
<i>None</i>						
Some school	0.982	0.870	1.247	0.211	0.864	0.345
Secondary certificate	1.214	0.513	1.644	0.362	1.049	0.896
Graduate or post-graduate	0.814	0.589	1.035	0.963	0.733	0.492
Occupation						
<i>None</i>						
Home based production	0.926	0.554	0.904	0.610	0.907	0.583
Agriculture	1.095	0.597	1.026	0.927	1.057	0.805
Labour	1.367	0.177	1.093	0.840	1.426	0.206
Business	1.034	0.882	0.975	0.941	1.028	0.926
Professional	1.297	0.395	2.070	0.180	1.273	0.523
Health						
Difficulty with at least one ADL	1.366	0.021	1.410	0.072	1.329	0.151
Land Ownership						
<i>No Land</i>						
Homestead Land Only	1.149	0.436	1.102	0.737	1.149	0.557
Agriculture Land (upto 2 acres)	1.075	0.600	1.036	0.854	1.119	0.567
Agriculture Land (over 2 acres)	0.967	0.880	0.958	0.900	0.954	0.876
Coresiding with a married son	0.691	0.003	-	-	-	-
<i>Not coresiding with a married son</i>						

Table 6.7 continues on next page

Table 7.7: Odds ratios of model predicting elders' weekly meetings with non-resident children Matlab, Bangladesh, MHSS 1996

	All		Coresident		Noncoresident	
		P> z		P> z		P> z
<u>Children's ability</u>						
Age						
<i>1 to 20 years</i>						
21 to 35 years	1.355	0.099	1.033	0.895	1.954	0.022
36 to 50 years	1.369	0.017	1.393	0.089	1.360	0.092
50+	1.289	0.333	1.182	0.641	1.383	0.402
Education						
<i>None</i>						
Some school	0.740	0.071	0.948	0.821	0.616	0.040
Secondary certificate	0.710	0.105	1.265	0.447	0.459	0.008
Graduate or post-graduate	0.557	0.005	0.792	0.459	0.447	0.005
Occupation						
<i>None</i>						
Home based production	1.737	0.002	1.876	0.023	1.529	0.077
Agriculture	6.472	0.000	8.997	0.000	5.387	0.000
Labour	4.855	0.000	4.893	0.000	5.147	0.000
Business	2.626	0.000	3.713	0.000	2.135	0.000
Professional	1.090	0.492	1.186	0.421	1.019	0.907
Proximity						
<i>In same bari</i>						
In same village	3.686	0.000	3.376	0.000	4.078	0.000
In same district	0.712	0.008	0.489	0.001	0.915	0.589
In another district	0.586	0.000	0.487	0.000	0.644	0.004
Dhaka	0.314	0.000	0.275	0.000	0.335	0.000
Abroad	0.725	0.023	0.492	0.002	0.923	0.656
<u>Composition</u>						
Number of sons	1.435	0.000	1.351	0.001	1.468	0.000
Number of daughters	1.198	0.000	1.288	0.001	1.156	0.024
Number of unmarried children	0.721	0.000	0.761	0.001	0.708	0.000
Number of observations	2967		1197		1770	
Pseudo R2	0.2763		0.2617		0.3058	

Note: Sample consists of respondents aged 50 or over who have at least one adult non-coresident child

OR: Odds ratios

Coresident elders who report difficulty with at least one ADL capability are 1.5 times more likely to see their children on a regular basis compared to coresident elders who report no difficulty. This relationship is not significant for elders who are not coresiding with a married son.

Next, I discuss the effects of children's characteristics on elders' receipt of time transfers. The results for the analyses by gender and marital status were presented in table 7.6, while those by coresident status were presented in table 7.7.

Children's composition and ability

Tables 7.6 and 7.7 also present information on the effects of children's characteristics on the receipt of time transfers by elders. Unlike the transfer of money, the composition of children is strongly associated with the transfer of time as measured by weekly meetings between parents and non-resident children. The more sons and daughters an elder has, respectively, the more likely the elder is to see his/her non-resident children on a weekly basis. These relationships are significant at the .001 level. The number of unmarried children is negatively associated with time transfers to elders. This relationship is similarly strong. A higher number of unmarried children signifies lower need for time transfers from non-resident children, because unmarried children are likely to be alternative sources of support. These relationships hold for all the groups by gender and marital status, and by coresidence.

In the pooled model, all the indicators of children's ability are associated with the dependent variable. Elders with children in the older ages and in income producing occupations are more likely to meet with their non-resident children on a weekly basis.

On the other hand, children's level of education and children's physical distance from parents have a negative association with this measure of informal support.

Elders who have at least one child in the 21 to 35 age group and the 36 to 50 age group are about 1.4 times, each, more likely than elders with children below the age of 20 years to meet on a weekly basis with their children. These relationships hold true for non-coresidents. However, on splitting the group by gender and marital status, only married men and widows who have children in the 21 to 35 year old age group are more likely to see their non-resident children on a regular basis compared to their counterparts who have children in the younger ages.

Elders with children who have higher levels of education are less likely to see their non-resident children on a weekly basis. For elders who have a child with a graduate or post-graduate degree, the odds of meeting their non-resident children regularly are almost half that of elders with children who have no education. The likelihood of weekly meetings with non-resident children is slightly higher for elders who have a child with some school compared to elders who have children with no education. These relationships are not significant for widows or coresidents, but are for married men, married women and non-coresidents.

Each category of children's occupation, except for professional, is significantly associated with weekly visits between parents and their non-resident children. The odds of meeting their non-resident children regularly for elders with children in certain occupations range from 1.7 (home based production) to 6.5 (agriculture) in comparison to elders whose children are not in any occupation. The relationship between children's occupation and time transfers are significant for all the groups.

With regard to proximity, having at least one child in the village increases the likelihood of regular visits from non-resident children, but having children in all other categories of proximity decreases the likelihood of seeing children on a regular basis. In other words, compared to elders who have children in the same bari, elders who have children in the same village (but different bari) are 3.7 times more likely to see their non-resident children. Those elders who have children in a different village (but same district), in a different district, in Dhaka or abroad are, in each case, less likely to see their non-resident children on a regular basis compared to those elders who have children in the same bari. The lowest odds are for elders who have children in Dhaka (.3) and the highest odds are for elders who have children who are abroad (.7). In general, these associations hold for all the groups.

Money, time or both

The fourth dependent variable is a combination one that incorporates the receipt of both money and time transfers. This measure is suggestive of the extent of support that an elder is likely to receive from his/her set of children. In order to analyze the determinants of parent's getting more than one transfer, I estimate the likelihood of parents receiving no transfers, at least one transfer (time or money) and both transfers (time and money) given the elders' needs and resources, and their children's abilities. While coresidence is also a transfer, it does not form a part of this dependent variable because it is likely to condition the receipt of money and time from non-resident children.

Since the combination dependent variable is a ranked, multi-category variable, I fit the ordinal logit model to the estimation procedure. After running regressions on the sample of all elders, I run it separately for married men, married women, and widows.

The results are presented in Table 7.8. Then, I split the sample by the coresidence status of the elder, and run separate regressions for each group. The results of the regression by coresidence status are presented in Table 7.9.

Elders' needs and resources

On turning to the effects of elder's characteristics on the estimation of multiple transfers, it appears that few of the variables measuring elders' resources are associated with multiple transfers in this manifestation. Marital status, age of elder, education and occupation do not have significant relationships with the combination transfers variable, but gender, health, land ownership and coresidence do.

Women are more likely to get multiple transfers than men. This relationship is marginally significant. Both the health and financial dimensions of elders are strongly associated with the dependent variable in determining whether a parent gets no transfers, at least one, or more transfers. Those elders who report difficulty with at least one ADL are significantly more likely than those who report no difficulty to get more types of transfers rather than fewer or no transfer at all. This relationship is significant at the .001 level. In the case of married women, those who have difficulty with ADLs are more likely to receive more rather than less transfers. This relationship is significant at the .05 level. Widows who report difficulty with the activities of daily living are significantly more likely to receive multiple transfers compared to widows who report no difficulty (at the .001 level of significance).

Table 7.8: Ordered logit predicting elders' receipt of money and time from non-resident children
Matlab, Bangladesh, MHSS 1996

	All		Married Men		Married Women		Widowed women	
	OR	P> z	OR	P> z	OR	P> z	OR	P> z
Elder Respondent								
Gender								
Male	-0.264	0.071	-	-	-	-	-	-
Female								
Marital Status								
Married	-0.136	0.202	-	-	-	-	-	-
Divorced/Separated/Widowed								
Age								
50 to 59 years								
60 to 69 years	0.038	0.694	0.077	0.587	0.173	0.361	-0.103	0.625
70 to 79 years	-0.078	0.605	-0.021	0.919	1.012	0.152	-0.385	0.199
80 +	-0.015	0.953	0.106	0.795	0.905	0.505	-0.598	0.144
Education								
None								
Some school	-0.058	0.525	-0.138	0.297	-0.153	0.407	0.342	0.115
Secondary certificate	0.006	0.981	-0.123	0.658	-0.467	0.571	1.003	0.014
Graduate or post-graduate	-0.152	0.590	-0.202	0.525	-	-	-	-
Occupation								
None								
Home based production	-0.035	0.744	-0.023	0.935	0.088	0.568	-0.072	0.691
Agriculture	-0.034	0.807	-0.044	0.800	0.066	0.913	-0.949	0.076
Labour	-0.076	0.686	-0.044	0.854	0.400	0.617	-0.764	0.100
Business	-0.260	0.160	-0.247	0.274	-0.970	0.222	-0.301	0.000
Professional	-0.012	0.961	-0.108	0.716	0.649	0.108	0.392	0.833
Health								
Difficulty with at least one ADL	0.442	0.000	0.041	0.830	0.538	0.011	0.679	0.000
Land Ownership								
No Land								
Homestead Land Only	0.350	0.014	0.528	0.064	0.743	0.078	0.020	0.942
Agriculture Land (upto 2 acres)	0.318	0.004	0.420	0.116	0.121	0.604	0.446	0.010
Agriculture Land (over 2 acres)	0.156	0.369	0.218	0.467	0.429	0.156	0.345	0.473
Coresiding with a married son	-0.518	0.000	-0.522	0.000	-0.376	0.023	-0.769	0.000
Not coresiding with a married son								

Table 7.8 continues on next page

Table 7.8: Ordered logit predicting elders' receipt of money and time from non-resident children
Matlab, Bangladesh, MHSS 1996, continued

	All		Married Men		Married Women		Widowed women	
<u>Children's ability</u>								
Age								
<i>1 to 20 years</i>								
21 to 35 years	0.144	0.327	-0.012	0.971	0.346	0.202	0.033	0.879
36 to 50 years	0.133	0.209	0.131	0.435	-0.053	0.764	0.306	0.175
50+	0.058	0.763	0.000	0.999	0.115	0.836	0.170	0.541
Education								
<i>None</i>								
Some school	0.012	0.924	-0.050	0.799	-0.351	0.138	0.098	0.659
Secondary certificate	0.137	0.413	0.120	0.634	-0.087	0.771	0.228	0.456
Graduate or post-graduate	0.085	0.590	0.014	0.955	-0.227	0.416	0.179	0.533
Occupation								
<i>None</i>								
Home based production	0.216	0.129	-0.124	0.507	-0.129	0.655	1.171	0.000
Agriculture	1.095	0.000	0.816	0.000	1.748	0.000	1.014	0.000
Labour	0.924	0.000	0.793	0.000	0.958	0.001	1.242	0.000
Business	0.707	0.000	0.609	0.000	0.915	0.000	0.861	0.000
Professional	0.674	0.000	0.802	0.000	0.611	0.002	0.496	0.001
Proximity								
<i>In same bari</i>								
In same village	0.783	0.000	1.027	0.000	0.586	0.004	0.561	0.004
In same district	-0.132	0.178	0.016	0.910	0.033	0.856	-0.468	0.017
In another district	-0.033	0.712	0.003	0.981	0.214	0.169	-0.273	0.117
Dhaka	0.007	0.940	0.080	0.545	0.187	0.279	-0.398	0.041
Abroad	0.257	0.026	0.424	0.014	0.026	0.888	0.186	0.397
<u>Composition</u>								
Number of sons	0.233	0.000	0.196	0.003	0.189	0.012	0.293	0.001
Number of daughters	0.051	0.179	0.023	0.676	0.091	0.168	0.002	0.978
Number of unmarried children	-0.173	0.000	-0.192	0.000	-0.146	0.043	-0.069	0.410
Number of observations	2967		1310		847		723	
Pseudo R2	0.1291		0.1249		0.1430		0.1554	

Note: Sample consists of respondents aged 50 or over who have at least one adult non-resident child

OR: Odds ratios

Elders who own land are more likely to receive transfers. Compared to elders who own no land, those who own homestead land and up to 2 acres of agriculture land are, each, more likely to receive more transfers rather than less. Married men who own homestead land are more likely than married men who own no land to receive multiple transfers (at the .05 level of significance). Married women who own homestead land are much more likely to receive multiple transfers in comparison to married women who own no land. Whereas for widowed elders, ownership of up to 2 acres of agricultural land increases the likelihood of receiving more types of transfers compared to widows who do not own any land. This relationship is significant at the .01 level.

Those who coreside are less likely to receive transfers compared to those who do not coreside. Coresident married men are less likely to receive positive outcomes in the transfer variable compared to non-coresident married men. This relationship is significant at the .001 level. Widowed women who coreside are more likely to receive fewer or no transfers compared to widowed women who do not coreside. This relationship is highly significant (at the .001 level).

In sum, for married men, the only significant resource variables are land ownership and coresidence. For married women and widows, the relationships between health and land, respectively, and multiple transfers are significant ones. Land ownership has a strong association with the receipt of multiple transfers for married women and widow. Finally, the relationship between coresidence and multiple transfers is significant for all groups.

Table 7.9: Ordered logit predicting elders' receipt of money and time from non-resident children
Matlab, Bangladesh, MHSS 1996

	All		Coresident		Noncoresident	
		P> z		P> z		P> z
Elder Respondent						
Gender and marital status						
<i>Married male</i>						
Currently unmarried male	0.237	0.246	0.407	0.150	0.141	0.658
Married female	0.293	0.060	0.362	0.124	0.224	0.285
Currently unmarried female	0.404	0.007	0.501	0.033	0.338	0.091
Age						
<i>50 to 59 years</i>						
60 to 69 years	0.040	0.682	0.038	0.804	0.024	0.849
70 to 79 years	-0.078	0.605	-0.360	0.121	0.095	0.639
80 +	-0.020	0.938	-0.213	0.602	0.138	0.678
Education						
<i>None</i>						
Some school	-0.060	0.508	0.031	0.827	-0.109	0.373
Secondary certificate	0.006	0.980	0.738	0.084	-0.248	0.400
Graduate or post-graduate	-0.151	0.591	-0.009	0.990	-0.215	0.503
Occupation						
<i>None</i>						
Home based production	-0.038	0.720	-0.028	0.866	-0.056	0.695
Agriculture	-0.027	0.845	0.153	0.515	-0.152	0.383
Labour	-0.070	0.712	0.072	0.834	-0.194	0.399
Business	-0.251	0.176	-0.093	0.774	-0.327	0.156
Professional	-0.002	0.992	0.576	0.167	-0.142	0.643
Health						
Difficulty with at least one ADL	0.445	0.000	0.637	0.000	0.275	0.064
Land Ownership						
<i>No Land</i>						
Homestead Land Only	0.359	0.013	0.185	0.399	0.434	0.025
Agriculture Land (upto 2 acres)	0.326	0.004	0.307	0.062	0.347	0.027
Agriculture Land (over 2 acres)	0.164	0.349	0.145	0.611	0.171	0.455
Coresiding with a married son	-0.520	0.000	-	-	-	-
<i>Not coresiding with a married son</i>						

Table 7.9 continues on next page

Table 7.9: Ordered logit predicting elders' receipt of money and time from non-resident children Matlab, Bangladesh, MHSS 1996

	All		Coresident		Noncoresident	
		P> z		P> z		P> z
<u>Children's ability</u>						
Age						
<i>1 to 20 years</i>						
21 to 35 years	0.142	0.333	-0.082	0.693	0.392	0.054
36 to 50 years	0.133	0.208	0.146	0.397	0.156	0.260
50+	0.061	0.748	-0.458	0.129	0.511	0.038
Education						
<i>None</i>						
Some school	0.013	0.919	-0.022	0.906	0.046	0.794
Secondary certificate	0.138	0.412	0.382	0.130	-0.023	0.919
Graduate or post-graduate	0.083	0.596	0.097	0.682	0.086	0.685
Occupation						
<i>None</i>						
Home based production	0.217	0.127	0.256	0.264	0.177	0.000
Agriculture	1.095	0.000	1.403	0.000	0.923	0.000
Labour	0.921	0.000	0.864	0.000	0.993	0.000
Business	0.707	0.000	0.832	0.000	0.642	0.000
Professional	0.674	0.000	0.757	0.000	0.615	0.000
Proximity						
<i>In same bari</i>						
In same village	0.784	0.000	0.709	0.000	0.867	0.000
In same district	-0.132	0.177	-0.250	0.131	-0.043	0.729
In another district	-0.032	0.715	-0.152	0.300	0.035	0.760
Dhaka	0.008	0.934	-0.073	0.641	0.081	0.515
Abroad	0.257	0.026	-0.002	0.992	0.425	0.005
<u>Composition</u>						
Number of sons	0.233	0.000	0.252	0.000	0.206	0.000
Number of daughters	0.050	0.182	0.093	0.148	0.029	0.536
Number of unmarried children	-0.172	0.000	-0.123	0.073	-0.181	0.000
Number of observations	2967		1197		1770	
Pseudo R2	0.1291		0.1297		0.1369	

Note: Sample consists of respondents aged 50 or over who have at least one adult non-coresident child

OR: Odds ratios

Coresident status

Examining the multivariate relationships by coresident status of the elder (Table 7.9) emphasizes the effects of health needs and land ownership on transfers from non-resident children. Health needs of both groups and land ownership are significant in motivating more transfers from children. For both coresident and non-coresident elders, those who report difficulty with activities of daily living are more likely to receive positive outcomes (one or more transfers) compared to elders who report no difficulty. For the coresidents, the level of significance is .001 and for the non-coresidents its only .1, but still significant.

Among non-coresidents, both categories of land ownership, owning homestead land only and owning up to 2 acres of agriculture land are positively associated with receiving more transfers. For coresidents, those who own up to 2 acres of agriculture land are more likely to receive positive outcomes of the combination transfer variable.

Children's ability

Children's composition and their ability to provide support are strongly related to the amount of support received by older parents. The number of sons that an elder has is positively associated with the receipt of more transfers. This relationship is significant at the .001 level. The number of unmarried children an elder has shares a different relationship with the combination transfer variable. The more unmarried children an elder has, the fewer transfers an elder is likely to get. Both these relationships hold for married men and women, and coresidents and non-coresidents. For widows, the number of sons is positively associated with the receipt of transfers from non-resident children. Unmarried children are probably in the house providing whatever needs to be done.

Further, children's occupation and proximity are strongly related to the receipt of multiple transfers. Elders whose children are in agriculture (as farmers or laborers), business or professional occupations are significantly more likely to receive multiple transfers compared to elders whose children have no major occupation. These relationships are positive and significant for the groups by gender and marital status, and by coresidence.

The two strongest categories in the proximity variable are having who children live in the same village but different bari, and having children who live abroad. Compared to elders with children who live in the same bari, elders with children who live in the same village are more likely to receive multiple transfers. Elders who have at least one child living abroad are more likely to receive multiple transfers than elders who have children living in the same bari. These relationships hold for married men and non-coresident elders.

Conclusion

This chapter investigated the effects of elder resources on the receipt of money and time transfers from children. The results of the multivariate analysis of transfers of money and time from non-resident children support the main thesis of the dissertation that elders' resources are important in influencing their receipt of transfers from adult children.

In general, the results provided support for my hypothesis that women are more likely to receive financial transfers, but were inconclusive when it came to time transfers. Further, the results support my expectation that elders who have lost their spouse are more likely to receive money transfers, as well as meet their children on a regular basis.

At the same time, elders who own land, and widows in particular, are more likely to receive money, suggesting that children in Bangladesh are motivated by elders' tangible resources. The relationship between land and time transfers is not significant. As expected, widows who suffer from poor health are more likely to receive both money and time transfers. Thus, children are altruistic towards their vulnerable mothers. (It is likely that children would respond to widowed fathers as well.)

With regard to the relationship between coresidence and money and time transfers, it is clear that coresidence does not condition support in the way that I expected. I hypothesized that non-coresiding elders who suffered from poor health would receive support from other children, since they had no source of support at home. However, the results were not significantly different from zero. And, in fact, coresident elders who suffered from poor health were more likely to receive financial and temporal support from non-resident children. On the other hand, non-coresident elders who own land are significantly more likely to receive financial transfers (but not time) compared to non-coresident elders who own no land, in line with my expectation.

Finally, support for the hypotheses relating to children's abilities is also mixed. Financial support is not significantly associated with life course stages of children as measured in this analysis. On the other hand, children in later life stages are more likely than those in younger life stages to provide temporal support to elders.

As expected, children who have higher levels of education are more likely to provide money transfers and less likely to provide time transfers. Further, the analysis provides support for the hypothesis that children in better occupations are more likely to

transfer money. However, contrary to expectations, they are also more likely to visit on a weekly basis compared to children who have no occupations.

CHAPTER 8: ELDERS' RESOURCES AND FAMILY SUPPORT IN BANGLADESH

I began this dissertation by arguing that the role played by elders' resources in determining support provided to them by their adult children in a low development context has not been given due importance. I also argued that the gender and marital status of the elder should further condition the receipt of each type of transfer. Further, the relationship between the three types of transfers has not been adequately explained.

A review of the current literature showed that altruism and exchange were important perspectives used to guide the analysis of intergenerational transfers within families. Factors that were associated with family support in developing countries are elders' need and resources, and the availability and ability of kin to provide support. Studies on living arrangements of elders tended to focus on elders' characteristics, while those on money and time transfers tended to focus on children's ability to transfer.

In the third chapter, I described the background against which the numbers of vulnerable elderly are increasing in Bangladesh. The agrarian nature of the economy means that majority of the workers do not have a pension to draw from after retirement. In this situation, besides own resources, the family is the main source of support in the older ages. Increasing poverty and landlessness, and migration from rural to urban areas are likely to transform this traditional source of support for elders. Further, social constraints place women in positions of economic dependence on their husbands and sons. Due to the custom of women being married at younger ages compared to men, older women in Bangladesh are twice as likely as older men to have lost their spouses, making them economically vulnerable. Thus, the economy, and societal practices

provide an important context in which to study the dynamics of intergenerational transfers within families.

I then presented the theoretical framework which I use to address the role of elders' resources in the receipt of space, money and time transfers from their adult children. I draw on the perspectives used by economists and sociologists to analyze motivations for intergenerational transfers to hypothesize on the relationship between elders' resources and their receipt of space, money and time transfers. I hypothesized that elders' ownership of land is likely to increase the receipt of transfers, while other resources like good health, being male, being married are likely to decrease the likelihood of the receipt of transfers. Land is a resource that should influence the transfer process by motivating children to transfer to resource rich parents. Poor health, on the other hand, was expected to motivate altruistic behavior on the part of children. These factors would be conditioned by the gender and marital status of the elder in influencing their receipt of all three types of transfers. Finally, elders who receive one form of support (space) would be less likely than elders who do not to receive (money and time) support from their non-coresident children.

Chapter 5 contains the description of the data, methods and techniques used to test these hypotheses. The MHSS provide a rich data source with which to examine the receipt of transfers for elders by including detailed questions on transfers, and a comprehensive set of information on the elder respondents' household and non-household kin.

Summary of results

In general, older women are less likely than older men to live with a married son, contrary to my expectations. On the other hand, unmarried elders are more likely to live with a married son compared to married elders. Coresidence, measured as living with a married son, is not related to health status of elder. Land ownership is related to living with a married son, but the relationship is the inverse of the one that I posited. However, it mirrors the relationship with other measures of elders' resources. It appears that elders who are financially able are less likely to live in the same house as a married son. The results indicate that elders' resources do influence transfers.

For an elder, being female, being unmarried, and suffering from poor functionality is positively associated with financial support from non-resident children. At the same time, ownership of land is also associated with increased likelihood of financial transfers, especially for women and non-coresident elders. Time transfers are more likely to be made to women, unmarried elders and those suffering from poor health, rather than their counterparts. There is no significant association between land and weekly visits between elders and their non-coresident children.

The fourth dependent variable is used to measure the extent of support that elders are likely to receive. The results show that, in general, the different dimensions of elders' resources operate in the same way in influencing receipt of multiple transfers (money and time). Women and unmarried elders are more likely to get multiple transfers compared to elders with good health, but elders who own no land are less likely to get multiple transfers of support compared to elders who own land.

Dividing the sample by gender and marital status provides important information on the nexus between resources and transfers in Bangladesh. In general, for married men, health status is not a significant predictor of the receipt of transfers. The ownership of land is positively associated with the receipt of financial transfers, and multiple transfers, but not coresidence or time. There are too few men who are no longer married to be able to make any strong statements about the relationship between their resources and receipt of transfers. Health is negatively associated with the receipt of time and multiple transfers for married women, but is not associated with coresidence and money transfers. Land ownership is negatively associated with the first measure of coresidence (living in the same house as a married son) but positively associated with the second measure of coresidence. Thus, land ownership for married women is positively associated with living next to a married son, but negatively associated with living in the same house as a married son. For widows, health is negatively associated with all the dependent variables. However, while land ownership is negatively associated with coresidence (measured both ways) for this group, it is positively associated with the receipt of money transfers and multiple transfers.

Coresidence status is an important conditioning factor in the receipt of money and time transfers by elders. Those elders who coreside are less likely than those who do not coreside to receive money, time and multiple transfers. In general, health seems to play a bigger role in the receipt of transfers for coresident elders compared to non-coresident elders. Among coresident elders, those who enjoy good health are less likely than those who suffer from poor health to receive money, time or multiple transfers. Among the noncoresident sample, health is negatively associated with multiple transfers. The

ownership of land affects coresident and non-coresident elders in the same way. Those who own land in both groups are more likely to receive money transfers and multiple transfers than those who do not own land.

Discussion

The role of resources in the receipt of transfers

The central objective of the dissertation was to understand the role that own resources played in the receipt of space, money and time transfers from adult children by elders in Bangladesh. The main resources identified with the help of the literature were health, land ownership, being male, and being married.

Health has a consistent relationship with all three types of transfers, as well as with multiple transfers of money and time. Net of other factors, elders who do not report problems with ADLs are less likely than elders who report difficulty with ADLs to receive space, money and time transfers from their adult children. These results suggest that adult children in Bangladesh provide support in the form of space, money and time to parents' who have functional needs.

Land, as a tangible resource, is also an important factor in family dynamics. The relationship between land ownership and the three types of transfers is mixed. Elders who own land are more likely to receive money and multiple forms of transfers but less likely to coreside compared to elders who do not own land. Land ownership is not a significant predictor of time transfers as it is measured here. The results suggest that families might optimize by having children move further. This is supported by the literature on Bangladesh, which shows that the children who migrate further away send more money back to the family (Frankenberg and Kuhn, 2001). Also, parents who can

afford to live separately might be choosing to do so. If this is the case, then ownership of land is an important factor, in that it increases the amount of money and time transfers from children, as well as it gives parents the option to live separately.

The third dimension of resources includes being male, and being married. Again, the relationship between these resources and the three transfers are not consistent. Being male is negatively associated with money and multiple transfers, and positively associated with coresidence. Being married is negatively associated with coresidence and money transfers, but positively associated with time transfers. There is some evidence to suggest that women and unmarried elders are supported by their adult children. These effects are net of functional and financial need, suggesting that in the cultural context of Bangladesh, these two groups can count on their children for support. This bodes well for a future which is likely to see increasing rural to urban migration as a result of landlessness and poverty in rural areas.

Gender and marriage

A second objective was to explore the ways in which gender and marriage condition the role that elders' resources play in the receipt of transfers. For the majority of men (marrieds in particular) physical functionality has no relationship with transfers but land ownership is significant in predicting the receipt of money and multiple transfers. For married women, physical functionality is insignificant in predicting coresidence and money, but has a negative relationship with time and multiple transfers. The ownership of land reduces the likelihood of coresidence with a married son but increases the likelihood of receiving multiple transfers. Land ownership is insignificant in predicting the receipt of financial and informal support for married women. For

widows, physical functionality has a negative relationship with all three types of transfers, while land is negatively associated with coresidence, and positively associated with financial transfers and multiple transfers. Examining the relationships between elders' resources and their receipt of support separately by gender and marital status gives us important information that we could not have gotten from the pooled sample. Physical functionality is not an important factor where transfers from children are concerned for married men and women, but it is for widows. This relationship is consistent across each type of transfer. Thus, children in Bangladesh respond positively to the functional need of their widowed mothers. It is likely that they respond in the same way to their fathers who are in a similar situation, but this relationship is not fully explored in this study due to the fact that less than a hundred men in the sample had lost their spouses.

Land is an important resource for both groups, married men and widowed women, but particularly so for widowed women. Both are more likely to receive financial support from their non-coresiding children if they own land, suggesting land ownership is an important motivator of support. However, the relationship between ownership of land and the different types of transfers for widows is interesting, and suggests the need for further investigation. Widows who own land are less likely to live with a married son than widows who do not own land, but they are more likely to receive money and informal support from their non-coresident children. The negative relationship with coresidence and the positive relationship with money and informal support suggest that they might be caretakers of the land for their children. It is possible that non-coresident children are sending money to help maintain the land. The relationship between

landownership and economic well-being of widows needs to be explored further. This insight would have been lost if all elders or all elderly women were studied as a group.

Thus, an important contribution of this dissertation is that gender and marital status are important mediating factors in the transfer of support to elders, and are necessary to any analysis of intergenerational transfers within this social context.

The relationship between coresidence, and time and money.

The results of this study support my hypothesis that coresidence is an important conditioning factor in the receipt of support from non-coresident children. Elders who are coresiding with a married son are less likely to receive money and time transfers from non-coresident children. It appears that children substitute money and informal support for coresidence. However, this relationship would be better explained if it were explored from the perspective of the set of children of each elder.

The difference between coresiding and non-coresiding elders with regard to the impact of elders' resources on their receipt of support is strong and consistent, especially when support is measured as a combination of money or time or both. Here, for both groups, those who report no problems with physical functionality are less likely to receive transfers, while those who own land are more likely to receive transfers. Thus, physical functionality is negatively associated with transfers, whereas land ownership is positively associated with transfers for both coresiding and non-coresiding elders. However, the relationship between elders' health and their receipt of support measured individually (money and time) is strong and consistent only for coresiding elders. This result suggests that coresiding elders who suffer from poor health are more likely to receive both forms of support from non-coresident children than non-coresident elders

who suffer from poor health. It might be that children who coreside with parents are able to get their siblings to contribute to the support of their parents, when those parents are in poor health. Non-coresident parents in poor health are likely to get one or the other, money or time, but not both. The ownership of land remains a significant resource for both groups of elders.

The impact of elders' resources on the support they receive is made clearer only when all three forms of support are examined in conjunction, and any research on support for parents need to take this factor into consideration.

Methodological considerations and limitations of the study

The results are likely to be different if the variable that was used to measure whether an elder coresided or not included those elders who lived with as well as adjacent to a married son. Sons who live near parents are likely to provide financial as well as informal support. In this analysis, support from this source is included in the analysis of support in the form of money and informal help from non-coresident children.

There are a few limitations of the study due to the data that is available. The analyses use cross-sectional data that provides information at only one point in time. Longitudinal data are required to study processes related with the phenomenon of aging. Aging is a dynamic process. Numerous life-course transitions are associated with it, including the transition into or out of poverty, changes in marital status, changes in physical and mental health and well-being. Thus, to study the well-being of the elderly, changes over time in the marital, economic and physical status of the elder and their potential providers of support needs to be taken into account. However, this study

provides a benchmark of the extent of family support provided to elders in Bangladesh in the mid-1990s.

A more serious weakness is that the analysis is restricted by the lack of data on transfers from children within households. A comprehensive study of the dynamics of transfers to older parents from their adult children would include intra-household as well as inter-household transfers. Majority of the support to older parents is expected to come from children and children-in-law within households. This information would have added to substantially to our knowledge of the prevalence of transfers in Bangladesh.

Finally, the analysis is limited by the measure of informal support. The frequency of meetings with children does not reflect whether it was at the instigation of the elder or that of the child. Thus, its not clear if the transfers is being made toward the parent or from the parent to the child. This weakness is apparent in the lack of significance of key relationships tested in this study.

Policy recommendations

The significant influence of elders' resources on the receipt of support from adult children has important implications for policy. Given that Bangladesh is a poor country with a young age structure, it is unlikely that the government is able to devote large amounts of scarce resources to the alleviation of the problems of vulnerable elders. However, there are some ways in which the government of Bangladesh can institute policies to help elders. Some of these have short-term benefits for elders, and some will help the older age groups in the future.

The results show that elders' land and health are important factors in the receipt of support from adult children. In general, those elders who report difficulty with

functionality are more likely to receive money and informal support. Coresident elders who report difficulty in this quarter are more likely to receive support than non-coresident elders, and I have speculated that this is a result of having family in the house who negotiate for this support on the behalf of their parents. This finding suggests that other elders who have poor health may not be receiving the help they require. The government of Bangladesh has already set up a few old-age homes in the country. This study suggest that more of these might be required, as well as medical services directed toward the elderly as a group.

The results also show that land resources are an important factor in the well-being of older women, especially widows. The government could do more to protect women's claims to land inheritance, as well as to raise awareness among women about their rights in property. In the long term, investments in education for girls and improving employment opportunities for women will be of benefit to elders as well as their families.

Currently, almost 23% of all elders receive no transfers. There is increasing landlessness and poverty. It is likely that elders of the future cannot expect their families to support them in their old age. Pension plans are not a strong feature of the agriculture sector. The government could encourage pension plans and money saving schemes for fishermen, farmers, and self-employed workers. Both men and women workers should be included agricultural pension schemes, rather than just one person from each family.

In addition, as Bangladesh moves away from an agro-based economy in the process of industrialization, land is likely to become less important as a resource. It is important for Bangladeshi men and women to plan for their future well-being.

Future research

While this dissertation provides evidence for the role of elders' resources in the transfer of space, money and time to elders, the variables measuring children's ability to transfer are restricted by the fact that summary variables are used. Creating dyads between elder respondents and each of their children, respectively, would allow me to analyze individual children's characteristics in detail. The first stage in the analysis of transfers in Bangladesh was to understand the role that elders own characters played in their receipt of transfers from their adult children. Hence, the analysis was executed from this perspective. Converting the dataset from the perspective of the elders to that of the child would enable us to examine the motivations behind children's transfers to their older parents. Since it is likely that the decision to provide various types of support to parents is made among siblings, one could analyze transfers from each child conditional on support provide by his/her siblings. Both these factors could easily be considered in future research on motivations for transfers in Matlab, using the MHSS.

Table A.1 Activities of Daily Living (ADLs) that are difficult or worse for older men and women

	N	Men	N	Women
<u>Asked of all respondents at the individual level</u>				
To walk for one mile	1704	510	1649	1141
Carry a heavy load (like 10 seer rice) for 20 yards	1704	571	1649	1161
Draw a pail of water from the tube-well	1701	430	1648	938
Stand up from a sitting position on the floor (without help)	1702	249	1648	483
Use a ladder to climb to a storage place at least 5 feet in height	1703	444	1647	900
Sit on the floor with bent knees	1704	575	1647	562
Stand up from sitting position on a chair/stool without help	1704	197	1647	424
To bow	1704	304	1644	596
<u>Asked only of 50+ respondents</u>				
Sweep the floor or yard	1620	447	1579	904
Bathe without help	1620	152	1579	302
Go to the toilet without help	1619	121	1579	225
Dress oneself without help	1620	99	1579	208
Get up/down from/to your bed without help	1620	113	1579	278

Sample consists of all elders who have at least one living child, N= 3354.

Table A.2. Occupation codes

Farmer	
Agriculturist (own land)	(1)
Agriculturist (Leasing land/share basis)	(2)
Labor	
Agricultural labor	(3)
Daily labor	(4)
Leader of labor	(5)
Business	
Rice, jute, cloth	(6-8)
contractory business	(9)
stationary shop	(10)
dispensary (drug store)	(11)
grocery shop	(12)
restaurant/ hotel	(13)
Business - fish, vegetables, poultry, cattle/goat, cloth/ eye glasses	(14-18)
Business - rickshaw/van, baby/ autorickshaw	(19-20)
Hawker	(21)
Other	(22)
Rickshaw/ van driver	(23)
Fisherman	(24)
Boatman	(25)
Carpenter	(26)
Blacksmith	(27)
Potter	(28)
Weaver	(29)
Mason/ helper	(30)
Goldsmith	(31)
Tailor	(32)
Professional	
Teacher	(38 - 41)
Government officer	(42)
Government staff	(43)
Government service- health	(44)
Police, BDR, Army	(45)
Government Service (post office, jute mills, bank, hospital, garments)	(46-49,51)
Service (NGO, jute mills, abroad)	(50,52,54)
Other service	(55)
Baby / rickshaw driver	(56)
Bus driver	(57)

Table A.2. Occupation codes, continued.

Mechanic	(58)
Doctor MBBS	(59)
Para medical	(60)
Village doctor	(61)
Engineer	(62)
Homeopath	(63)
Home production	
Housewife	(64)
Husk paddy/ boil / dry	(65)
Cattle – goat rearing	(66)
Poultry rearing	(67)
Bamboo cane handicraft	(68)
Sewing/ weaving	(69)
Vegetables/ fruits	(70)
Help in husbands work	(71)
Other	(72)
Other	
Student	(33)
Retired	(34)
Unable to do work	(35)
Wanting job	(36)
Unemployed at present	(37)

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