ABSTRACT

Title of dissertation: DOES GENDERED LABOR FORCE STRUCTURE AFFECT ADULT CHILDREN'S PROVISION OF TRANSFER TO THEIR ELDERLY PARENTS? AN EXAMINATION OF THE LATE-MIDDLE-AGED GENERATION

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Adult children are key supporters of elderly parents, providing both monetary and time resources. In the existing literature, the most commonly used approach to assess this intergenerational transfer process is the "need versus ability" model. It posits that parents with higher need are more likely to receive support, whereas adult children equipped with better support-giving ability are more likely to give transfers. In addition, adult children's transfer motivation, including altruism, reciprocity, and rational calculations, all provide theoretical insight into the question of transfer differentials.

Using the 1992 and 1996 Health and Retirement Study (HRS 92-96), this dissertation goes beyond the need, ability, and motivation model to examine how adult children ages 51 to 61 satisfy their non-coresident parents' need. This project incorporates gender norms and adult children's labor force participation constraints to

assess the gendered division of transfer practices. The effects of spouses' and siblings' roles, resource competition between grandchildren and their grandparents, resource competition between two living parents, and adult children's life course transition, are also considered.

Statistical analysis shows that both gender norms and the gendered labor force structure affect adult children's transfer behaviors. Adult sons tend to use monetary transfers to substitute for time contributions because their opportunity costs in the wage market are high. Conversely, because the social norms construe women as primary caregivers, adult daughters' time contributions to parents do not decrease even when they are well-paid. Spouses of adult children may either be transfer supporters or resource competitors to their parents-in-law. While siblings are important in transfer practices, this study finds that sisters are more likely to substitute for adult children's caregiving roles, whereas brothers' contributions supplement adult children's transfer efforts. Finally, adult children's transfer practices are sensitive to their employment transitions. Adult children who stayed in the labor force from 1992 to 1996 are the most likely to increase their amount of monetary transfers. On the other hand, those who retired from their paid jobs in the studied time interval are more likely to increase their time contributions.

DOES GENDERED LABOR FORCE STRUCTURE AFFECT ADULT CHILDREN'S PROVISION OF TRANSFER TO THEIR ELDERLY PARENTS? AN EXAMINATION OF THE LATE-MIDDLE-AGED GENERATION

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Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, College Park in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
2005

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ACKNOWLEDGEMENTS

I am finally coming to the end of my graduate study. I would like to express my appreciation to people who provided me with guidance and encouragement through this challenging experience.

I am deeply grateful to my advisor, Dr. William Falk. My writing experience has been enriched by his help and his sense of humor. I will remember his persistence in theorizing sociological perspectives into my empirical study. I am thankful, not only for his constructive involvement in my work, but also for his inspiration.

I also want to give my special thanks to my dissertation co-chair, Dr. Rebeca Wong. She is a remarkable and resourceful mentor. Throughout the research process, her methodological expertise and detailed suggestions gave me a lot of intellectual stimulation. I saw what a good researcher should be in her. Without her support, this project would not exist.

Thanks to Drs. Suzanne Bianchi, Michael Paolisso, and Reeve Vanneman, for generously agreed to serve on my committee.

Certainly there is one person who deserves my deepest gratitude. Ever since I came to the States, Todd, my best friend, and my newly-wed husband, has accompanied me along the way. His love, tolerance, patience, and encouragement led me through the years of my graduate studies. Although I am heading into an uncertain future after I leave the University of Maryland, I have no fear. I am ready for the new challenges, because I have him with me.

Finally, I wish to say “thank you” to my family, and to my good friends in Taiwan and Maryland. Although finishing a dissertation is not at all a great achievement in my life, I know they will genuinely feel happy for me.

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Introduction

Background

Over recent decades, the number of Americans age 65 or older has grown as a proportion of the entire population, and the size of this age group continues to expand. Researchers estimate that by 2030, when the baby boomers are between 65 and 85 years old, the ratio of elderly to working age adults will increase to 36 percent (Curran, McLanahan and Knab, 1998). The share of population over age 80 in the United States among all elderly is already large—about 26% in year 2000 (National Research Council, 2001). This unprecedented aging phenomenon poses multiple challenges to the society as a whole. A critical implication of the changing age structure is that the economy is likely to generate fewer resources per capita in the foreseeable future. As a result, "intergenerational equity" has begun to attract the attention of policymakers and the general public.

An aging population increases the social costs of a society. Over the years, the cost of public programs for seniors has placed fiscal pressure on government at all levels. Some scholars argue that the future of elders in the U.S. is a manageable social burden (Getzen, 1992) and that the corresponding trend of declining fertility has lessened the burden of working age adults to provide for children (Burtless, 1993). Others, such as Preston (1984), contend that elders are competing with children for limited social resources, and that the wellbeing of future generations is threatened

because the government directs resources to the elderly rather than to young people. Taking into account the anticipated growth of the senior population and the debates it has generated, the question of who will be responsible for the wellbeing of the elderly will become continually more significant. Because of the controversy that this issue is likely to generate, policy makers, social scientists and the general public must evaluate the ways in which the social costs associated with elderly caregiving can be diminished and diluted.

In contemporary American society, family members provide the majority of elder care because state benefits tend to be inadequate and market services are usually costly. Even in Europe, where welfare state policies are more generous, state provisions have the effect of encouraging family members to provide intra-household transfers for their needy elders rather than crowding out family participation in care (Kohi and Künemund, 2003). On the other hand, elders may prefer receiving transfers from their family members. Because intra-household support involves emotional comforts and love, it is likely that elders who receive family support would feel respected and valued in the family.

Since the spouses and siblings of seniors have similar levels of morbidity and mortality, adult children usually play an important role in providing assistance to senior citizens. As in many other countries, American social norms unambiguously regard parent-child support as a long-term process. When children are young, parents provide the help they need. As children grow, it is implicit that they will reciprocate and provide for their parents' later-life wellbeing. This feedback and exchange

process between parent-child generations has an important sociological meaning. From a functionalist perspective, intergenerational support could enhance the wellbeing of young children and older parents. When families provide a solid safety net to the individual social actors, the society as a whole would also be better-off. While U.S. family structure has experienced tremendous changes over the past decades, the value of giving support among family members still holds. Indeed, the concept of intergenerational support will become even more important in the near future because most adults will have older living parents during their lifetime.

The purpose of this dissertation is to investigate the determinants that affect intergenerational support. Specifically, my analysis attempts to explain what are the major factors causing adult children's support-giving differentials to their elderly parents. I use adult children's life course constraints as the key framework to assess how adult children's paid-work experience, family structure, and socio-economic ability may affect their support-giving behaviors. I also evaluate whether certain elderly parents' characteristics can have an impact on the intergenerational-support outcomes.

Throughout this dissertation, the term "intergenerational transfer" will be interchangeably used with the concept of "intergenerational support". In the field of Demography, researchers use "intergenerational transfer" to describe the ongoing reciprocal relationship between parents and their children, and define it as "a generic term used to describe the flow of resources within the extended family" (Soldo and Hill, 1993). The direction of the resource flow often changes with people's life course

transitions. Soldo (1996) asserts that there are three intergenerational transfer capitals worthy of research: (1) *space*, usually measured by intergenerational coresidence, can be viewed as a proxy to evaluate the demand of support; (2) *time*, refers to time spent on caregiving chores or companionship, and (3) *money*which includes giving and receiving financial and other material resources. Although each type of transfer has its own definition, these transfer capitals are more likely to be complementary than mutually exclusive. For instance, adult children who share a residential space with unhealthy parents have the closest proximity to provide caregiving services to their parents. Living under the same roof also increases adult children's likelihood to pay for their parents' expenses. In this case, intergenerational coresidence, monetary and time transfers are simultaneous and the parents are the major beneficiary. However, it is also common for a two-way transfer. For example, older parents may provide child-care assistance and receive financial feedbacks from their adult children. Through the exchange process, elderly parents and their adult children each obtain the resources they need.

The complexity of an intergenerational relationship that features three transfer capitals and two directions requires that intergenerational transfer researchers focus their research to attain analytical clarity. In the case of this dissertation, only transfers from adult children to their parents will be discussed since this is the more important transfer direction for understanding elderly caregiving. It is also necessary to exclude coresident parents and adult children from these analyses to avoid endogenous causality. Intergenerational coresidence may imply that parents are highly dependent

on their adult children's support. However, unless we have detailed information regarding parent-child coresidence history and motivation, it would be difficult to sort out the causality between intergenerational coresidence and the level of monetary and time transfers. For example, in order to conveniently provide monetary and time transfers, some adult children may choose to live with their needy parents thereby coresidence is the result, but not the cause, of the transfer behavior (monetary and time transfer → intergenerational coresidence). While in other situations, if adult children have been living with their parents for a period of time, they may provide monetary and time transfers anyway regardless of their parents' need. This means that intergenerational coresidence would result in monetary and time transfers (intergenerational coresidence → monetary and time transfer), and parents' dependence may or may not affect the likelihood or amount of support given by the adult children. Since one of my research purposes is to examine whether parents' characteristics have an impact on the monetary and time transfer outcomes, I must exclude coresidence cases so that the casual relationship can be defined in a clear manner.

In today's world, more and more elderly-care services are purchased from the market due to the joint effects of a changing demographic profile and the growth of the labor force economy. Only a few decades ago, the picture was quite different from what it is today. Men were the family breadwinners and most women were homemakers. The high fertility and low survival chances of the elderly usually resulted in children receiving most intergenerational support including time and

money; caregiving to elder parents was not as common as it is today. When it was necessary, unemployed women would take up the responsibility of caring for elderly parents. Men, on the other hand, tended to engage in income-generating activities to satisfy the financial need of their families. The household division of labor simply reflected the dominant norms at the time–men contributed financially because they had the ability to "survive" in the labor market, while women provided time because they had the "natural capacity" to perform caregiving services and child-care tasks.

Today, prolonged life expectancy has meant that adult children are more likely to have living parents at older ages. Moreover, significant declines in fertility have meant that elders have fewer adult children to help support them. As a result, it is common for adult children to provide money and/or time to their older parents. Moreover, since adult children tend to have fewer siblings, they are less likely to share transfer duties with their brothers and sisters, and must bear a greater proportion of elderly-care responsibilities. It is reasonable to expect that this strains the division of labor in married adult children's families. When there are few siblings to share elderly care responsibilities, the spouses of adult children may be called upon to help, playing a complementary or substitute role to fulfill their parents-in-law's need.

While spouses of the married adult children are a potential source of support, there are reasons to believe that in married dyads, time transfer responsibilities are absorbed mostly by wives rather than by husbands. In addition to the gender norm, a fundamental issue underlying this phenomenon is that, again, men and women have different transfer resources and abilities. When caring for an elderly parent becomes

necessary, monetary transfers can supplement time transfers. But the use of monetary transfers to replace time transfers is contingent on the wherewithal of adult children. Where do adult children find the funds to pay for caregiving? In the absence of financial resources to purchase elderly-care services from the market, at least one family member must perform the caregiving tasks on their own, and typically this has been a woman.

In spite of the convergence of labor force participation for men and women over the past decades, a gendered wage gap still exists (Chang, 2000). Women continue to earn less than men. Because of their relatively low wages, purchasing elderly-care services can be too expensive for adult daughters and daughters-in-law. Moreover, because women are often viewed as primary caregivers, they may be obligated to bear the caregiving burden regardless of their work status. In a society where the majority of women are part of the labor force, adult daughters and daughters-in-law must balance paid work and family responsibilities. Adult sons with higher wages can stay in the labor force and purchase elderly care services in lieu of their time contribution, while adult daughters and daughters-in-law may need to restrict their paid-work hours or career development in order to fulfill their caregiving duties. The long term consequence of this gender gap is that men pursue career achievements and accumulate savings before reaching their retirement age while women's potential for self-fulfillment, and their own financial wellbeing in the later years, may be sacrificed. The fact that gender inequality is prevalent in elderly-care practice indicates that the society as a whole should make efforts to minimize

women's caregiving burden. To achieve this goal, not only the existing gender norm needs to be modified, but the gendered wage structure of the labor force should also be regulated thereby enhance women's financial ability to afford market services.

Key questions

Intergenerational transfer practices are embedded in an intricate social-economic nexus. A gendered labor force, social norms, adult children's family structure, adult children's ability to provide resources, and elderly parents' needs are all intertwined in intergenerational transfer processes. In the coming decades, as the baby-boom cohorts begin to enter old age and the size of the aging population grows, the problem of an unequal division of labor in elderly-care tasks will become more acute. It is therefore essential to answer following questions:

1. Do adult children of different sexes utilize transfer capitals differently? To be specific, do adult sons provide more financial transfers than adult daughters? Compared to adult sons, are adult daughters more likely to provide time transfers to their elderly parents?
2. If the answers to the above questions are positive, to what extent do adult daughters' decisions to be caregivers (spending time) reveal a gendered labor force effect? That is, do adult daughters' lower wages relative to adult sons' reduce their ability to provide financial transfers, and cause them to increase their time contribution to their parents? Conversely, do

adult sons use greater amounts of monetary transfers to stay in the labor force and limit their time transfers as much as possible?

3. Can we argue that adult daughters tend to use monetary and time transfers simultaneously because these two types of transfers are "supplements" to each other, while adult sons consider monetary transfers as "substitutes" of their time transfer?
4. What role do spouses of adult children play in intergenerational transfer practices? When spouses themselves need support, do they compete for resources with their parents-in-law?
5. To what extent can the involvement of adult children's siblings in the intergenerational transfer process serve as a replacement, or supplement, to adult children's own transfers? Do brothers and sisters' patterns of transfer affect individual adult children's transfer provision decisions?
6. When adult children are obligated to support their own children, do they transfer less resources to their elderly parents?
7. If both elderly parents are living, do they compete with each other for adult children's resources?
8. To what extent does adult children's ability and parents' later-life need affect adult children's actual provision of transfers?
9. In the long-term, do adult children adjust their transfer plans with their own future life course transition in mind?

The main objective of this project is to explore the nature and the complexity of intergenerational transfers between adult children and their elderly parents. Gender inequality in the labor market and socially defined gender roles are likely to affect adult sons and daughters' intergenerational transfer behaviors in different ways. As the members of the "sandwich generation" who have older parents and financially dependent children, adult children ages 51 to 61 may experience multiple constraints related to their life course transition. On the one hand, some of these adult children may still shoulder the responsibility to support their financially dependent children. On the other, although spouses and siblings of the adult children may help to share the intergenerational transfer burdens, because these family members are also aging themselves, they could potentially increase adult children's transfer pressure, too. For instance, if spouses of the adult children are much older and have poor health, adult children would have to make efforts to balance their support duties between their spouses and elderly parents. Work on this topic is particularly relevant in exploring gender inequality. It helps to revisit the family roles of women beyond their child-bearing and child-rearing years. The lengthening longevity witnessed by the demographic transition has expanded women's family responsibilities. At earlier ages, women have to take care of their young children which often resulting in limited labor force participation. As they enter late-middle ages, women are also more likely than men to be the primary caregivers for the elders in the family. In short, it is worthwhile to ask how different life course transition experiences between women

and men create the inequality in the social world, and discuss what the social implications are for the future generation.

I use a nationally representative, longitudinal dataset (Health and Retirement Study, 1992 and 1996) to examine how adult children of the pre-baby boom generation (men and women born between 1931 and 1941) find equilibrium between their work and family lives before reaching retirement age. The investigation of this cohort has special importance for understanding intergenerational transfer processes. Because a significant proportion of people in this age category have older parents who need care, and because many women of this cohort also work outside the home, this study provides a unique opportunity to examine late-middle-aged adult children's intergenerational transfer practices associated with their labor force participation experiences. An analysis focused on both adult sons and daughters' work and family responsibilities will help us to understand women's positions relative to men, and can serve as a guideline for a graying society.

Structure of this study

In this dissertation, I will use theoretical and empirical analyses to answer the questions raised in the prior sections. This dissertation is organized as follows:

In Chapter 2, a review of existing literature will be presented. The first part of the literature discusses the relationship between life course transitions and intergenerational transfers. Although the goal of this dissertation project is to explain the causal relationship of transfer to parents, a brief summary of transfers from

parents to their children is also included, with the hope of enhancing the reader's understanding of intergenerational transfer studies. The second component of this literature review chapter addresses how gendered social norms mandate adult daughters as the primary caregiver and push them into the family sphere, and how gendered labor force structure potentially endows adult sons with a better ability to provide monetary transfers by giving them higher rewards in the labor market. This gender effect also applies to adult children's spouses and siblings—wives and sisters are often delegated as male adult children's substitutes for time transfers, whereas husbands and brothers are supposed to bring money to the family in order to defray caregiving costs. This chapter ends with an extended discussion of other influential factors on intergenerational transfer practices, and suggests the contributions of this study.

The conceptual framework and study hypotheses are presented in Chapter 3. I describe the conceptual definitions of gendered division of transfer by incorporating gender norm and gendered labor force structure into the discussion. The study hypotheses are constructed along five lines: (1) adult children's sex and labor force participation experiences; (2) the effect of adult children's family network in the transfer practices, including (a) adult children spouses' characteristics and (b) adult children siblings' characteristics; (3) resource competition between children and elderly parents of the adult children; (4) adult children's support-giving ability; and (5) elderly parents' need.

Chapter 4 presents the research methods. It gives details about the data, sample, variables, and explains the analytical strategies of this dissertation. Descriptive statistics are also provided in this chapter to depict the compositions of the samples. Presentation of the findings begins in Chapter 5. In Chapter 5, adult children's monetary transfers from 1992 to 1996 are discussed, and the parallel analyses for time transfers are presented in Chapter 6. Finally, Chapter 7 offers an overall conclusion, discusses social and policy implications, and provides suggestions for future research.

Chapter 2

Literature Review

Intergenerational transfers involve three elements—parent-child coresidence, time transfers, and monetary transfers. These transfer "capitals"—the term adopted by Soldo (1996)— are usually complementary of each other. In this study, the main focus is the transfer from adult children to their older parents. Parents who encounter economic constraints or functional limitations, or both, and cannot satisfy their own need, are more likely to receive transfers from their adult children. However, parents' need itself is a "necessary but insufficient" condition for their receipt of transfers. The incidence and the amount of transfers depend not only on parents' need, but also on adult children's ability to give transfers. The need to receive transfer, and the ability to give support, are closely related to people's life course transition experiences (Boaz, Hu, and Ye, 1999). Adult children's transfer motivation is crucial, too, because motives signify the effect of situational and contextual changes, which can help us to interpret the various transfer outcomes in the structures of social relations (Kohli and Künemund, 2003).

Intergenerational coresidence

Intergenerational coresidence can be viewed as a proxy of dependence. Parent-child coresidence is not uncommon, yet the frequency of coresidence varies by parents' and adult children's life course stages. Empirical studies show that in the

United States parents' and children's life course transitions greatly affect their need and ability, and coresidence can serve as an intergenerational support strategy. Although the main concern of this study is the receipt of transfers of elderly parents from their adult children, the following paragraphs briefly discuss why parents living with younger-aged adult children tend to receive less intergenerational support from their coresident children.

Adult children as coresidence beneficiary

In U.S. society, intergenerational coresidence of parents and younger adult children usually benefits the children more than the parents. Younger adult children who live with their parents tend to lack the ability to establish an independent residence of their own (DaVanzo and Goldscheider. 1990). In recent decades, because young adults stay in school longer, they are more likely than their parents' generation to delay their timing of nest-leaving. Staying at home means that younger adult children have greater chances to receive support from their parents. As a type of in-kind transfer, parents who share their living spaces with young adult children also extend their monetary and time transfer-giving years until their children become independent (Yi, Coale, Choe, Zhiwu, and Li, 1994).

Parent-child coresidence also continues after adult children finish their education. Now returning to the parental home is no longer uncommon among adult children who recently completed their college education, who are between jobs, or who experience marital dissolution (Goldschider, and Spear, 1992; DaVanzo and Goldscheider, 1990; White, 1994). Intergenerational coresidence precipitated by this

situation is usually initiated by children (either never move out, or move back to parental home) and benefits the children but not the parents (Rossi, 1993; Speare and Avery, 1993). By living with their parents, young adults are able to enjoy economies of scale, although it is not without other cost-benefit considerations and often results in a loss of privacy (Alwin, 1996; Avery, Goldschider, and Spear, 1992; DaVanzo and Goldscheider, 1990; White, 1994).

In most of these families, the reciprocal transfers from children to their coresidence parents are limited. Adult children's financial and non-financial contributions such as sharing utility bills and housework responsibilities are relatively low. Younger adult children are less likely to reciprocate than adult children of older ages. Empirical studies point out that there is almost no change or just a slight increase in transfers from children in their 20s to their parents, yet the likelihood for adult children to provide transfer to parents increase with their age. On the other hand, coresidence parents' support to adult children generally declines after children reach age 30 (Coony and Uhlenberg, 1992; Sprize and Ward, 1995).

Older parents as coresidence beneficiary

Although the aging population has increased tremendously in the United States, the proportion of elderly who live with an adult child has gradually diminished throughout the twentieth century. Elders today simply have fewer adult children with whom they could live (Schoeni, 1998). Value changes, adult children's employment and migration opportunities, as well as financial status improvements among elderly

parents, have all resulted in the decline of intergenerational coresidence between elders and their adult children (Crimmins and Ingegneri, 1990; Kramarow, 1995).

Although the proportion of elderly parents who coreside with their adult children has been decreasing, about 20% of the older parents lived with their adult children in the most recent decade (Lee and Dwyer, 1996; ward, Logan, and Spitze, 1992). The aging process creates dependence. Intergenerational coresidence in this scenario is more beneficial to the parents than to adult children. Lee and Dwyer (1996) argue that the probability of parent-child coresidence increases with parents' advancing age. Likewise, Pezzin and Schone (1999) also suggest that the likelihood of intergenerational coresidence increases when parents suffer from functional limitations that are highly associated with old age. Living with parents establishes a close proximity for adult children to provide either financial or non-financial assistance to their parents. For parents who have difficulties performing activities of daily living (ADL) and instrumental activities of daily living (IADL) such as eating, bathing, preparing meals, shopping, or managing money, coresidence with adult children is a practical option for them to fulfill their later-life needs (Pezzin and Schone, 1999).

Other than parents' age and functional difficulities, studies have also found that elderly parents' sex and marital status are important determinants of intergenerational coresidence. Elderly mothers are more likely than fathers to live with their adult children (Speare and Avery, 1993; Weinick, 1995). While widowed elders have a higher likelihood of living with their adult children, once elderly

parents' economic status and health are considered, unmarried seniors with secure income and fewer functional difficulties would prefer to live alone (Aquilino, 1990; Krivo and Mutchler, 1989; Worobey and Angel, 1990).

Finally, recent literature also demonstrates a racial/ethnic difference in respect to intergenerational coresidence. Blacks are more likely than whites to live in a multi-generation household. The coresidence of Hispanic parents and their adult children is likely triggered by the economic need of both generations (Crimmins and Ingegneri, 1990). Compared to non-Hispanic whites, Asian adult children are significantly more likely to live with their elderly parents (Burr and Mutchler, 1993; Speare and Avery, 1993). In sum, a higher level of intergenerational coresidence is found in the minority households than in the non-Hispanic white families.

Monetary and time transfers

Transfer from parents to their adult children

The most widely used approach to conceptualize the intergenerational transfer process is by addressing need and ability of each generation (Boaz, Hu, and Ye, 1999; Chatters and Taylor, 1993; Eggebeen and Hogan, 1990; Eggebeen, 1992). When adult children are still young, the amount of transfers from parents to their children is generally far greater than the reverse. Parents, however, do not give transfers equally to every child. Children who are less well-off financially than their siblings are more likely to receive monetary transfers from their parents (McGarry and Schoeni, 1995; McGarry and Schoeni, 1997; Wong, Capoferro and Soldo, 1999). Furthermore, adult

sons who are in school or unemployed have a higher likelihood to receive parental support (Rosenzweig and Wolpin, 1993). Some parents consider that giving transfers to their children is indeed an investment for their own future wellbeing. By providing resources to their children, parents expect to receive certain levels of feedback in the long run. Nevertheless, research shows that parents are inclined to invest more in better educated children who are likely to yield greater returns (Lee and Aytac, 1998).

In the following section, I will address how parents' need and adult children's ability affects monetary and time transfers from adult children to their parents.

Effect of elderly parents' need

Parents' receipt of monetary and time transfers is strongly influenced by their need (Couch, Daly, and Wolf, 1999; Eggebeen, 1992; Lee and Dwyer, 1996; Pezzin and Schone, 1999). Like intergenerational coresidence, parents' need for monetary and time transfers also alter with their life course transitions.

It is more than apparent that the parents' need is highly correlated with their age. Because advancing age is associated with degrading health and functional conditions, older parents are more likely to obtain time transfers from their adult children (Boaz, Hu, and Ye, 1999; Dwyer, 1995; Pezzin and Schone, 1999). Also, since oldest-old parents have a higher risk of being poor than their young-old counterpart (Burkhauser and Smeeding, 1994), their financial needs are certainly greater and they are more likely to receive monetary transfers.

Life expectancy has increased tremendously over the past decades. However, living longer does not necessarily mean that quality of life has improved.

Demographically women live longer than men. The longer life expectancy is often accompanied by chronic health conditions and functional limitations and economic difficulties (Estes, 2001; Smith and Kington, 1997). Based on this rationale, parents' sex has an impact on their receipt of transfer because older mothers may have higher later-life needs than fathers. While male elders usually acquire support from their wives, older women do not. Women often provide caregiving services to their older husbands and when they become older and need support, they rely on adult children for assistance. For this reason, the likelihood for mothers to receive monetary and time transfers from their adult children is higher than fathers (Dwyer, 1995; Moen, Dempster-McClain, and Williams, 1992).

The economic status of the elderly has improved remarkably over the past years, and it is often thought that elderly today are financially better-off than their counterparts in the prior generations. Nevertheless, it would be misleading to assume that all seniors are wealthy (Collins, Estes, and Bradsher, 2001; Smeeding, 1990). Economic stratification among the U.S. elderly is relatively sharp, as a consequence of the retirement and individual's socioeconomic histories over the lifetime (Crystal, 1996).

Parents' socioeconomic status often plays a decisive role in their economic wellbeing, which may directly affect their receipt of monetary transfers. Because retired parents lack wage income, parents' assets are particularly important when assessing parents' need because these take life course transitions and wealth accumulations into account. Instead of assuming elders' financial security as a "one-

time-only" phenomenon, investigators should treat elders' economic states as a "cumulative process" because people's early life experiences may result in social stratification at older ages (Collins, Estes, and Bradsher, 2001; Pampel and Hardy, 1994; O'Rand, 1996). Parents with greater financial resources will be less likely to require monetary transfers from their adult children.

Parents' financial status also has an impact on their health, which further affects their acquisition of time transfer. Although diagnostics and treatment have been enhanced by advanced medical technologies, elders have varying abilities to access medical services. In the United States, elders with more financial resources are better positioned to take advantage of high quality medical services, are healthier, and enjoy a better quality of life. Conversely, less affluent elders may put their health at risk by delaying the timing of their diagnosis and necessary treatment. Therefore, economic resources have a decisive effect on the health wellbeing of the elderly. Elders who can afford better quality health-care services are healthier than those who can't, and thus require less time transfers from their adult children (Smith and Kington, 1997).

Elders' years of education, although not precisely reflecting their actual financial situations, could serve as a proxy to evaluate financial need. Compared to their less educated counterparts, parents with higher educational attainments may have had better-paid life-long jobs before they retired, and have accumulated more wealth over their lifetime. Therefore, it is not surprising that parents with longer years of schooling may have lower needs for monetary transfers. Parents' education may

also affect their receipt of time transfer. Empirical studies find that better-educated individuals tend to have better knowledge to monitor their own health conditions, parents with higher educational attainment usually need less instrumental assistance from their adult children (Pampel and Hardy, 1994; Smith and Kington, 1997).

Parents' marital status is an indicator of their later-life need. Married parents are more likely to have stable economic situations and their spouses can provide immediate support, so married parents are less likely to receive monetary and time contributions from their adult children. Widowhood increases parents' need for support and substantial numbers of elderly parents who receive time and monetary transfers are widowed parents (Eggebeen, 1992; Roan and Raley 1996). Empirical studies also note that widowhood raises parents' perception of a need to acquire assistance from their adult children (Curran, McLanahan, and Knab, 1998). Yet elderly widows' need for support shows a discrepancy after controlling for parents' socioeconomic characteristics. In the most recent decade, elderly widows have become more independent and require less support. McGarry and Schoeni (2000) contend that this is because Social Security benefits and income growth among the elder population have enhanced older widows' self-care ability.

Contrary to widowhood, parents' marital dissolution due to divorce may have a different effect on intergenerational transfer outcomes. A key issue related to parents' divorce and receipt of transfer is the quality of parent-child relationship. Parents' divorce often weakens parent-child relations and reduces parents' receipt of transfers (Eggebeen, 1992, Kaufman and Uhlenberg, 1998; Pezzin and Schone, 1999;

Lye, 1996). However, the timing of parents' divorce and parents' sex are essential in this regard. Furstenberg and his colleagues attest that fathers and mothers who divorced at later ages tend to receive similar levels of transfers from their adult children. Moreover, while parents' divorce during a child's childhood years increases transfers with mothers, early-divorce sharply lowers transfers to fathers (Furstenberg, Hoffman, and Shrestha, 1995). Women are more likely than men to have child custody after divorce, meaning that, in the long-run, their wellbeing may be better than that of the men because they are more likely to receive support from their children (Curran, McLanahan and Knab, 1998; Shapiro and Lambert, 1999; Silverstein and Bengtson, 1997). The high divorce rates in recent decades and the sex differential in the establishment of support networks have a long-term implication for men and women. An examination of parental marital status and the quality of parent-adult child relations after parental marital dissolution will enhance our understanding of how parents' life course experiences may affect adult children's motivation to reciprocate.

Effect of adult children's ability

Although parents' need is a crucial determinant in the transfer process, if adult children do not have the ability to provide the required resources, it is unlikely transfers will be made. Adult children's access to time and monetary resources is the key factor of whether they are able to give transfers. Adult children's ability varies throughout the different life course stages, and the possession of monetary and time resources often reflects their life constraints. It is also worth mentioning that transfers

of monetary and time resources are usually simultaneous. Each practice could be the substitution, or the supplement, to the other. Therefore, adult children are likely to adjust their transfer strategies when they perceive a possible change in their ability to provide for their parents.

Compared to younger adult children, adult children of older ages tend to have better ability to provide monetary and time transfers because they are more likely to have stable marriages and secure financial statuses. Yet it is important to note that the positive relation between adult children's age and parents' receipt of transfers may have a threshold. Because older workers are subject to age barriers in labor markets (Ginn and Arber, 1994), adult children at retirement age may encounter an income constraint and be less likely to provide high levels of monetary transfers to their parents. Adult children who have reached retirement age may also suffer from health problems that prohibit them from providing time transfers to their parents as well. In other words, adult children's age may have a non-linear effect on their financial and time transfer behaviors.

The reason why adult children's marital status may affect their ability to provide intergenerational transfer is rather straightforward. Marital status has a great impact on an individual's wellbeing, especially for women. After a marital dissolution, women usually suffer a significant decrease in their standard of living yet men are more likely to experience an increase in their income (Holden and Smock, 1991). Therefore, adult daughters who have experienced a marital dissolution may be less likely than divorced sons to provide monetary transfer to their parents. White and

Peterson (1995) posit that unmarried adult children are likely to receive financial support from their parents but not the reverse. However, there is a reason to believe that unmarried adult daughters would provide time transfers to their parents. Unmarried adult daughters may use time transfer in exchange for their receipt of financial resources and are not obligated to contribute their time resources to people other than their own parents.

Conversely, an intact marriage ensures a stable financial status due to income pooling with the spouses. For married adult children, a spouse may become a potential source of support for the parents-in-law. The division of labor between the married couple provides more flexibility for households with elderly-care need. Hence, compared to the unmarried adult children, married adult children may have a greater ability to give financial and time transfers to their old parents.

Due to data limitation, to date, research on racial/ethnicity differences in intergenerational transfers mainly delineates the transfer differentials between non-Hispanic white and non-Hispanic black populations; few studies have examined the transfers in Hispanic and Asian families. It is nevertheless clear that different racial groups have their own cultural uniqueness in terms of fulfilling elderly transfer responsibility.

Racial effect in U.S. is often intertwined with adult children's work, gender, and marriage constraints. Compared to non-Hispanic white adult children, black adults are less likely to provide monetary transfer to their parents. Nevertheless, the smaller amount of monetary transfer from black adult children to their parents is

associated with their economic disadvantages relative to whites. First of all, studies indicate that the racial composition of the labor market creates a wage gap between blacks and whites, with the wage rate significantly lower in the occupations with high densities of black workers (Hirsch and Schumacher, 1992; Tomaskovic-Devey, 1993). Second, the high unemployment rate among the inner-city black population also reduces their ability to provide financial transfers to their parents (Browne, 2000; Johnson, 1995). The high marital disruption and out-of-wedlock birth rates among black women also constrain black women's financial situations. The multiple economic pressures experienced by the black adult children can thus explain their low financial transfers. After controlling for adult children's socio-economic status, the likelihood for black adult children to provide financial transfers to their parents becomes similar to that of whites (Taylor, 1988; Wong, Capoferro, and Soldo, 1999).

Interestingly, the financial transfer from Asian adult children to their parents is significantly affected by adult children's birth order. The East Asian culture strongly emphasizes the value of filial piety. The oldest adult children usually have the greatest responsibility for their parents' later-life wellbeing. First-born Chinese and Korean adult children are significantly more likely than their siblings to give financial transfers to their elderly parents. With close proximity, older Japanese adult children also have a high likelihood to provide financial resources to their parents (Ishii-Kuntz, 1997).

As for time transfers, studies show that blacks and Hispanics have higher filial responsibility expectations than do whites, and the difference is only marginally

attenuated by controls for socio-demographic and other factors (Burr and Mutchler, 1999; Lee, Peek, and Coward, 1998). The high incidence of intergenerational coresidence makes black elders highly likely to receive support (Chatters and Taylor, 1993; Taylor, 1988). Hispanic elders also expect their adult children to provide time transfer or live with them when they are in need (Burr and Mutchler, 1999). Asian adult children's time transfer to their parents is influenced by the cultural value of filial piety. Providing time transfers is a widely accepted norm among the Asian communities, regardless of adult children's social-economic ability. Nevertheless, children's provision of time transfer is also based on parents' social interactions. Parents tend to receive higher level of time transfer from their adult children if they do not interact frequently with other friends or relatives (Ishii-Kuntz, 1997).

Adult children's support-giving ability can be assessed from their economic conditions, too. Having greater income and assets increases the likelihood for adult children to give transfers. Adult children with higher educational attainment usually have better earning potential. Higher wages provides an opportunity for adult children to use financial transfers to substitute for time transfer, and having more household assets is positively related to the financial transfer to the parents (Couch, Daly, and Wolf, 1999). Since adult children who are not well educated usually occupy the lower strata of the occupational hierarchy, their limited income may compel them to offer more time transfers instead.

As a sandwich generation with both dependent children and elderly parents, adult children with living elderly parents may also shoulder the responsibilities of

supporting their financially dependent children. As mentioned in the earlier sections, the increase in young adults' years of education implies that adult children at their twenties may still rely on their parents to pay for their education and daily expenses. Because household resources are often limited, elderly grandparents have to compete with their grandchildren for the transfer resources. In their 1999 study, Couch et al. found that having more children under age 18 would significantly decrease adult children's monetary contribution to their elderly parents, yet there is no significant evidence to prove that adult children would use time transfer as a supplement (Couch, Daly, and Wolf, 1999).

Other factors affect adult children's transfer

Adult children's transfer motivation

Besides parents' need and adult children's ability, another component affecting adult children's transfer outcomes is their transfer motivation. Transfer motivation is a complex pattern and is likely to interact with other factors. Assuming individual adult children have a single well-defined motivation would be unrealistic (Kohli and Künemund, 2003).

Altruism is a commonly adopted theory to assess transfer motivation. It posits that affection, moral duty, and sense of obligation are the incentives causing transfers. Adult children who are altruistic would transfer resources to their needy parents because they are concerned about the welfare of their parents (Becker, 1974; Becker 1991).

Other than altruism, some argue that exchange theory can also shed light on the intergenerational transfer study. This theory contends that one provides resources or gifts to others because they anticipate a future return. Hence, children with an exchange motive may provide transfers to their parents in exchange for future bequests (Bernheim et al, 1985; Cox, 1987).

Transfers could be based on reciprocity as well. The concept of reciprocity is indeed parallel to the arguments made by exchange theory (Zissimopoulos, 2001). Both theoretical perspectives involve rational calculation and psychological expectations, and the return-transfer can be made by the transfer recipient immediately or in the long-run. For instance, studies point out that adult children's schooling may trigger the reciprocity effect and influence parents' receipt of intergenerational transfers (Ikkink, van Tilburg, and Knipscheer, 1999). Since some parents consider giving monetary transfers to better educated adult children as an investment, they hope that these children will yield a larger return in the future; thus, one can expect that adult children with longer years of schooling will give to their parents based on the principle of reciprocity (Lee and Aytac, 1998; Lin et al, 2000).

Spouses' role in the transfer practice

In a marriage dyad, couples often negotiate a household strategy and make attempts to maximize the wellbeing for the members of the family. Husbands and wives can have a division of labor when they make plans regarding how and who should give what kind of transfers. However, although spouses may share transfer responsibilities with adult children, the task assignment is often gender-specific. The

decision-making power between husbands and wives is mostly unequal. Older, better educated spouses and spouses with a greater amount of earning tend to occupy an advantaged position in the negotiation process. In the United States, many women marry an older husband, and husbands often possess a higher earning potential than their wives in the labor market. Hence, wives frequently substitute for adult sons' caregiving role within the household, while husbands' transfer involvement is merely complementary to adult daughters' transfer contributions (Zissimopoulos, 2001).

Yet certain characteristics of the spouses may alter the transfer dynamics. Like elderly parents, older spouses are more likely to have poor health and functional limitations. When spouses are in poor health, adult children may have to perform the caregiving tasks for their parents and spouses at the same time. This may curtail adult children's original amount of transfers to their parents, and thus spouses may be deemed as competitors with their parents-in-law for scarce resources. Empirical studies show that having unhealthy wives may cause adult sons to perform the elderly care tasks on their own. To do this, adult sons must reduce their labor market time so that they have spare hours being caregivers (Couch, Daly, and Wolf, 1999). In short, spouses' sex, age, and health are all related to adult children's intergenerational transfer outcomes.

Siblings' role in transfer

Siblings also play an essential role in intergenerational transfer. Often, one sibling provides the majority of care to aging parents and other brothers and sisters are less involved (Ingersoll-Dayton, et al., 2003; Suitor and Pillemer, 1996).

Nevertheless, having siblings implies that individual adult children may have more people to share the caregiving burden (Campbell and Martin-Matthews, 2003), with sisters most likely to provide time transfers to parents. In a 1995 study Ettner argues that women with more siblings spend fewer hours on care, and sisters have a greater impact on adult children's caregiving burden than brothers. Having more sisters means two things. First, it allows adult sons to find someone else to replace them in the time transfer tasks. Second, it implies that an individual adult daughter may have fewer time transfer burdens.

As for monetary transfers, it is likely that siblings divide the transfer responsibilities based on their own financial situations. Although it is not clear whether in United States brothers transfer a greater amount of money than sisters; there is evidence that this is the case in the selected Asian countries (Lin et al., 2000).

Gendered intergenerational transfer practices

Transfers involve division of labor. According to Durkheim, the function of a division of labor is to seek for the need which it supplies, because people are mutually dependent and incomplete. The sexual division of labor is the "source of conjugal solidarity", which is important to the human world (Simpson, 1966). Although he seldom discussed women as a social category, Durkheim's work did contain a theory of women and their place in the society. In Durkheim's eyes, any claim for equality between men and women or rejection of the sexual division of labor would be primitive, unnatural, and dysfunctional (Lehmann, 1990). He posits that women

should seek for equality in the functions which are commensurate with their nature, and we have no reason to suppose that women may ever be able to fulfill the same functions in the societies as men (Simpson, 1966). Although sociologists are no longer as interested in Durkheim's theories as they once were, it is clear that today's women are still expected to seek self-fulfillment in the family sphere. The gendered division of care, therefore, is anticipated by the general public and people rarely question the fairness and social implication of this phenomenon.

In the intergenerational transfer literature, the preference hypothesis suggested by Lin and her colleagues posits that norms expect female adult children to carry more caregiving duties (Lin et al, 2000). It is often taken for granted that daughters should be the primary caregivers to their parents because by "nature" women are more caring and loving than men. Women themselves often feel obliged to look after their elders. However, it is crucial to recognize that the concept of "women as better caregivers" is powerfully reinforced by gendered social institutions.

Statistics show thatin the U.S., among all informal caregivers of the elderly, 29% are daughters and 23% are wives, yet only 8% are sons and 13% are husbands (cited from Ettner, 1992). Numerous studies suggest that daughters spend a considerable amount of time helping their elderly parents. When parents have need for support due to health or functionality problems, it is usually adult daughters, not adult sons, who provide assistance to the parents (Aronson, 1992; Matthews and Rosner, 1988; Silverstein, Parrot, and Bengtson, 1995; Weinick, 1995; Wolf, Freedman, and Soldo, 1997). Men on average spend less time on caregiving tasks,

unless paid services are unaffordable or no female family members are available to help with the caregiving work (Matthews and Rosner, 1988; Wolf, Freedman, and Soldo, 1997). Furthermore, after marriage, adult daughters' caregiving responsibilities are often transferred to their husband's families. Consequently, many women are caregivers throughout every stage of the life course. Once the society widely accepts this particular pattern, men seem to have a legitimate excuse to steer clear of filial care tasks (Campbell and Martin-Matthews, 2003).

Gendered labor force structure and its effect on adult children's transfer

Economists have also elaborated on the gendered division of labor. In *A Treatise on the Family,* Gary Becker argues that men and women are assigned different tasks based on the principle of maximizing the wellbeing of the family. "Optimal decisions for those in a multi-person household must take into account the skills of the different household members and conflicts in their incentives. The theory of comparative advantage implies that the resources of members of a household should be allocated to various activities according to their comparative or relative efficiencies" (Becker, 1991). By this logic, family members with greater earning potential, usually the husbands, should engage in paid work, whereas wives should spend their time on household chores and caregiving tasks. Becker indicates, however, that each household member can participate in both market and family sectors under certain conditions. If a household operates in an "efficient" way, "one member of the household would invest in both market and household capital, and

would allocate time to both sectors" (Becker, 1991). In the U.S., as we can see, many women allot their time to their paid-jobs and families.

Likewise, the concept of "family adaptive strategy", raised by Moen and Wethington (1992), states that "families mobilize and modify their plans and behaviors as their circumstances change". This theoretical perspective suggests that family members have to sort out a viable solution to sustain and maximize their family wellbeing in the face of outside constraints. It suggests that macro structural barriers may have an impact on the micro household decision-making process. Additionally, this statement also reminds us to think about "why society provides fewer options for women within family adaptive strategies?". Whenever the division of labor between a married dyad becomes necessary, certain levels of negotiation may occur. However, the negotiation processes and outcomes are sensitive to the intra-household power structure and the economic forces outside the home. Women's relative disadvantage in the wage market not only results in their double burden, it also deprives them of their decision-making power in the family.

Because the socialization process stipulates that men should work outside the home to generate income and women should center their lives on their families, few would challenge that men are permitted to use financial resources to replace for their time transfers and women can provide necessary care to the parents. Nonetheless, the idea that sons should provide monetary transfers and daughters should provide care at home may be further manifested in the labor force. When women join in the labor force, it is plausible for adult children to purchase elderly-care services in order to

accommodate women's work schedules. Yet, the decision to provide monetary resources rather than time transfers involves a series of calculations. Whether quality caregiving services can be purchased largely depends on adult children's income. If purchasing professional caregiving services is unfeasible, based on Becker's theory, there must be someone staying at home, or to straddle the work and family sectors at the same time, to ensure caregiving services are performed.

So who should contribute his/her time? Since most adult children obtain income by engaging in paid work, whether adult children should stay in the labor force or perform caregiving duties on their own is based on an appraisal of comparative advantage in the market place. Members with greater earning ability in the labor force have a persuasive rationale for staying there. Therefore, men typically remain in the labor force, leaving women to accommodate caregiving.

Amott and Matthaei (1991) contend that the labor market is stratified by sex, and that stratification penetrates the primary, secondary, and the underground sectors of the economy. Their discussion of gender-biased economic inequality in the labor force provides a useful analytical framework for examining how the macro-economy extends its influence to the household level. A gendered opportunity structure has the effect of pushing women into the family sphere as caregivers. When families need someone to perform time transfer tasks, women usually have to take the role because the opportunity costs for them to quit jobs or shorten work hours are smaller than male workers, and this is particularly true for women from poor and working-class families (Walker, Pratt, and Eddy, 1995).

The gender composition of occupations has an influential effect on women's earnings (Macpherson and Hirsch, 1995). Women engaged in female-dominated jobs are likely to earn less, because social forces sort men and women into different career tracks, with male-dominated occupations more materially rewarded. Controlling for the human capital factor does not explain the pay gap between men and women (England et al., 1996; Tomaskovic-Devey, 1993; Wood, Corcoran, and Courant, 1993). Even when women engage in the male- dominated occupations, they are also pressured to move out from those positions rather than to stay (Maume, 1999).

The gendered wage gap is also observed across racial boundaries (Cotter, Hermsen, and Vanneman, 1999; Cotter, DeFiore, Hermsen, Kowalewski and Vanneman, 1997; Macpherson and Hirsch, 1995; Maume, 1999; Petersen and Morgan, 1995; Tomaskovic-Devey, 1993). Furthermore, women are more likely than men to join the labor force intermittently and are less likely than their male coworkers to get promotion and on-the-job-training; this results in a substantial pay difference between both sexes (Barron, Black, and Loewenstein, 1993; Blau, Ferber, and Winkler, 1998; Maume, 1999, Tomaskovic-Devey, 1993). Work experience and seniority have a vital influence on works' pay rates. When women are continuously employed, their wage differential compared to men decreases markedly (Light and Ureta, 1990).

Considering the above, it is not surprising that men's better ability to provide monetary transfers and women's delegation to give time transfers are the consequences of the gendered labor force structure. The gendered labor force endows

men and women with different "ability" by providing men higher wages to purchase elderly-care services to replace for their time transfers, yet compelling women to either give up their paid job outside the home or to make efforts to be a paid worker and a caregiver simultaneously. We can infer that for men, the financial transfer is a substitution for their time transfers. The high opportunity cost of job turnover provides a legitimate reason for men to fully concentrate on their paid jobs and delegate family responsibilities to their wives, sisters, or elderly care professionals. Jobs generate income, and the income can again be used to pay for the expenses of the caregiving need. This is very similar to Marx's arguments in *Capital.* Part of men's earnings from the labor force are used as the capital for pursuing future profits, and the price to pay for the caregiving services is rather trivial in comparison to the price of leaving their jobs. With their financial ability, they are also more likely to have the power to negotiate with their other household members and to make major decisions for their families.

The discussion above provides the rationale to conduct this study. I attempt to examine whether adult sons and daughters' paid-work experiences influence their intergenerational transfer outcomes. I presume that unlike men who use monetary resources to "substitute" their time transfers, employed women tend to use time transfers as a "supplement" to their monetary transfers. While the disparity of labor force participation between both sexes has decreased tremendously, and dual-earner families have become more common in the U.S., it is unusual for employed women to forgo caregiving duties completely. With their economic disadvantages in the labor

market, purchasing full elderly-care services may be less affordable for them. Thus, women with family duties may need to forgo their wage (either by withdrawing from the labor force completely or becoming a part-time worker), or make efforts to balance their full-time job and caregiving responsibilities simultaneously. Either way, women sacrifice their own career development, earning potential, and leisure time.

Moen and her colleagues (1995) provide an argument regarding working women's constraints. They contend that the majority of married couples do not pursue two high-powered careers. Rather, most couples choose to utilize "scale back strategies" to balance their work and family lives, and wives often disproportionately occupy the scaled-back positions. The work-family scale back strategies not only occur in child-bearing and child-raring years, it is also widespread among women at other life course stages (Becker and Moen, 1999). Middle and late-middle-aged wives who decide to drop out from the labor force often cite their caregiving commitments as the most important reason (Ettner, 1995; Ruhm, 1996). Women's time spent on elderly care duties do not decrease because they are employed (Wolf and Soldo, 1994). It is, therefore, not surprising that employed wives have a higher level of stress when they have to shoulder the caregiving responsibilities and the work duties at the same time (Aronson, 1992; Fredriksen and Scharlach, 1999; Marks, 1998; Moen, Robinson and Dempster-McClain, 1995; Starrel, et al, 1997). Role conflicts caused by shuffling between the public and the private spheres increase women's stress, and bring harm to their psychological wellbeing and physical health. In sum, the challenges of combining work and family still pose serious obstacles and dilemmas

for women but at this point, “do not seem to affect men in the same way” (Blau, 1998).

Contribution of this project

Gender norms and a gendered labor force structure have a negative consequence on women’s wellbeing. A functionalist perspective might conclude that the gendered division of labor is beneficial in that men and women are assigned to the most suitable positions within the society according to their gender traits. Yet the fact that working adult daughters are relegated to the household sphere as the family caregivers reflects skewed social values and an underlying conflict in contemporary American society. The complex interaction between the micro household dynamics and the macro opportunity structure that affect intergenerational transfer outcomes requires a new paradigm to bridge the gap. The extent to which adult children dedicate their time or monetary resources to their parents involves a decision-making process, and the gender norms as well as labor force structure may play fundamental roles in this decision.

While numerous studies have shown that women are disproportionally the caregivers to the elderly, few studies focus on the relationship between adult children’s labor force participation and their intergenerational transfer behaviors. Sarkisian and Gerstel (2004) recently observed that adult children’s wage is an important predictor in explaining the gender gap in time transfers. But they do not provide any additional insight into how adult children’s spouses and siblings

influence the transfer practices. Their research does not address how resource competition between adult children's financially dependent children and elderly parents may affect the transfer outcome either. Moreover, without a longitudinal examination, it is impossible to know how adult children adjust their transfer plans to accommodate elderly parents' and their own life course transition needs in the long term.

To fill this research gap, this project offers a comprehensive framework to address whether adult sons and daughters' adoption of different transfer capitals is a response to structural barriers. The central issue to be assessed is how gender norms and a gendered labor market result in women's financial disadvantages relative to men, thereby reducing their ability to provide monetary transfers to their parents. The observable "care-gap" between adult sons and daughters is resulted from the male-dominated wage market. I also address spouses' and siblings' roles in transfer practice because gender norms in caregiving not only affect adult children but also change the care pattern of other family members. This family network variation may have an indirect but strong impact on adult children's contributions to their elderly parents, and it is essential to incorporate this assessment into intergenerational transfer research.

Chapter 3

Conceptualization and Study Hypotheses

I turn now to a presentation of the overall theoretical model and hypothetical relationships, which guide the empirical part of my study. The model is, to some degree, an amplification and extension of Soldo's intergenerational transfer model. And, of course, all relationships proposed in my extension of Soldo's work draw heavily on the literature cited above. Most of these relationships, especially with exogenous variables, are examined in nearly all sociological research (e.g., using age, race, education, etc.)

Conceptualization of this study

Based on the literature review, the rationale of this dissertation is, because of the gender norms and women's disadvantaged status relative to men in the labor force, men and women would develop different intergenerational transfer strategies. Employed women adopt time transfers as a supplement to their smaller amount of monetary transfers. Adult sons, who usually have a greater opportunity cost for forgoing their wages, will therefore use monetary resources to replace their time transfers. I presume that once adult daughters are paid equally as their male counterparts, their transfer options expand. Augmentations in adult daughters' wages will encourage them to increase their amount of monetary transfer, and decrease their

amount of time transfer. When endowed with sufficient financial ability, adult daughters, like adult sons, will use monetary contributions to offset their time transfers because their opportunity costs in the labor market increase.

Family members of the adult children also play a prominent role in intergenerational transfer practice. The outcomes of intergenerational transfer often reflect adult children's and other family members' joint decisions. Adult sons and adult daughters collaborate with their spouses and siblings regarding who should provide what kind of support. The division of transfer is jointly determined by adult children, spouses, and siblings based on a principle of utility maximization. Monetary and time transfer responsibilities are assigned by individuals' earning potential and time availability, which, again, are mostly a function of transfer providers' sex.

Spouses' and siblings' transfer commitments can be very helpful to adult children, yet we can create a typology to further examine the meaning of the transfer assistances provided by adult children's spouses and siblings. In this study, I propose that spouses and siblings could either "substitute" or "complement" adult children's transfer duties. Specifically, if spouses' and siblings' transfer involvement is associated with an increase in adult children's transfer likelihood or amount, we can conclude that spouses' and siblings' efforts are "complementary" to adult children's transfer, because their contributions add extra components to what adult children have already provided. On the other hand, if spouses' and siblings' transfer involvement significantly decreases adult children's transfer likelihood or amount, they arguably play "replacement or substitute" roles, because their contributions are associated with

a decline in adult children's transfer duties. Spouses' and siblings' sex may be relevant to this complementary-substitution relation. In the monetary transfer practice, wives and sisters are more likely to play a complementary role to the male adult children because women have smaller wage advantages in the market. In time transfer practice, wives and sisters are prone to be substitutes to adult sons, while husbands and brothers are likely to offer complementary assistance to the adult daughters.

While spouses often collaborate with the adult children providing transfers to the elders, they may sometimes become resource competitors to elderly parents. Adult children who are required to provide support to their aging and unhealthy spouses will have to cut down the amount of transfers to their parents. In this case, spouses are no longer the helpers to adult children. Rather, they create extra caregiving responsibilities for adult children. It can be assumed that adult daughters are particularly vulnerable because they tend to marry older husbands.

Having financially dependent children restrain adult children's transfer to their parents. If adult children have two living parents who live separately, the father and the mother are likely to compete for adult children's resources with each other. However, if both parents are still living together, providing monetary transfer to one of the parents may indeed benefit both.

Adult children with better support-giving ability are more likely to provide monetary and time transfers to their parents, and the amount of transfers will be greater. Based on the literature review chapter, adult children's ability can be assessed

by their age, race/ethnicity, educational attainment, household assets, and health status. Adult children at younger ages, with longer years of schooling, greater amount of household assets, and better health, would have better transfer ability.

Parents with higher levels of need are more likely to receive monetary and time transfers from their adult children. Parents' need can be conceptualized by their various characteristics. Those who are older, suffer from functional limitation, unmarried, less educated, and have financial difficulties are more likely to acquire transfers from their adult children.

Occasionally, adult children with good ability may not provide transfers to their parents, or parents who are in low need of support may receive a relatively high level of transfers from their adult children. When these situations happen, one may conclude that adult children's transfer motivation may have played a part in their transfer behaviors. For instance, as a way of reciprocating to their parents, adult children who are better educated may provide more time transfers than their less educated counterparts although the opportunity costs for them to limit their work hours are higher. Additionally, adult children may be motivated to provide a certain amount of transfers in order to obtain a future bequest from their parents if their parents have relatively good financial status. However, it is more likely that this situation will happen in the transfer to fathers' scenarios because elderly fathers tend to be financially better-off than elderly mothers.

The principles presented above may apply to current as well as the future transfers. However, whether adult children continue to give certain level of transfers

in the long-run is also contingent on their future life course transition needs. Once adult children themselves begin to enter the young-old and exit from the labor force, their monetary and time resource holding also changes. When adult children become older, they may use time transfers to substitute or complement their monetary transfers because their financial ability may have decreased due to retirement.

Two aspects of adult children's transfer behaviors must be examined: transfer incidence and amount of transfer. The former investigates the likelihood and prevalence of transfers. The latter assesses the magnitude of transfers. The study would be incomplete in the absence of either analysis. Giving transfers to the parents is not the same as fulfilling parents' needs. For parents who encounter financial hardships, for example, several small amounts of monetary contributions would obviously not be as useful as a single large-amount transfer. However, simply investigating transfer amounts without evaluating the incidence would also bias the study results because most adult children do not give any transfer. Thus, both transfer incidence and transfer amount are included in this study.

The proposed framework for the cross-sectional analysis using Health and Retirement Study 1992 is delineated as Figure 3-1. As the figure shows, adult children's incidence and amount of transfers are driven by adult children's labor force participation experiences, sex, and spouses' as well as siblings' characteristics. Resource competition between adult children's younger children and elderly parents also affect adult children's provision of transfer. Rather than using them as key explanatory variables, adult children's ability of transfer and parents' need are

included as controls because the effects of these measurements have been extensively probed in the existing literature.

Figure 3-2 is the proposed model for my longitudinal analysis. In this part of study, whether adult children have increased or decreased their amount of transfers from 1992 to 1996 are the dependent variables. The major explanatory variables, work status transitions, are adopted to examine how adult children's work status transition over time may affect their intergenerational transfer behaviors from 1992 to 1996. To minimize the likelihood of having endogenous estimation, all other independent variables are from the 1992 data.

Study hypotheses

The following hypotheses are built upon the rationale presented above.

Hypotheses for 1992 analysis

1. Gendered social norms have an effect on adult children's provision of time transfers to their parents. Adult daughters' incidence of providing time transfer and transfer amounts will be higher than adult sons'.
2. Adult children's labor force participation has an effect on their provision of intergenerational transfer.
   2.1: Adult children who are working for pay are more likely to give monetary transfer, and their transfer amount will be higher.

Figure 3-1: Research framework for assessing adult children's provision of monetary and time transfer in 1992

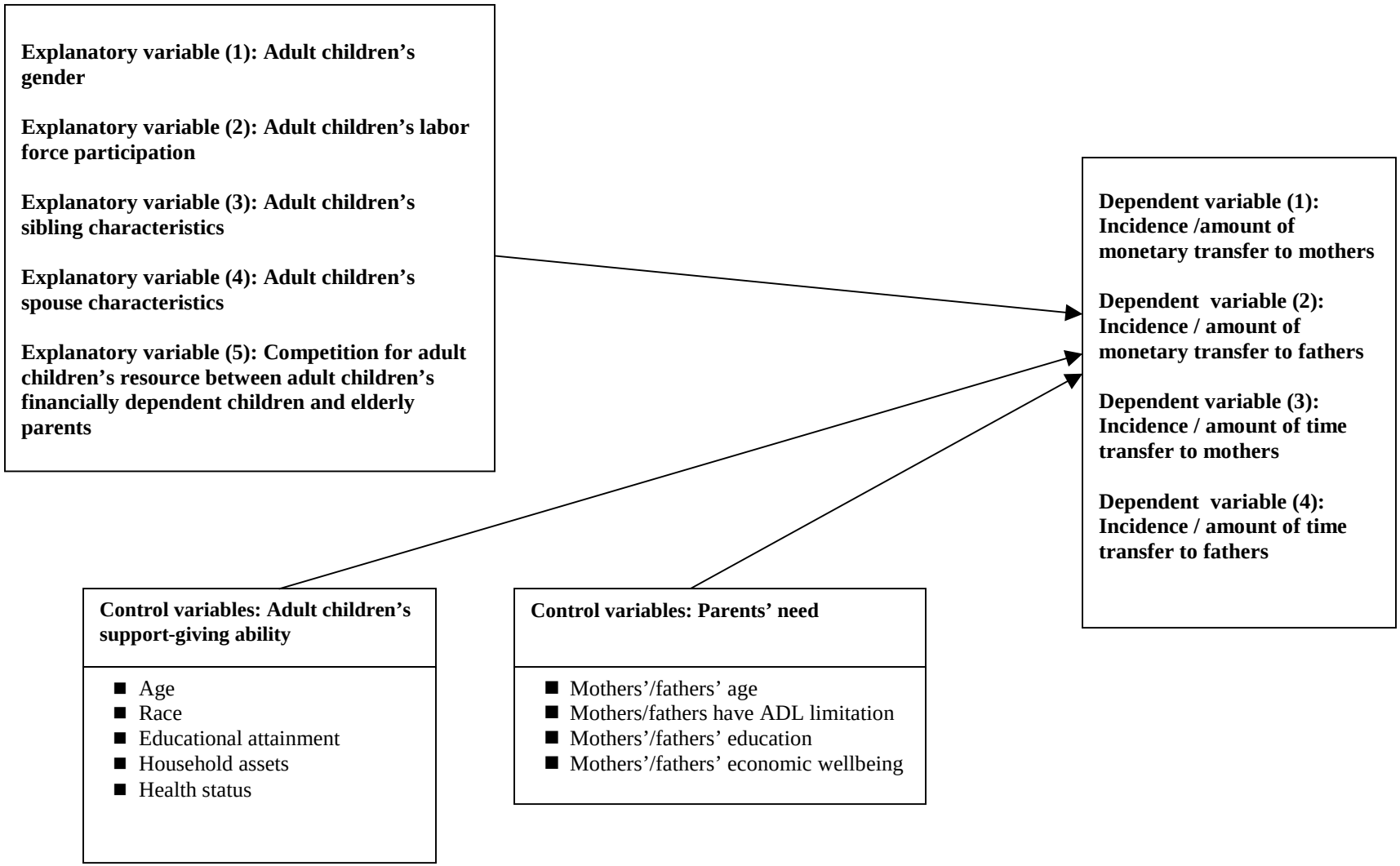
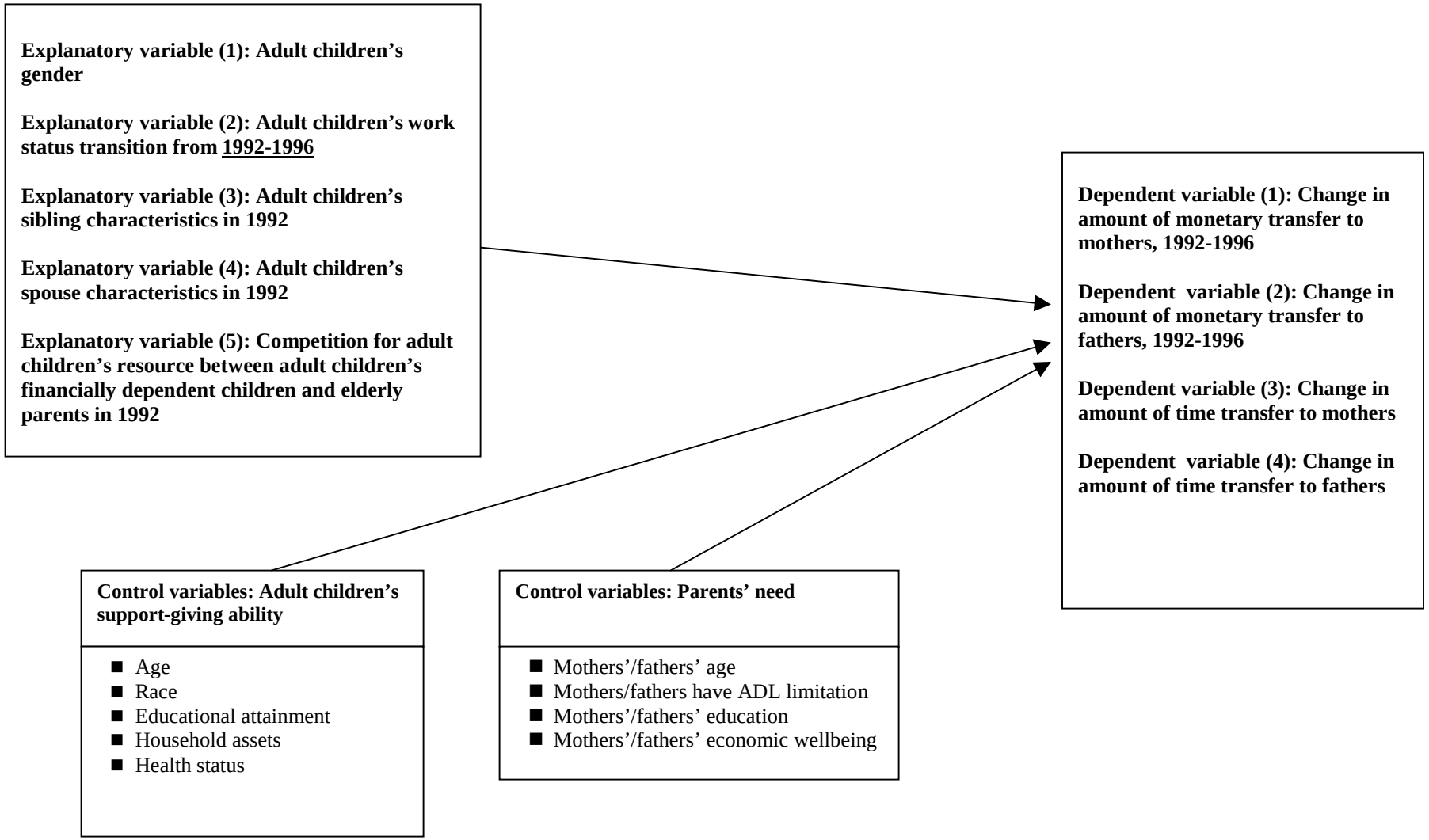


Figure 3-2: Research framework for assessing adult children's provision of monetary and time transfer from 1992-1996



2.2: Adult sons will provide greater amounts of monetary transfers than adult daughters. However, if adult daughters are paid equally, the incidence and amount of monetary transfers from adult daughters to their parents will increase.

2.3: A higher wage rate for adult sons is associated with a smaller likelihood and smaller amount of time transfers. Adult sons use their monetary transfers to substitute for time transfers.

2.4: Nevertheless, adult daughters' time contribution is not influenced by their wage rates. Adult daughters use monetary transfers to complement their time transfers.

3. Adult children's work hour has an effect on their provision of intergenerational transfers.

3.1: Adult children who work longer hours in the labor force are more likely to give more monetary transfers.

3.2: Longer work hour is negatively related to adult children's incidence and amount of time transfers.

4. Support networks have an influence on adult children's provision of intergenerational transfers.

4.1: Married adult children are more likely to give monetary transfer, but less likely to give time transfer.

4.2: Adult children spouses' characteristics have an effect on adult children's provision of intergenerational transfers.

4.2a: When spouses are working for pay, adult children's monetary transfer incidence and transfer amount will be higher.

4.2b: However, spouses' employment is also associated with higher time transfer incidence and greater amount of time transfers for the adult children because working spouses are less likely to share their time transfer burden.

4.2c: The greater the age difference between adult children and their spouses (spouses' age-adult children's age), the less likely adult children will provide large amount of monetary transfer to their parents.

4.2d: The greater the age difference between adult children and their spouses (spouses' age-adult children's age), the less likely adult children will provide large amount of time transfer to their parents.

4.2f: Healthy spouses increase adult children's monetary transfer to their elderly parents. However, unhealthy spouses compete for monetary resources with their parents-in-law.

4.2g: Healthy spouses increase adult children's time transfer to their elderly parents. Nevertheless, unhealthy spouses compete for time resources with their parents-in-law.

4.2h: The greater the years of education difference between adult children and their spouses (spouses' years of education-adult children's years of education), the more likely adult children will provide large amount of monetary transfer to their parents.

4.2i: The greater the years of education difference between adult children and their spouses (spouses' years of education-adult children's years of education), the more likely adult children will provide large amount of time transfer to their parents.

4.3: Siblings' characteristics have an effect on adult children's provision of intergenerational transfers.

4.3a: Having more brothers may substitute for adult children's monetary transfers.

4.3b: Having more brothers may complement adult children's time transfers.

4.3c: Having more sisters may complement adult children's monetary transfers.

4.3d: Having more sisters may substitute for adult children's time transfers.

4.3e: Siblings' monetary transfer involvement may complement adult children's monetary transfers.

4.3f: Siblings' time transfer involvement may complement adult children's time transfers.

4.3g: Having any sibling lives with parents may complement adult children's monetary transfer, but substitute adult children's time transfer responsibilities.

5. Competition for adult children's resources: Resource competition between adult children's financially dependent children and elderly parents have an impact on adult children's monetary and time transfers to their parents.

5-1: Having more financially dependent children is associated with a lower likelihood and amount of monetary transfer to parents.

5-2: Adult children who provide financial transfer to their children tend to give smaller amount of monetary resource to their parents.

5-3: If both elderly parents are living and live together, adult children will be more likely to give monetary transfer, and the transfer amount will be greater.

5-4: If both elderly parents are living and live together, adult children will be less likely to provide time transfer, and the transfer amount will be smaller.

5-5: If both elderly parents are living but live separately, the two parents will compete for adult children's resources. Mothers will be more likely than fathers to receive greater amount of monetary and time transfer from their adult children.

6. Adult children's ability: Adult children of younger ages, who are whites, have longer years of education, greater amount of household assets, and good health, will have better ability to provide transfers to their elderly parents. If the reverse relationship is found, adult children's transfer motivation may be more important than their ability.
7. Parents' need: Older, less educated parents, parents who have functional limitations and financial difficulties, tend to have higher need and will receive more transfers from their adult children. If the reverse relationship is found, adult children's transfer motivation may be more important than their ability.

Hypotheses for longitudinal analysis (1992-96):

1. Over time, adult daughters will be more likely than adult sons to decrease their monetary transfers.
2. However, adult daughters will be more likely than adult sons to increase their time transfers.
3. Adult children's transition in labor force participation will influence their monetary and time transfer behaviors.
    3.1: Adult children who stay in the labor force from 1992 to 1996 are more likely to increase their amount of monetary transfer, but the amount of time transfer is less likely to expand.
    3.2: Conversely, adult children who worked in 1992 but left their paid-jobs in 1996 (retired or became homemaker) will be less likely to increase their amount of monetary transfer, but their time transfer may increase.

Chapter 4

Data, Sample, and Methods

Data

To examine proposed relationships, the data of Health and Retirement Study (HRS) is used for my statistical analyses. The HRS is a national panel study that, "intended to provide data for researchers, policy analysts, and program planners who are making major policy decisions that affect retirement, health insurance, savings, and economic wellbeing" (HRS Documentation, 1999). The data were first collected in 1992; surveys were subsequently conducted every other year since. For this project, I use the 1992 (the first wave) and the 1996 (the third wave) data.

The first wave of HRS contains information of 7,607 respondents aged 51-61 in 1992. For currently married respondents, spousal records are also available (N=4,950 spouses). Conducting intergenerational transfer studies using the HRS has several merits over other datasets. First, there are sufficient cases of the 1931 to 1941 birth cohort, which allows investigators to examine how late-middle-aged adult children balance their family roles as parents and as adult children. Since a large proportion of adult children of this birth cohort have older parents, and many women in this age group have labor force participation experiences, the HRS provides a good opportunity for the researcher to explore how adult children, especially adult daughters' labor force participation and life course constraints, can play a role in their

elderly-care outcomes. Past studies have focused largely on men's labor force participation experiences and their later-life wellbeing. By giving more attention to women, my research addresses this prior emphasis.

Second, the HRS has very detailed information regarding monetary and time transfers, including transfer incidences and amounts, as well as sources and directions of transfers. In addition to the respondents' characteristics, parents', spouses', and siblings' characteristics are also available. This allows the investigator to assess how family support networks affect the incidence and quantity of transfers. This is a very critical aspect of intergenerational transfer because support from spouses and siblings should affect adult children's constraints.

The third advantage of using HRS to conduct this research is, because this is panel data, one can trace transfer variations over time. One the one hand, as parents' need for support increases with the aging processes, adult children may adjust their patterns of transfers so that their provisions of resources can better satisfy their parents in the forthcoming years. On the other, because the late-middle-aged adult children and their spouses are also aging, they may have to modify their transfer strategies by taking their own need into account. With its longitudinal feature, the long-term dynamics of change in transfer can be evaluated.

Structure of the 1992 data

As stipulated, HRS contains rich information needed for this dissertation project. However, the questions used for my analysis belong to various data files and some details regarding data processing should be discussed here.

As in most other data sources, every HRS respondent reported his/her demographic background and work history regardless of marital status. These records can be found in the personal-level data file.

Information on household income, assets, housing, is recorded in the household-level data file. If a respondent was unmarried, he or she was designated to be the interviewee for the household-level questions (they are the "primary respondents", also called R1 respondents). All unmarried respondents are primary respondents. Nevertheless, in a married pair or partnered relationship, the person most knowledgeable about the household financial matters was assigned as the primary respondent. They were responsible for answering all the household-level questions. The spouse or partner of the primary respondent did not participate in the household-level interview, and they were defined as the "secondary respondent" (R2) of the study. Using household identifiers, the household-level file can be easily merged with the personal-level data.

In addition to the household data file, HRS has another file called "Section E" data file. This file contains information on respondent's family structure and intergenerational transfer behavior by respondent parents' sex. In single households, the lone respondent was always the Section E respondent. In married or partnered households, only one person answered the questions. Females, males answering for females who refused the interview, and primary respondents in a same-sex couple were chosen to be the Section E respondents of the married / partnered households. Therefore, the Section E respondents are not necessarily the R1 of the households.

Furthermore, there is no Section E respondent for 55 households (HRS Documentation, 1999).

Parents' characteristics are recorded in separate files in HRS. Each parent has an individual record. I processed the data by parents' sex.

For this study, I included the personal, household, Section E, and parents' file and merged them altogether. Respondent's personal-level file is used as the main frame, which means this research project is based on adult children's perspective. Because parents' characteristic file has been divided by their sex, the finalized dataset for my analysis should be viewed as "adult children's transfer to their mothers in 1992", and "adult children's transfer to their fathers in 1992".

Structure of the 1996 data

To proceed with my longitudinal analyses, the 1996 HRS (the third wave data) is merged with the 1992 records if adult children's fathers, mothers, or both, continued to survive in 1996. Although the 1996 data are not the most recent publicly-released data, there are several reasons to use it rather than the 2002 data (which is the most recent publicly released data). While HRS traces its survey respondents on an every other year basis, the information collected in 1996 would be the latest records that precisely reflect the life course transitions of the 1992 interviewees. Starting from 1998, the HRS is merged with the Assets and Health Dynamics among the Oldest Old dataset (AHEAD, the respondents were age 70 and older in 1993). While the age range of the respondents after the 1998 series contains individuals age 50 and above, attrition of the 1992 respondents would cause

insufficient counts for the required statistical control in my study. In the 1998 and subsequent data, there were greater losses of adult children from the 1992 study and elderly parents who had died. When parents no longer survive, these cases are censored and some analyses would not be as informative as the estimations based on a greater sample size. Therefore, the 1992 and 1996 datasets are the best combination to serve my study purposes. Investigations based on this four-year period are methodologically plausible with adequate time interval to allow me to conduct statistical analyses with reliable estimations.

Sample

To be eligible for this study, the adult children had to be between age 51 and 61, and have at least one non-coresident biological parent surviving in year 1992. Transfer from adult children to their stepparents is not considered in this study because HRS does not provide detailed information on stepparents' characteristics, making it impossible to perform statistical controls. Also, because very few transfers were given from adult children to their stepparents, excluding these cases from my study will not affect the analysis results to a large extent. The 1996 sample contains follow up cases of the 1992 adult children. Adult children who participated in both 1992 and 1996 survey and still have at least one biological parent living in 1996 are included in the follow up sample.

HRS collects the intergenerational transfer data by parents' sex. Adult children reported the transfer incidence and transfer amount to their mothers and

fathers separately, even in the households with two living parents. Thus, there are two finalized samples for my 1992 analysis—"adult children transfer to mother's sample", and "adult children transfer to father's sample". The samples for my 1996 analysis are created in the same manner. See Table 4-1.

As Table 4-1 shows, the 1992 transfer to mother's sample has 5175 adult children, which is comprised of 2619 adult sons and 2556 adult daughters. The total number of adult children (5175) equals the number of mothers, so there is no repeated measurement problem in the statistical analysis and the cluster control is not required. In 1996, only 1160 adult sons and 1180 adult daughters stay in the sample, a total of 2340 adult children and their elderly mothers.

The size of transfer to father's sample is smaller than that of the transfer to mother's sample, reflecting fathers' higher morbidity and mortality than mothers. In 1992, 2444 adult children (also equals to total number of fathers) are included in the study. The size of this sample decreases to 889 in 1996, comprised by 501 adult sons and 388 adult daughters.

Table 4-1: Data source and sample size

	Transfer to mother's sample			**Transfer to father's sample**		
	Son	Daughter	Total	Son	Daughter	Total
HRS 1992	2619	2556	5175	1380	1064	2444
HRS 1996	1160	1180	2340	501	388	889

Data source: Health and Retirement Study, 1992 and 1996.

I did not reduce the 1992 sample size to match the 1996 one. There are two reasons for this: First, the 1992 analysis is a baseline, cross-sectional examination. To reflect a general transfer pattern in that year, it is more suitable to keep all the adult children who are qualified for this study in the sample. Using only a portion of the adult children for the 1992 analysis would introduce a sample selectivity problem because by doing so, many parents with greater need for support would be excluded from the first wave analysis because they are less likely to stay in the sample until 1996. If I were to select the sample this way, the project can only capture adult children's transfer practices to their "better-off" parents, and the generalization power of my study results would decrease markedly due to the sample selection bias. Second, because very few adult children had provided any transfer to their elderly fathers in 1992, further reducing the sample size would cause problems in the multivariate regression analysis. Thus, it is more favorable to maximize the 1992 sample size.

Research variables

All the information used in this project comes from adult children's perspectives. The following variables are operationalized to reflect the research hypotheses.

Dependent variables

The incidence and amount of monetary and time transfers to the parents are the outcome variables for this study. The 1992 and 1996 HRS first ask adult children

whether they had provided at least 500 dollars of monetary transfer, and at least 100 hours of time transfer to their living parents in the past 12 months. If the answers are positive, the actual amounts of monetary and time transfers are recorded. The monetary transfer includes direct money transfer, gifts, and money paid for parents' medication. The time transfer refers to time spent on providing daily-care tasks to the parents, such as helping parents eating, bathing, etc., in the past 12 months; this measurement excludes adult children's time transfers in work around the house and companionship[1]. Transfers to fathers and mothers have separate records. Based on given information, the following variables were created:

Dependent variables for 1992 analysis

1. Incidence of adult children ever provided at least 500 dollars monetary transfer to their mothers/fathers in the past 12 months. Coded 1 if the adult children had given at least 500 dollars to their mothers and fathers, 0 otherwise.
2. Incidence of adult children ever provided at least 100 hours time transfer to their mothers/fathers in the past 12 months. Coded 1 if the adult children had provided at least 100 hours time transfers in caregiving tasks, 0 otherwise.
3. Adult children reported actual amount of monetary transfer to their mothers/fathers in the past 12 months.

[1] Information regarding adult children's time contributions on the work around the house and companionship was not collected in the 1992 data, although it has been included as a separate variable in the subsequent waves of survey. To be consistent with my 1992 study, the time transfer in 1996 still focuses on the daily-care time only.

4. Adult children reported actual amount of time transfer to their mothers/fathers in the past 12 months.

In addition to above, I also created variables on whether adult children provided both monetary and time transfers in 1992. I coded the variable as 1 if the adult children offered both types of transfer to their mothers/fathers in 1992, 0 if adult children did not give both transfer in the same year. Results of this part of the analysis will be presented in the Appendix section. Because very few adult children ever provided both transfers to their fathers, multivariate analysis was not performed for the transfer to father's sample.

Dependent variables for longitudinal analysis, from 1992 to 1996

Categorical variables regarding the change in monetary and time transfer were created. The variables were coded as 1 if adult children decreased the amount of transfer from 1992 to 1996, coded 2 if transfer amount remained the same, and coded 3 if transfer amount increased over time. The same coding principle applies to the transfer to mother's and to father's sample.

Explanatory variables

The explanatory variables to assess the incidence and amount of transfers are adult children's gender, adult children's labor force participation experiences, marital status, characteristics of adult children's spouses, characteristics of adult children's siblings, and competition for adult children's resources between adult children's children and parents. I will first introduce the labor force participation-related

variables and then discuss how other explanatory variables were constructed. Although I use different labor force participation variables in the 1992 and 1996 study, respectively[2], all other independent variables are based on the 1992 data to minimize endogenous statistical estimation.

Adult children's gender and labor force participation experiences in 1992

1. Adult children's gender: This is a dichotomized variable, adult daughter=1, son=0.
2. Adult children's work status: If adult children are working for pay=1, 0 if otherwise.
3. Interaction term of adult children's gender and work status: It is created by multiplying adult children's gender and work status.
4. Adult children's hourly wage rate (centered at grand mean and logged): This variable only applies to working adult children. The original form of this variable is a continuous measurement with a mean value of 24.77 dollars. I centered this variable at 24.77 and use natural log to normalize the distribution. The coefficient in the regression analysis represents the effect of log-wage in relation to the average hourly wage rate.
5. Interaction term of adult children's gender and hourly wage rate: This variable is created by multiplying adult children's gender and hourly wage rate (centered at grand mean and logged).

[2] Instead of using adult children's labor force participation in 1992 for my 1996 analysis, I use adult children's work transition from 1992 to 1996 to investigate adult children's work effect on the intergenerational transfer outcomes.

6. Adult children's weekly work hours (centered at grand mean and logged): This variable only applies to working adult children. The original form of this variable is a continuous measurement with a mean value of 33.82 hours. This variable is then centered at 33.82 and a natural log was performed to normalize the distribution. The coefficient in the regression analysis represents the effect of logged work hours relative to the grand mean.
7. Interaction term of adult children's gender and weekly work hours: This variable is created by multiplying adult children's gender and weekly work hours (centered at grand mean and logged).

Adult children's transition in labor force participation from 1992 to 1996

In the 1996 analysis, adult children's labor force participation is still the major explanatory variable of this study. However, the focus here is how adult children's labor force participation transition affects their intergenerational transfer outcomes. A four-category variable was created to delineate these transitions: (1) adult children who did not work in 1992 and were not working in 1996; (2) worked in 1992 and still working in 1996; (3) worked in 1992 but retired or became homemaker in 1996, and (4) did not work in 1992 but worked again in 1996. Each of these categories is then created as a dichotomized variable. In the regression analysis, the fourth variable, "did not work in 1992 but worked again in 1996", is excluded from the models and serves as the reference category.

Other explanatory variables

Variables including adult children's marital status, characteristics of adult children's spouses, characteristics of adult children's siblings, and children and elderly parents' competition for adult children's resources are discussed below. These variables are all based on the 1992 data and apply to both 1992 and 1996 analysis.

Adult children's marital status and spouses' characteristics:

Spouses' characteristics variables only apply to married adult children. They are used in sub-sample analysis.

1. Adult children's marital status: Coded 1 if adult children are married, 0 if otherwise.
2. Age difference between adult children and spouses: This variable measures the actual age difference between the couple. It is calculated as (adult children spouses' age - adult children's age).
3. Years of education difference between adult children and spouses: This variable measures the actual years of education difference between the couple. It is calculated as (adult children spouses' years of education - adult children's years of education).
4. Spouses' work status: If spouses of adult children are currently working for pay this variable is dichotomized as 1, 0 if otherwise.
5. Spouses' health: If spouses are in poor health a value of 1 is assigned, 0 if otherwise.

Adult children siblings' characteristics:

1. Number of brothers: Ranges from zero to 13.
2. Number of sisters: Ranges from zero to 13.
3. Any sibling lives with the parents: Coded 1 if any sibling of the adult children lives with elderly mothers/fathers, 0 otherwise.
4. Any sibling gave monetary transfer to the parents: If any sibling gave monetary transfer to mothers/fathers =1, 0 otherwise.
5. Any sibling gave time transfer to the parents: If any sibling gave time transfer to mothers/fathers =1, 0 otherwise.

Children and elderly parents' competition for adult children's resource:

1. Number of children under age 18: In this study, I define financially dependent children as children under age 18. This is a numerical variable range from 0 to 5.
2. Adult children gave at least $500 to their children: This variable is coded as 1 if adult children provided at least $500 transfer to any of their children in the past 12 months (regardless of children's age). Coded 0 if otherwise.
3. Biological parents' living and martial status: This variable has three categories: both biological parents living and live together, both biological parents living but live separately, and only one parent is living. After these categories were created, I constructed three dummy variables: (1) both biological parents living and live together=1, 0 if otherwise; (2) both biological parents living but live separately=1, 0 if otherwise; and (3) only one parent is living=1, 0 if otherwise. The fist two variables are included in the regression models to estimate the resource

competition between two living parents, controlling for their marital / coresident status. The third variable, only one parent is living, is excluded from statistic models and serve as the reference category.

Control variables

Adult children's transfer ability and elderly parents' need are the intermediate effects to be examined in this study[3]. Control variables to conceptualize adult children's ability and parents' need are included as followings:

Adult children's ability

Adult children's ability is defined by adult children's characteristics including age, race, educational attainment, household assets, and health. Adult children's household income is not included because it will generate a confounding estimation with adult children's hourly wage rate variable.

1. Age: This variable ranges from 51 to 61 years old.
2. Age squared: To capture the non-linear effect of the age variable.
3. Race: This variable in the HRS has the following categories: White/Caucasian, Black/African American, American Indian or Alaskan Native, Asian or Pacific Islander, Hispanic/Latino, Brown, combination of black and American Indian, and Other. In this study, three dichotomized variables have been created. They

[3] These ability and need variables also help to identify adult children's transfer motivations, if the analytical results illustrate a reversal relationship against the patterns raised by the study hypotheses.

are: (1) non-Hispanic white=1, 0 otherwise; (2) non-Hispanic black=1, 0 otherwise; and (3) others=1 (mostly are Hispanics and Latinos), 0 otherwise.

4. Educational attainment: The HRS provides information on adult children's years of education, ranging from zero to 17. To estimate the non-linear effect, four dichotomized variables are created for my analysis. These variables are: (1) less than high school (adult children with zero to 11 years of schooling)=1, 0 otherwise; (2) high school graduate (adult children with 12 years of schooling)=1, 0 otherwise; (3) some college (adult children with 13 to 15 years of education)=1, 0 otherwise; and (4) college and above (adult children who graduated from college and above)=1, 0 otherwise.
5. Household assets: This is a constructed variable provided by the HRS. It is a sum of the net worth of housing equity, vehicles, savings, money market funds, IRA, real estate, debts, and other assets. For this study, the natural logged assets are used attempt to normalize the distribution.
6. Adult children's health: The HRS has a self-rated health variable of five categories: excellent, very good, good, fair, and poor. For this study, a dichotomized variable is created if adult children have good or better health=1, 0 otherwise.

Elderly parents' need

Parents' need is conceptualized by parents' sex, age, functional limitation, years of education, and economic wellbeing. Since the sample has been divided as transfer to mothers and transfer to fathers, the parents' sex variable is excluded from

the regression models. All the variables below are constructed for transfer to mothers and transfer to fathers separately. As a reminder, in HRS, information regarding parents' characteristics is reported by the adult children and therefore the analysis is based on the adult children's perspectives.

1. Parents' age: Mothers' and fathers' actual age.
2. Parents have at least one activity of daily living (ADL) difficulty: These variables are coded as 1 if mothers and fathers need help on ADL tasks such as eating and bathing, 0 otherwise.
3. Parents' years of education: Mothers' and fathers' actual years of education.
4. Parents' economic wellbeing: HRS provides five categories to describe parents' economic wellbeing. These categories include: 1=excellent; 2=good; 3=fair; 4=somewhat poor; and 5=very poor. A value of 1 is assigned if mothers and fathers have excellent or good financial situation, 0 otherwise.

All the control variables are based on the 1992 data, and are used again in the 1996 analysis.

Descriptive statistics for the samples

Distributions of adult children and elderly parents' variables

Tables 4-2 and 4-3 are the weighted descriptive statistics to delineate adult children and their parents' characteristics in 1992. The results are presented by adult

children and elderly parents' sex. These variables are also the independent variables in my regression analysis.

Transfer to mother's sample

Table 4-2 summarizes the descriptive statistics for the transfer to mother's sample. In this sample, 49.39% are adult daughters. A higher percentage of adult sons than adult daughters were working for pay in1992. About 84% of the adult children in this sample are married.

Adult children in this study are 51 to 61 years of age, with adult sons slightly older than adult daughters. The racial composition of this sample is about 84% whites, 8% blacks, and 8% others. Adult sons are better educated, having more household assets, and are healthier than adult daughters.

On average, adult children have two living brothers and sisters, respectively. Although not living with their mothers, the analysis found that 17% of these adult children have at least one sibling living with their mothers. Adult daughters' siblings have a higher percentage to provide monetary and time transfer than adult sons' siblings.

Interestingly, adult daughters have a much higher percentage than sons who provide at least $500 transfers to their children (39.42% versus 3.43%, respectively). This may imply that children of the adult daughters may be more likely to compete for financial resources with their grandmothers.

Table 4-2: Weighted descriptive statistics on adult children and mothers' variables in 1992

	Sons (n=2619)	Daughters (n=2556)	Total (n=5175)
Adult children's characteristics			
Female	--	--	49.39%
Working for pay	83.07%	62.72%	73.04%
Married	88.56%	79.15%	83.92%
Age	55.36	55.15	55.26
Race			
White	84.16%	83.22%	83.70%
Black	7.61%	8.50%	8.05%
Other	8.23%	8.28%	8.25%
Educational attainment			
Less than high school	19.89%	21.03%	20.45%
High school graduate	32.47%	40.50%	36.43%
Some college	20.13%	21.70%	20.90%
College and above	27.51%	16.77%	22.22%
Household assets	299810.52	289862.79	294907.26
Has good health	84.33%	83.99%	84.17%
Adult children's sibling characteristics			
Number of brothers	1.88	1.76	1.82
Number of sisters	1.94	1.84	1.89
Any sibling lives with mother	17.02%	16.41%	16.72%
Any sibling gave money to mother	1.31%	12.25%	6.70%
Any sibling gave time to mother	1.77%	15.18%	8.38%
Competition for adult children's resources			
Number of children under age 18	0.02	0.12	0.07
Gave $500 or more to children	3.43%	39.42%	21.17%
Both biological parents living and live together	10.44%	10.19%	10.32%
Both biological parents living and live separately	2.79%	2.00%	2.40%
Mothers' characteristics			
Age	77.95	77.84	77.89
At least one ADL limitation	10.14%	9.31%	9.73%
Years of education	9.78	9.63	9.70
Excellent or good financial situation	22.16%	23.35%	22.75%

Source: Author's analysis using Health and Retirement Study 1992.
Note: Information based on adult children's perspectives. All adult children in the study sample are age 51 to 61 and not living with their biological mothers. Statistics are weighted.

The mean age of the elderly mothers in this sample is 78 years, and almost 10% of them have at least one ADL limitation. Mothers of the adult sons are slightly better educated than those of the adult daughters. Finally, from adult children's perspective, 23% of these mothers have either excellent or good financial situation.

Transfer to father's sample

Table 4-3 displays the descriptive results for the transfer to father's sample. In this sample, only 43.48% are daughters. Approximately 85% of adult sons and 65% of adult daughters were working for pay in 1992. Sons also have a higher percentage than daughters got married.

The racial composition of this sample is similar to the transfer to mother's sample, with 83.06% whites, 7.73% blacks, and 9.21% others. Adult sons are better educated than adult daughters, and have a greater amount of household assets.

Although on average adult sons and daughters have two brothers and two sisters, it seems that adult daughters' siblings are more involved in the monetary and time transfer tasks. For instance, while there are 6.18% and 10.02% adult daughters indicate that their siblings provided monetary and time transfer to fathers, respectively, only less than 1% of adult sons state that their siblings offered either money or time transfer to fathers. However, a slightly higher percentage of adult sons than daughters reported that at least one of their siblings coreside with elderly fathers.

As seen in the transfer to mother's sample, a much higher percentage of adult daughters than sons give at least $500 to their children. More adult daughters have living fathers and mothers at the same time.

Table 4-3: Weighted descriptive statistics on adult children and fathers' variables in 1992

	Sons (n=1380)	Daughters (n=1064)	Total (n=2444)
Adult children's characteristics			
Female	--	--	43.48%
Working for pay	84.77%	64.50%	75.96%
Married	91.18%	81.63%	87.03%
Age	55.04	54.52	54.81
Race			
White	84.01%	81.84%	83.06%
Black	7.02%	8.64%	7.73%
Other	8.97%	9.53%	9.21%
Educational attainment			
Less than high school	17.85%	18.85%	18.28%
High school graduate	31.13%	40.13%	35.04%
Some college	21.73%	21.96%	21.83%
College and above	29.29%	19.05%	24.84%
Household assets	292796.80	262643.45	279687.56
Has good health	84.75%	83.97%	84.41%
Adult children's sibling characteristics			
Number of brothers	2.00	1.84	1.93
Number of sisters	2.08	2.02	2.05
Any sibling lives with father	15.79%	14.03%	15.02%
Any sibling gave money to father	0.21%	6.18%	2.81%
Any sibling gave time to father	0.71%	10.02%	4.76%
Competition for adult children's resources			
Number of children under age 18	0.01	0.14	0.07
Gave $500 or more to children	2.53%	41.15%	19.32%
Both biological parents living and live together	9.32%	10.44%	9.81%
Both biological parents living and live separately	2.03%	2.54%	2.25%
Fathers' characteristics			
Age	79.25	78.88	79.09
At least one ADL limitation	3.01%	2.04%	2.59%
Years of education	9.55	9.62	9.58
Excellent or good financial situation	12.12%	10.47%	11.40%

Source: Author's analysis using Health and Retirement Study 1992.
Note: Information based on adult children's perspectives. All adult children in the study sample are age 51 to 61 and not living with their biological fathers. Statistics are weighted.

Investigation of fathers' characteristics indicates their mean age is about 79 years. Compared to elderly mothers, fathers have a lower percentage having ADL limitation (less than 3%). However, while fathers received similar years of education as mothers, from adult children's perspective, fathers' financial status may not be as good as mothers'. In transfer to mother's sample, 23% of adult children reported that their mothers have excellent or good financial situation. Yet in the transfer to father's sample, this figure is only 11%.

Adult children's labor force participation and transition

Adult children's labor force participation in 1992

Table 4-4 presents weighted descriptive statistics on adult children's labor force participation experiences in 1992. In the transfer to mother's sample, 83% of adult sons and 63% of adult daughters worked for pay. Among working adult children, Table 4-4 shows that sons' hourly wage rate is 21.43 dollars higher than that of the adult daughters'. Also, sons work longer hours than daughters.

The statistics in the transfer to father's sample demonstrate a consistent pattern. Adult sons have a higher percentage work for pay. They are also better rewarded and work longer hours in the labor force. The fact that adult daughters earn much less and work shorter hours in the labor force suggests that daughters may be pushed to provide less monetary resources yet more time transfers to their parents.

Table 4-4: Adult children's labor force participation in 1992

	Transfer to mother's sample		Transfer to father's sample	
	Sons	Daughters	Sons	Daughters
Work for pay *(a)*	83.07% (n=2619)	62.72% (n=2556)	84.77% (n=1380)	64.50% (n=1064)
Mean hourly wage rate *(b)*	36.60 (n=1731)	15.17 (n=1298)	20.85 (n=949)	16.04 (n=573)
Mean weekly work hours *(b)*	34.21 (n=1731)	32.84 (n=1298)	34.23 (n=949)	31.53 (n=573)

Source: Author's analysis using Health and Retirement Study 1992. Weighted statistics.
Note: *(a):* Include all adult children in the sample.
(b): Include only working adult children.

Adult children's work status transition from 1992 to 1996

Table 4-5 describes adult children's transition in labor force participation from 1992 to 1996. In the transfer to mother's sample, while 73.17% of the adult sons who worked in 1992 still stay in the labor force in 1996, this figure is lower for adult daughters: 52.65%. About 30% of adult daughters did not work in both years; 12% worked in 1992 but retired or became a homemaker after four years.

In 1996, 889 adult children stayed in the transfer to father's sample. Again, more adult daughters than sons dropped out from the labor force over the study period. Since the oldest adult children in 1992 were age 61, these descriptive statistics tell us that more women than men chose to leave the labor market before age 65, which can be viewed as early retirement. It will be worthwhile to investigate whether

early retired adult daughters have more caregiving responsibilities than those who stayed in the labor force.

Table 4-5: Adult children work status transition from 1992 to 1996

	Transfer to mother's sample (n=2340)		Transfer to father's sample (n=889)	
	Sons (n=1160)	Daughters (n=1180)	Sons (n=501)	Daughters (n=388)
Did not work in 1992 and 1996	11.88%	29.66%	11.10%	28.33%
Worked in 1992, and still in the labor force in 1996	73.17%	52.65%	74.79%	54.10%
Worked in 1992, retired or became homemaker in 1996	11.83%	12.22%	10.08%	11.49%
Did not work in 1992, work again in 1996	3.13%	5.46%	4.03%	6.09%

Source: Author's analysis using Health and Retirement Study 1992 and 1996.
Note: Weighted statistics.

Characteristics of adult children's spouses

Adult children spouses' characteristics in 1992 are presented in Table 4-6. The fact that women tend to marry older men is reflected in both samples. Married adult daughters are on average 2 years younger than their husbands. This, in turn, creates an effect on the spousal dynamics. First, it is possible that older husbands may have more decision-making power than the adult daughters on the household division of labor issues. Husbands may designate the intergenerational transfer responsibilities

because they have more authority and negotiation power. Second, because older age is often related to degrading health, for adult daughters, having older husbands implies that their spouses are more likely to be unhealthy. In the transfer to mother's sample, 3.9% adult daughters have a husband in poor health but only 2.4% adult sons have a wife with health problems. The percentage difference on spouses' health status is even greater in the transfer to father's sample. When adult children need to take care of their unhealthy spouses, their ability to provide intergenerational transfers to parents may decrease.

Table 4-6: Spouses' characteristics in 1992

	Transfer to mother's sample		**Transfer to father's sample**	
	Sons (n=1236)	Daughters (n=781)	Sons (n=886)	Daughters (n=426)
Mean age difference (spouses' age-Adult children's age)	-4.46	2.01	-5.44	1.55
Mean years of education difference (spouses' years of education-Adult children's years of education)	-0.43	-0.04	-0.33	0.02
Working for pay	75.11%	88.24%	77.02%	89.66%
Have poor health	2.40%	3.90%	1.73%	4.28%

Source: Author's analysis using Health and Retirement Study 1992.
Note: *(a):* Include only married working adult children.
(b): Weighted statistics.

The same table also shows that husbands are more likely than adult daughters to stay in the labor force. In both samples, less than 80% of adult sons have wives working for pay in 1992. However, almost 90% adult daughters indicate that their husbands have a paid job. In general, the years of education difference between adult children and their spouses is small—basically less than one year.

Analytical strategies

Besides the descriptive analysis, this study uses bivariate and multivariate regression models to examine proposed causality. The modeling techniques adopted in this study are logistic regression, Tobit regression and ordered logit regression.

Modeling monetary and time transfer incidence

Modeling monetary and time transfer incidence is rather straightforward. Since the outcomes are dichotomized (ever provided transfer=1, 0 otherwise), the logistic regression model is a suitable method for analysis. The logistic transformation can be interpreted as the logarithm of the odds of success vs. failure. The logistic transformation of the success probability *p* is given by:

$$\log it(p_i) = \log\left(\frac{p_i}{1-p_i}\right), \text{ and}$$

$$\log\left(\frac{p_i}{1-p_i}\right) = \sum_{k=0}^{K} \beta_k x_{ik}$$

The probability p_i can be solved by:

$$p_i = \frac{\exp\left(\sum_{k=0}^{K} \beta_k x_{ik}\right)}{1 + \exp\left(\sum_{k=0}^{K} \beta_k x_{ik}\right)}$$

For all possible values of *x* and *β*, the logistic transformation ensures that *p* remain in the (0, 1) interval, and generate meaningful analytical results (Powers and Xie, 2000). In this study, the logistic transformation can be interpreted as the logarithm of the odds of adult children ever provided transfers vs. did not provide transfers to their elderly parents. In the regression tables, I use *odds ratios* to present my results.

Modeling amount of monetary and time transfers

Modeling the relationship between independent variables and amount of transfers involves analyzing censored data. As mentioned earlier, HRS firstly asks adult children whether they had given at least $500 dollars in monetary transfers, and 100 hours in time transfers to their parents. If the answers are positive, the HRS further asks the actual values of the transfer amounts. According to Maddala (1999), when a normal distributed y* has mean μ and variance σ^2, and the values of y* are only recorded when y* is greater than a constant c, the sample is said to be censored. Since the actual transfer amounts in HRS are documented only when the premises of giving at least 500 dollars and 100 hours have been achieved, this study also involves analyzing censored samples.

Originally developed by Tobin (1958), Tobit regression allows researchers to investigate the relationships with censored data. It is based on the latent variable model:

$$y_i = \beta' x_i + u_i \quad \text{if RHS>0}$$

$$y_i = 0 \text{ if otherwise}$$

Where β is a k×1 vector of regressors, x_i is a k×1 vector of known constants, and u_i is the error term. The errors are assumed as normally distributed, with mean zero and a common variance σ^2 (Maddala, 1999). Using the maximum likelihood estimation, the estimated probability of exceeding the censoring threshold *c* is:

$$pr(y_i > c) = \phi\left(\frac{x_i \beta}{\sigma}\right)$$

When dealing with censored data, using Ordinary Least Square (OLS) regression is not ideal. Censored cases with values less than the criterion are unobserved. If the OLS regression is adopted and the censored cases are treated as 0s, the results would be biased because the estimated intercept are underestimated whereas the slopes of the parameters are overestimated. On the other hand, if the OLS regression is adopted and all the censored cases are deleted from the dataset, the estimation will also be questionable. In that case, the intercept will be overestimated yet the slopes will be underestimated (Long, 1997).

In this study, instead of deleting adult children who did not provide more than $500 in financial transfer and 100 hour in time transfer, I set 500 dollars and 100 hours as censor points and use Tobit regression to conduct the statistical analysis. In

so doing, all the cases can be kept in the sample and reasonable estimates can be obtained without losing the power of generalization. The dependent variables, amount of monetary and time transfers, are natural logged[4] before the Tobit regression was performed. With this procedure, cases of 0 transfers are also considered in the regression analysis.

The results of my Tobit regression analysis are presented in *coefficients*. Because I did not additionally estimate the probability of *pr* $(y_i>c)$, the results cannot be directly interpreted as the same way as in the OLS regression[5]. However, based on the sign and significance of the coefficients, I can evaluate the direction of the effects, which provides sufficient information for my research purpose.

Modeling adult children's transfer changes from 1992 to 1996

To examine adult children's over time changes in transfer amounts, two dependent variables, adult children's change in monetary transfer amount from 1992 to 1996, and adult children's change in time transfer amount from 1992 to 1996, are created. These variables are constructed with three categories: 1= transfer amount decreased from 1992 to 1996, 2= transfer amount stay the same from 1992 to 1996, and 3= transfer amounts increased from 1992 to 1996. These categories are measured on an ordinal scale. Although the distances between adjacent categories are unknown,

[4] For cases where transfer amount=0, I firstly converted the value as .01 and then log the value.
[5] To interpret the Tobit regression results as in the OLS regression, one needs to estimate the probability that transfer is greater than the censored threshold, and then multiply the estimated probability with each coefficient. However, SAS programming does not offer this option so I am not able to present this information in my study.

one can rank the transfer from low to high. In this situation, the parameters vary across each category and hence binary logistic regression is no longer suitable for the analysis (Powers and Xie, 2000).

I use an ordered logit model to conduct my analysis. Ordered logit posits that:

$$\log it(p_1) = \log \frac{p_1}{1-p_1} = \alpha_1 + \beta' x,$$

$$\log it(p_1 + p_2) = \log \frac{p_1 + p_2}{1-p_1-p_2} = \alpha_2 + \beta' x,$$

One can obtain:

$$\log it(p_1 + p_2 + ... + p_k) = \log \frac{p_1 + p_2 + ... p_k}{1-p_1-p_2 - .... - p_k} = \alpha_k + \beta' x,$$

$$p_1 + p_2 + ... + p_{k+1} = 1$$

This model is known as the proportional-odds model because the odds ratio of the event is independent of the category *j*. The odds ratio is assumed to be constant for all categories.

In the ordered logit regression, multiple equations are estimated simultaneously. The number of equations equals number of categories in the dependent variable minus one (*j*-1). Therefore, in this dissertation project, two equations will be estimated:

	Pooled categories		Pooled categories
Equation 1:	Transfer decrease	versus	Transfer stay the same + Transfer increase
Equation 2:	Transfer decrease + Transfer stay the same	versus	Transfer increase

Above equations assess the cumulative probabilities of this study. The cumulative probability is the probability that *y* is less than or equal to a particular value *j*. The cumulative probability of the model can be specified as: (Powers and Xie, 2000):

$$C_{i,j} = \Pr(y_i \leq j | x_i) = \frac{\exp(\alpha_j + x'_i \beta)}{1 + \exp(\alpha_j + x'_i \beta)}$$

Because ordered logit regression provides only one set of coefficients for each independent variable, there is an assumption of parallel regression. In other words, although the intercepts would be different, the slopes would be essentially the same. When interpreting my results, a positive coefficient for an independent variable implies all else being equal, as *x* increases, the odds of observation in the "transfer increased" category also increase. On the contrary, a negative coefficient would indicate that as *x* increases, the probability of being in the transfer decreased category is relatively higher. The regression results are presented in *odds ratio* form, and the values of the each intercept are also reported in the tables.

Chapter 5

Adult Children's Provision of Monetary Transfers

In this Chapter, I present the findings for the monetary transfers. I begin with the descriptive analysis and then move to the multivariate analysis.

Descriptive analysis

Adult children's transfer incidence and amount in 1992

Table 5-1 presents the weighted descriptive analysis results on monetary transfer incidence and transfer amount from adult children to their parents in 1992. The results are shown by parents' sex and type of transfer. Number of observations for each category is presented in parentheses. As Table 5-1 shows, when monetary transfer incidence is assessed, women have a higher percentage than men to be the transfer recipients and transfer givers. On the receiving side, elderly mothers have a higher percentage than fathers to receive monetary transfers from their adult children (3.56% and 1.38%, respectively). On the giving side, more adult daughters than adult sons had given $500 or more to their parents. While about 5% and slightly higher than 2% of adult daughters ever provided monetary resource to their mothers and fathers, respectively, only 2.02% and 0.88% of adult sons ever did so to their mothers and fathers.

Table 5-1: Adult children's provision of monetary transfers in 1992, by adult children and parents' sex, weighted statistics

Type of transfer	Mothers (n=5175)	Fathers (n=2444)
Ever gave $500 or more		
From both adult sons and daughters	3.56%	1.38%
	(n=5175)	(n=2444)
From adult sons only	2.02%	0.88%
	(n=2619)	(n=1380)
From adult daughters only	5.15%	2.03%
	(n=2556)	(n=1064)
Average amount of transfer		
From both adult sons and daughters	89.46	34.40
	(n=5175)	(n=2444)
From adult sons only	46.33	32.57
	(n=2619)	(n=1380)
From adult daughters only	133.85	36.77
	(n=2556)	(n=1064)
Average amount of transfer, only transfers>=$500		
From both adult sons and daughters	2496.42	2443.53
	(n=189)	(n=32)
From adult sons only	2267.34	3666.28
	(n=47)	(n=9)
From adult daughters only	2588.83	1755.64
	(n=142)	(n=23)

Source: Author's analysis using Health and Retirement Study 1992.
Note: Number of cases for each cell presented in parentheses

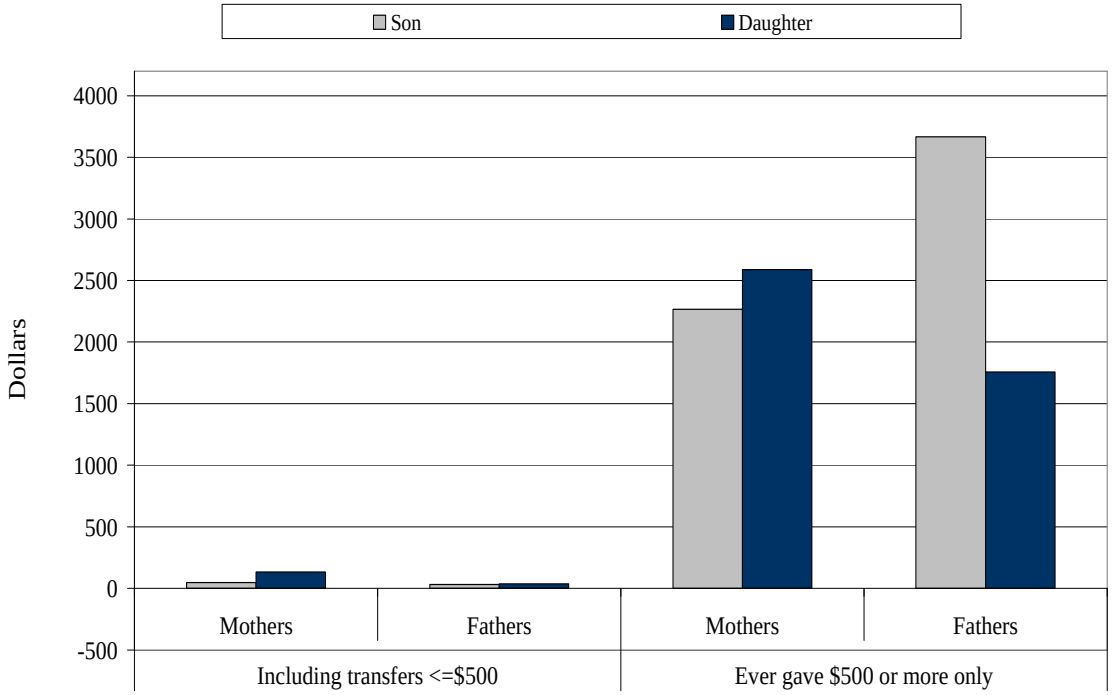
The descriptive statistics on amount of monetary transfer also demonstrate a very similar pattern. Compared to adult sons, daughters gave more money to their mothers. When all adult children are considered (including adult children who never gave a monetary transfer, ever gave transfer but under $500, and ever gave transfer equal or greater than $500 in 1992), we can see that adult daughters on average gave

$133.85 to their mothers, yet adult sons only gave $46.33. Once we focus the analysis on adult children who had given $500 or over to mothers, however, the transfer differential between adult sons and daughters become smaller.

The results in the transfer to father's sample are somewhat different. When all adult children are considered, the mean money amounts transferred to fathers from sons and daughters are $32.57 and $36.77, respectively. These two numbers are very close to each other. Moving to the analysis on transfer $500 or more, however, the results show that adult sons tend to give a much larger amount than adult daughters. According to Table 5-1, adult sons gave twice as much as daughters ($3666 vs. $1756). Nevertheless, because this analysis is based on only 9 adult sons, it is likely that we are getting the extreme values in this case.

Although most adult children did not give monetary transfers, those who ever did so provide a relatively large amount of monetary resources to their parents. Figure 5-1 is a summary of adult children's average amount of monetary transfer, by parents' and adult children's sex. Comparing the bars plotted for the "including transfers <=$500" and "ever gave $500 or more only" category, one can easily see that adult children who provided transfers more than $500 in 1992 indeed gave an amount much greater than $500. This applies to both adult sons' and adult daughters' transfers.

Figure 5-1: Mean amount of monetary transfer from adult children to their parents in 1992



Adult children's transfer incidence and amount in 1996

The purpose of the 1996 analysis is to follow the adult children from the 1992 sample, and trace their transfer behaviors after a four-year interval. After excluding adult children who dropped out from the study[6] between 1992 and 1996, the number of observations for the 1996 transfer to mother's and father's sample goes down to 2340 and 889, respectively.

[6] The most important reasons for adult children to drop out from the 1996 study are death of the elderly parents and death of adult children themselves. Reasons other than these two are basically un-identifiable because HRS does not provide such details. Adult children who stayed in the 1996 study but have missing values in the research variables to be used for this project are also excluded from the samples.

Table 5-2 is the weighted descriptive analysis of adult children's transfer change from 1992 to 1996. As in the 1992 analysis, transfer to mothers and fathers are presented separately.

The upper part of this Table demonstrates the transfer incidences by adult children and parents' sex. In the transfer to mothers sample, 88.56% of adult sons gave no monetary transfers in 1992 and 1996; 9.77% of them gave transfers in 1996 but did not in 1992; and only 1.01% of them continually gave money to their mothers over the four year period. Higher proportions of adult daughters than adult sons provided monetary resources to their elderly mothers. Adult daughters made more transfer efforts than adult sons over the study years. In 1996, a total of 9.46% adult daughters reported that they had provided monetary transfers to their mothers. 2.68% of daughters gave money in both 1992 and 1996.

Compared to mothers, fathers have smaller percentage to receive monetary transfers from their adult sons and daughters. Approximately 93% of adult sons and daughters did not provide monetary resources to their senior fathers in 1992 and 1996. Although 5.95% of adult sons did not give transfers in 1992 yet made contributions in 1996, only 0.26% of the adult sons continually gave money to their fathers over the study years.

In 1996, 5.12% of adult daughters offered transfers to their fathers. 4.37% of these transfers are from daughters who did not give any transfers to their fathers in 1992. Conversely, 1.97% adult daughters stopped giving money to their fathers during the study interval.

Table 5-2: Changes in provision of monetary transfers from adult children to their parents 1992-1996, weighted statistics

	Mother (n=2340)	Father (n=889)
Incidence: Ever gave $500 or more in 1992 and 1996		
Both adult sons and daughters		
NO in 1992, NO in 1996 (- -)	88.21%	92.89%
NO in 1992, YES in 1996 (- +)	8.28%	5.28%
YES in 1992, YES in 1996 (+ +)	1.84%	0.47%
YES in 1992, NO in 1996 (+ -)	1.67%	1.36%
Adult sons only		
NO in 1992, NO in 1996 (- -)	88.56%	92.88%
NO in 1992, YES in 1996 (- +)	9.77%	5.95%
YES in 1992, YES in 1996 (+ +)	1.01%	0.26%
YES in 1992, NO in 1996 (+ -)	0.65%	0.91%
Adult daughters only		
NO in 1992, NO in 1996 (- -)	87.84%	92.91%
NO in 1992, YES in 1996 (- +)	6.78%	4.37%
YES in 1992, YES in 1996 (+ +)	2.68%	0.75%
YES in 1992, NO in 1996 (+ -)	2.69%	1.97%
Amount: Changes in amounts given to parents		
Both adult sons and daughters		
The Same: about same amounts given in 1992 and 1996	88.14%	92.78%
Increase: 1996 transfer amount >1992 transfer amount	9.48%	5.75%
Decrease: 1996 transfer amount < 1992 transfer amount	2.38%	1.47%
Adult sons only		
The Same: about same amounts given in 1992 and 1996	88.51%	92.88%
Increase: 1996 transfer amount >1992 transfer amount	10.43%	6.21%
Decrease: 1996 transfer amount < 1992 transfer amount	1.06%	0.91%
Adult daughters only		
The Same: about same amounts given in 1992 and 1996	87.78%	92.65%
Increase: 1996 transfer amount >1992 transfer amount	8.52%	5.12%
Decrease: 1996 transfer amount < 1992 transfer amount	3.70%	2.23%

Source: Author's analysis using Health and Retirement Study 1992 and 1996. Weighted statistics.

The second part of Table 5-2 delineates the increase and decrease in amount of monetary transfer. Higher proportions of adult sons than daughters have increased their amount of contributions from 1992 to 1996. For instance, while 10.43% of adult sons have increased their transfer amount to their mothers, only 8.52% of adult daughters raised their amount of contributions over time. For adult sons, 6.21% increased the transfer amount to their fathers, yet for the adult daughters it was 5.12%. The analysis also found 1% adult sons decreased their amount of transfer to their mothers and fathers after four years. As for adult daughters, 3.70% and 2.23% reduced their transfers to mothers and fathers, respectively.

Figure 5-2 illustrates the changes in monetary transfer incidence over time. Although most adult children never give a monetary transfer to their parents in 1992, among adult children who remain in the 1996 sample the percentages of adult children who engaged in transfer practices grew. It seems that adult children's monetary transfer to their parents is sensitive to their parents' aging processes.

Adult sons have a higher percentage than daughters who give monetary resources over time. This phenomenon has two implications. First, adult sons may simply delay their timing of giving monetary transfer. Second, adult sons may have better financial transfer ability than adult daughters in 1996 and therefore were able to participate in the transfer practice more. As described in Chapter 4, adult sons have a much higher percentage than daughters to stay in the labor force in 1996. Thus, it is reasonable to expect that sons would have more economic resource to support their elderly parents in 1996.

Figure 5-2: Change in monetary transfer incidence, by adult children and parents' sex and transfer year

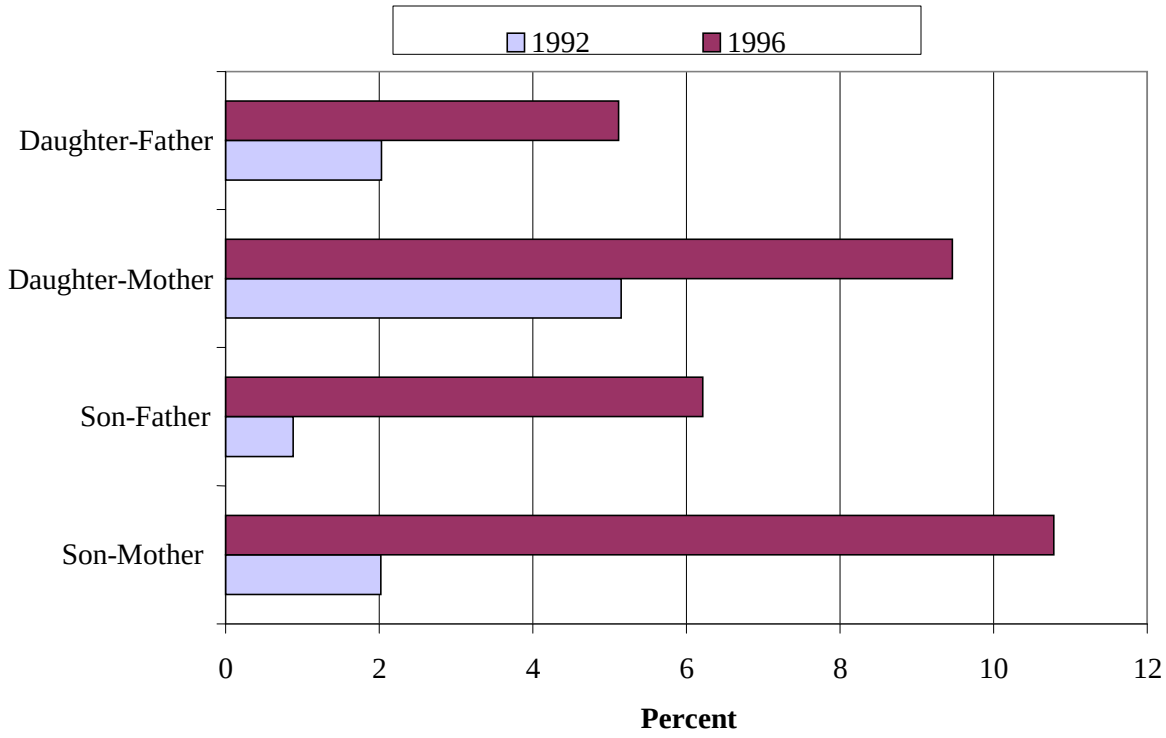
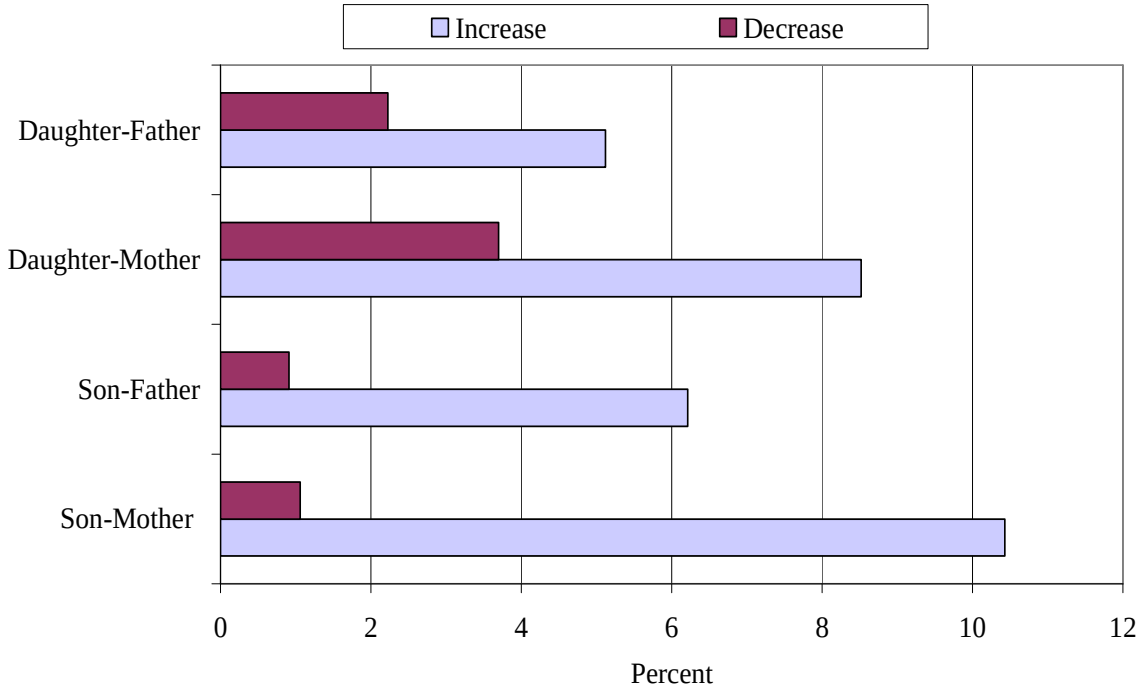


Figure 5-3 provides additional evidence to support the arguments that adult daughters may have less economic resources than sons to engage in monetary transfers over time. As this figure shows, while greater percentage of adult sons increased their transfer amount from 1992 to 96, only about 1% of them decreased their monetary contribution. Daughters have a higher percentage to decrease their amount of monetary transfer, albeit their parents may have greater need in 1996 than in 1992. Again, since women exit from the labor force earlier than men, it is possible that daughters would have more financial constraints that prevent them from giving a greater amount of money.

Figure 5-3: Adult children who increased and decreased monetary transfer amount, by adult children and parents' sex



Bivariate analysis on monetary transfer incidence and transfer amount

Table 5-3 presents bivariate statistics for the monetary transfer incidence and transfer amount. I only show the results for my major explanatory variables, and the analysis is not weighted. The dependent variables for transfer incidence are whether adult children gave at least $500 in the past 12 months; logistic regression is employed to assess the proposed relationship. The results are presented in odds ratios. The dependent variables for the transfer amount analysis are the actual amounts of transfer made. I censored the value at $500 and used natural log to normalize the distribution. Tobit regression models are adopted to perform the analysis and results are presented in coefficients.

Table 5-3: Bivariate analysis on monetary transfer to parents in 1992 using logistic *(a)* and Tobit regression *(b)*

	Transfer to mothers (n=5175)		Transfer to fathers (n=2444)	
	Incidence	Amount	Incidence	Amount
Adult children female	2.63***	0.47***	2.34***	0.20***
	(0.10)	(0.05)	(0.23)	(0.05)
Adult children work for pay	0.98	-0.004	1.96*	0.11*
	(0.11)	(0.05)	(0.31)	(0.05)
Adult children married	0.12***	-1.79***	0.06***	-1.13***
	(0.10)	(0.06)	(0.24)	(0.06)
Number of brothers	0.85***	-0.07***	0.83*	-0.03*
	(0.03)	(0.01)	(0.07)	(0.01)
Number of sisters	0.79***	-0.09***	1.04	-0.01
	(0.03)	(0.01)	(0.05)	(0.01)
Any sibling lives with mother/father	1.13	0.10	1.14	0.10
	(0.12)	(0.06)	(0.29)	(0.06)
Any sibling gave money to mother/father	12.31***	3.06***	19.21***	2.56***
	(0.10)	(0.09)	(0.25)	(0.13)
Number of children under age 18	1.00	0.08	0.58	0.01
	(0.14)	(0.07)	(0.54)	(0.07)
Gave $500 or more to children	4.11***	0.94***	3.60***	0.39***
	(0.09)	(0.06)	(0.22)	(0.06)
Both biological parents living and live together	0.93	-0.05	0.39+	-0.16*
	(0.16)	(0.08)	(0.55)	(0.08)
Both biological parents living and live separately	1.44	0.28+	2.48+	0.53***
	(0.25)	(0.15)	(0.49)	(0.15)
Right censored observations		189		32
Uncensored observations		4986		2412

Source: Author's analysis using Health and Retirement Study 1992.

Note: *(a):* For transfer incidence analysis, the dependent variable is coded as 1 if adult children ever gave $500 or more, 0 if otherwise. Results are presented in odds ratios.

(b): For transfer amount analysis, the dependent variable is the logged transfer amount, censoring at $500. Results are presented in coefficients.

(c): Unweighted statistics. Results of major explanatory variables are presented.

+<=.10, *<=.05, **<=.01, ***<=.001, Standard errors presented in parentheses.

Transfer to mothers

Based on Table 5-3, adult daughters are more likely than sons to give at least $500 to mothers, and the amount they give is also higher (p<=.001). These results are parallel to the descriptive statistics presented in Table 5-1. Adult children's work status does not show a significant effect on the transfer outcomes. Contrary to my hypothesis, the adult children's marriage effect has a negative relationship with the transfer likelihood and transfer amount (p<=.001). Married adult children are less likely to give money to their elderly mothers, which may be an indication that adult children would prefer to allocate their financial resources to their own families.

Having more brothers or more sisters significantly reduces the likelihood and amount of transfer (p<=.001). Nevertheless, if any sibling gave money to mothers, adult children would also have a greater likelihood to give transfer, and the odds ratio is very high: 12.31.

Compared to adult children who did not give money to their own children, adult children who did so are 4 times more likely to give financial transfers to their mothers (p<=.001). When both biological parents are living but live separately, adult children would give a greater amount of transfer to their mothers (p<=.10).

Transfer to fathers

Bivariate results for the transfer to father's sample show a very similar pattern as the transfer to mother's sample. Daughters are more likely than sons to give transfers; married adult children are less likely to give $500 or more to their fathers. Siblings' transfer involvement encourages adult children's transfer behavior. Adult

children who gave money to their own children also give greater amount of financial resources to their senior fathers.

A noteworthy difference between the transfer to mother's and to father's data is in the transfer to father's data, adult children who are working for pay have a greater likelihood to give money. Compared to their non-working counterparts, working adult children are almost twice as likely to give financial resources to fathers; their transfer amounts are also greater ($p<=.05$).

Another characteristic of the transfer to father's sample is, one can see there is a resource competition between fathers and living mothers. If biological mothers still live with fathers, adult children would give a smaller amount of money to their fathers ($p<=.05$). However, if fathers and mothers live separately, adult children increase their amount of transfer ($p<=.001$). This may imply that when fathers obtain or share monetary resources with their coresidence spouses, their financial need is lower and therefore adult children would reduce their amount of transfer.

Multivariate analysis, 1992

Transfer incidence and amount in 1992, all adult children

Tables 5-4 and 5-5 contain the multivariate results of monetary transfer incidence and transfer amount from adult children to their parents. These regression results are unweighted.

Transfer to mothers

Table 5-4 presents the multivariate findings for monetary transfer to mothers. Model 1 under the transfer incidence column shows the results without any interaction effect; whereas Model 2 includes the adult child sex and working for pay interaction. Results for transfer amount analysis are presented in the same way.

The first hypothesis to be examined is whether there is a gender differential in adult sons and daughters' monetary transfer behaviors. The analysis does not find a significant effect between adult children's gender and transfer incidence. Nevertheless, all else being equal, the examination on transfer amount support my hypothesis that adult daughters give smaller amount of transfer than son ($p<=.001$).

The next step is to investigate whether adult children's labor force participation status has an effect on their provision of monetary transfers. The answer is yes. Contrary to the hypothesis, working adult children indeed have a smaller likelihood of giving transfer, although this result is only marginally significant ($p<=.10$). Yet an examination on the interaction term indicates that when daughters work for pay, they are more likely to give transfer ($p<=.10$). The interaction effect on transfer amount is not statistically significant.

Married adult children have a lower incidence to give money, and the transfer amount is significantly smaller ($p<=.001$). Perhaps it is because married adult children tend to spend their monetary resources on their own family members thereby reducing transfer to mothers. In the upcoming section, variables of adult children

Table 5-4: Monetary transfer to mothers in 1992, multivariate statistics using logistic and Tobit regression

N=5175

	Transfer Incidence *(a)*		**Transfer Amount** *(b)*	
	Model 1	Model 2	Model 1	Model 2
Adult children's gender and work status				
Female	1.14	0.82	-0.19***	-0.26**
	(0.12)	(0.23)	(0.05)	(0.10)
Work for pay	0.78+	0.57*	-0.05	-0.11
	(0.13)	(0.23)	(0.06)	(0.09)
Female*work for pay	--	1.53+	--	0.10
		(0.24)		(0.11)
Adult children married	0.12***	0.12***	-1.56***	-1.55***
	(0.12)	(0.17)	(0.07)	(0.07)
Adult children's sibling characteristics				
Number of brothers	0.94	0.95	-0.02	-0.02
	(0.04)	(0.04)	(0.01)	(0.01)
Number of sisters	0.77***	0.77***	-0.08***	-0.08***
	(0.04)	(0.04)	(0.01)	(0.01)
Any sibling lives with mother	0.86	0.85	-0.02	-0.02
	(0.15)	(0.15)	(0.06)	(0.06)
Any sibling gave money to mother	13.90***	13.80***	2.83***	2.83***
	(0.13)	(0.13)	(0.09)	(0.09)
Competition for adult children's resources				
Children compete for resources				
Number of children under age 18	0.47***	0.47***	-0.22***	-0.22***
	(0.18)	(0.18)	(0.07)	(0.07)
Gave $500 or more to children	2.69***	2.69***	0.63***	0.63***
	(0.11)	(0.11)	(0.06)	(0.06)
Parents compete for resources				
Both biological parents living and live together	0.73	0.74	-0.17*	-0.16*
	(0.20)	(0.20)	(0.08)	(0.08)
Both biological parents living and live separately	1.16	1.14	0.18	0.18
	(0.30)	(0.31)	(0.15)	(0.15)
Only mother living (Reference category)	--	--	--	--
Adult children's characteristics				
Age	2.26	2.26	0.39	0.39
	(0.82)	(0.68)	(0.29)	(0.29)
Age squared	0.99	0.99	-0.004	-0.004
	(0.01)	(0.01)	(0.003)	(0.003)
Race				
White	0.38***	0.38***	-0.50***	-0.50***
	(0.17)	(0.17)	(0.09)	(0.09)
Black	0.98	0.97	0.03	0.02
	(0.20)	(0.20)	(0.11)	(0.11)
Other (Reference category)	--	--	--	--

Table 5-4 (cont.) : Monetary transfer to mothers in 1992, multivariate statistics using logistic and Tobit regression

	Transfer Incidence *(a)*		**Transfer Amount** *(b)*	
	Model 1	Model 2	Model 1	Model 2
Educational attainment				
Lower than high school (Reference category)	--	--	--	--
High school graduate	1.77**	1.76**	0.14*	0.13*
	(0.18)	(0.18)	(0.07)	(0.07)
Some college	2.12***	2.10***	0.23**	0.22**
	(0.20)	(0.20)	(0.08)	(0.08)
College and above	2.90***	2.87***	0.35***	0.34***
	(0.20)	(0.20)	(0.08)	(0.08)
Household assets, logged	1.08***	1.08***	0.04***	0.04***
	(0.02)	(0.02)	(0.01)	(0.01)
Has good health	1.03	1.06	0.03	0.03
	(0.16)	(0.16)	(0.07)	(0.07)
Mothers' characteristics				
Age	0.94***	0.94***	-0.03***	-0.03***
	(0.01)	(0.01)	(0.01)	(0.01)
At least one ADL limitation	1.33	1.33	0.19*	0.19*
	(0.19)	(0.19)	(0.08)	(0.08)
Years of education	0.96**	0.96**	-0.02**	-0.02**
	(0.02)	(0.02)	(0.01)	(0.01)
Excellent or good financial situation	0.85	0.85	-0.09+	-0.10+
	(0.14)	(0.14)	(0.06)	(0.06)
Intercept	-19.43	-19.18	-13.88	-13.78
Right censored observations			189	189
Uncensored observations			4986	4986

Source: Author's analysis using Health and Retirement Study 1992.

Note: *(a):* For transfer incidence analysis, the dependent variable is coded as 1 if adult children ever gave $500 or more, 0 if otherwise. Results are presented in odds ratios.

(b): For transfer amount analysis, the dependent variable is the logged transfer amount, censoring at $500. Results are presented in coefficients.

(c): Unweighted statistics.

+<=.10, *<=.05, **<=.01, ***<=.001. Standard errors presented in parentheses.

spouses' characteristics will be included in the model to further address how adult children's marriage affects their transfer outcomes.

Having more sisters significantly reduce the transfer incidence and transfer amounts, implying that their contributions have a substitution effect to adult children's monetary transfer efforts ($p<=.001$). If any sibling gave money to mothers, adult children are encouraged to give transfer as well ($p<=.001$).

Grandchildren's resource competition shows an interesting effect. On the one hand, having more children younger than age 18 decreases the likelihood and amount of transfer to elderly mothers, indicating that adult children do incorporate their children's need when they make transfer decisions ($p<=.001$). On the other, the analysis shows if adult children ever gave at least $500 to their children (regardless of children's age), they become 2.69 times more likely to provide monetary transfer to mothers ($p<=.001$). These two results do not contradict with each other. The key issue here is how much money adult children have to spend on their children. If their total financial transfer amount to children is not much greater than $500 in the past year, giving additional transfer to the elderly mothers would not be unaffordable. Conversely, if adult children have many financially dependent children who need support, it would mean that adult children must spend a much larger amount of money on their youngsters, thereby reduce their ability to give extra transfers to senior mothers.

When mothers still live with adult children's biological fathers, holding everything constant, the transfer amount made by adult children decreases ($p<=.05$).

This is not a surprising result because coresiding parents can share their economic resources and thus have a smaller financial need.

Examinations on adult children's other characteristics indicate that adult children's ability has a decisive effect on their transfer behaviors. White, better educated adult children, and adult children who have more household assets, are more likely to give money to their mothers; their transfer amount tends to be greater than adult children who do not have these qualities. These results are consistent with the existing literature.

Mothers' need also plays an important role in the transfer practice. Adult children give more money to mothers with ADL difficulties ($p<=.05$). The transfer likelihood and amount decline when mothers are better educated and have excellent or good financial situations. In short, adult children would provide more monetary transfers if their mothers have higher level of need.

Transfer to fathers

Table 5-5 summarizes results of monetary transfer to fathers in 1992. In this part of the study, statistical models cannot converge if the interaction term of (adult children gender × adult children work for pay) is included in the estimation. Therefore, only estimations based on the main effects are presented here. Results on transfer incidence and transfer amount are presented side-by-side.

Table 5-5: Monetary transfer to fathers in 1992, multivariate statistics using logistic and Tobit regression

N=2444

	Transfer Incidence *(a)*	**Transfer Amount** *(b)*
Adult children's gender and work status		
Female	0.86	-0.08
	(0.30)	(0.05)
Work for pay	1.99+	0.12*
	(0.38)	(0.05)
Adult children married	0.03***	-1.19***
	(0.31)	(0.07)
Adult children's sibling characteristics		
Number of brothers	0.77*	-0.03*
	(0.10)	(0.01)
Number of sisters	1.16*	0.02
	(0.07)	(0.01)
Any sibling lives with father	1.75	0.10
	(0.38)	(0.06)
Any sibling gave money to father	28.49***	2.44***
	(0.39)	(0.13)
Competition for adult children's resources		
Children compete for resources		
Number of children under age 18	0.35	-0.08
	(0.65)	(0.07)
Gave $500 or more to children	2.42**	0.24***
	(0.28)	(0.06)
Parents compete for resources		
Both biological parents living and live together	0.19*	-0.17+
	(0.75)	(0.09)
Both biological parents living and live separately	2.71	0.51***
	(0.64)	(0.15)
Only father living (Reference category)	--	--
Adult children's characteristics		
Age	0.47	-0.20
	(0.72)	(0.28)
Age squared	1.00	0.002
	(0.02)	(0.003)
Race		
White	0.57	-0.08
	(0.42)	(0.08)
Black	0.93	-0.03
	(0.50)	(0.10)
Other (Reference category)	--	--

Table 5-5 (cont.) : Monetary transfer to fathers in 1992, multivariate statistics using logistic and Tobit regression

	Transfer Incidence *(a)*	**Transfer Amount** *(b)*
Educational attainment		
Lower than high school (Reference category)	--	--
High school graduate	0.30**	-0.18**
	(0.42)	(0.07)
Some college	0.48+	-0.18*
	(0.42)	(0.07)
College and above	0.64	-0.08
	(0.41)	(0.08)
Household assets, logged	1.33***	0.04***
	(0.09)	(0.01)
Has good health	2.71*	0.22***
	(0.50)	(0.06)
Fathers' characteristics		
Age	1.10*	0.001
	(0.05)	(0.007)
At least one ADL limitation	4.42*	0.74***
	(0.59)	(0.14)
Years of education	0.97	-0.02**
	(0.04)	(0.01)
Excellent or good financial situation	0.38+	-0.22**
	(0.55)	(0.08)
Intercept	7.37	-1.02
Right censored observations		32
Uncensored observations		2412

Source: Author's analysis using Health and Retirement Study 1992.

Note: *(a):* For transfer incidence analysis, the dependent variable is coded as 1 if adult children ever gave $500 or more, 0 if otherwise. Results are presented in odds ratios.

(b): For transfer amount analysis, the dependent variable is the logged transfer amount, censoring at $500. Results are presented in coefficients.

(c): Unweighted statistics.

+<=.10, *<=.05, **<=.01, ***<=.001. Standard errors presented in parentheses.

From Table 5-5, we can see that holding every factor constant, there is no significant evidence to conclude that daughters are less likely than sons to give monetary transfer to fathers. However, the odds of giving money are almost twice as high among adult children who are working for pay ($p<=.10$), and the transfer amount increases when adult children have a paid job ($p<=.05$).

Married adult children are significantly less likely to give transfer, and their transfer amount is smaller ($p<=.001$). Sibling effect has a profound influence on adult children's transfer to fathers. Based on the analysis, having more brothers reduces transfer incidence and transfer amount, yet having more sisters complement adult children's monetary contributions. This phenomenon may reflect that brothers may have more financial resources than sisters and therefore adult children with multiple brothers are able to give less money to their fathers. Like we have seen in the transfer to mother's analysis, if any sibling gave money to fathers, adult children themselves are also more like to give transfer ($p<=.001$).

Investigation on the resource competition effect demonstrates the following patterns. First, children of the adult children do not compete for financial resources with their grandfathers. Conversely, if adult children ever provided $500 to their own children, they are also having a greater likelihood of giving money to their elderly fathers ($p<=.01$). Second, when both biological parents live together, adult children would decrease their monetary contribution ($p<=.10$). And lastly, if fathers no longer coreside with adult children's living biological mothers, adult children would increase

the transfer amount (p<=.001), possibly because lone fathers tend to have a high need for support.

An examination on adult children's characteristics reveals that adult children's transfer ability and motivation may be equally essential with respect of transfer to fathers. While having more household assets and good health increase the likelihood and amount of giving transfer, the analysis also finds that adult children with higher educational achievements do not necessarily give more monetary transfers. This contradicts the assumption that adult children with better ability would give more financial resources to their parents.

Finally, fathers' need is also an important determinant. Adult children are more likely to give transfer if their fathers are older or experiencing ADL limitation (p<=.05). Higher educational attainment and excellent or good financial situation of the fathers reduce the transfer amount made by the adult children (p<=.01). Consequently, adult children would give more monetary resources if their fathers are in greater need.

Transfer incidence and amount in 1992, working adult children

Transfer to mothers

Table 5-6 presents the findings on working adult children's monetary transfer to mothers. The sample size for the working adult children sub-sample is 3029. In this analysis, I include the adult children's hourly wage rate and weekly work hour variables to examine whether working adult children's wage rate and work hours affect their monetary transfer outcomes. Interaction terms to examine adult

Table 5-6: Monetary transfer from working adult children to their mothers in 1992, multivariate statistics using logistic and Tobit regression

N=3029

	Transfer Incidence *(a)*		**Transfer Amount** *(b)*	
	Model 1	Model 2	Model 1	Model 2
Adult children's gender and work status				
Female	1.03	1.65*	-0.25***	0.01
	(0.17)	(0.23)	(0.07)	(0.10)
Hourly wage rate, centered at grand mean and logged	1.08+	0.97	0.03	-0.01
	(0.04)	(0.07)	(0.02)	(0.02)
Female* hourly wage rate	--	1.21*	--	0.12***
		(0.08)		(0.03)
Weekly work hour, centered at grand mean and logged	1.03	1.16*	0.01	0.02
	(0.03)	(0.06)	(0.01)	(0.02)
Female* weekly work hour	--	1.84*	--	0.04
		(0.07)		(0.02)
Adult children married	0.09***	0.09***	-1.70***	-1.72***
	(0.16)	(0.16)	(0.08)	(0.08)
Adult children's sibling characteristics				
Number of brothers	0.92	0.92	-0.03+	-0.04+
	(0.05)	(0.05)	(0.02)	(0.02)
Number of sisters	0.76***	0.75***	-0.08***	-0.08***
	(0.06)	(0.06)	(0.02)	(0.02)
Any sibling lives with mother	0.81	0.81	-0.11	-0.10
	(0.20)	(0.20)	(0.08)	(0.08)
Any sibling gave money to mother	19.53***	20.08***	3.31***	3.31***
	(0.18)	(0.18)	(0.12)	(0.12)
Competition for adult children's resources				
Children compete for resources				
Number of children under age 18	0.30***	0.31***	-0.60***	-0.60***
	(0.30)	(0.30)	(0.11)	(0.11)
Gave $500 or more to children	2.27***	2.28***	0.50***	0.49***
	(0.15)	(0.15)	(0.08)	(0.08)
Parents compete for resources				
Both biological parents living and live together	0.88	0.88	-0.11	-0.11
	(0.27)	(0.27)	(0.10)	(0.10)
Both biological parents living and live separately	0.68	0.60	0.13	0.11
	(0.49)	(0.48)	(0.19)	(0.19)
Only mother living (Reference category)	--	--	--	--
Adult children's characteristics				
Age	8.73*	12.49*	0.74*	0.71+
	(0.94)	(0.95)	(0.38)	(0.38)
Age squared	0.98*	0.98**	-0.01+	-0.01+
	(0.01)	(0.01)	(0.003)	(0.003)

Table 5-6 (cont.) : Monetary transfer from working adult children to their mothers in 1992, multivariate statistics using logistic and Tobit regression

	Transfer Incidence *(a)*		**Transfer Amount** *(b)*	
	Model 1	Model 2	Model 1	Model 2
Race				
White	0.36***	0.38***	-0.48***	-0.47***
	(0.23)	(0.23)	(0.12)	(0.12)
Black	1.44	1.48	0.38**	0.39**
	(0.27)	(0.27)	(0.15)	(0.15)
Other (Reference category)	--	--	--	--
Educational attainment				
Lower than high school (Reference category)	--	--	--	--
High school graduate	1.50	1.58+	0.07	0.08
	(0.25)	(0.25)	(0.09)	(0.09)
Some college	2.07**	2.20**	0.19+	0.19+
	(0.27)	(0.27)	(0.10)	(0.10)
College and above	2.40**	2.59***	0.24*	0.26*
	(0.28)	(0.28)	(0.10)	(0.10)
Household assets, logged	1.11***	1.11***	0.04***	0.04***
	(0.02)	(0.02)	(0.01)	(0.01)
Has good health	0.69+	0.66+	-0.14	-0.15
	(0.22)	(0.22)	(0.10)	(0.10)
Mothers' characteristics				
Age	0.96**	0.96**	-0.02*	-0.02*
	(0.02)	(0.02)	(0.01)	(0.01)
At least one ADL limitation	1.43	1.46	0.19+	0.19*
	(0.25)	(0.25)	(0.10)	(0.10)
Years of education	0.96*	0.95*	-0.02*	-0.02*
	(0.02)	(0.02)	(0.01)	(0.01)
Excellent or good financial situation	0.69+	0.68+	-0.18**	-0.19**
	(0.19)	(0.20)	(0.07)	(0.07)
Intercept	-58.58	-68.54	-24.15	-23.37
Right censored observations			114	114
Uncensored observations			2915	2915

Source: Author's analysis using Health and Retirement Study 1992.

Note: *(a):* For transfer incidence analysis, the dependent variable is coded as 1 if adult children ever gave $500 or more, 0 if otherwise. Results are presented in odds ratios.

(b): For transfer amount analysis, the dependent variable is the logged transfer amount, censoring at $500. Results are presented in coefficients.

(c): Unweighted statistics.

+<=.10, *<=.05, **<=.01, ***<=.001. Standard errors presented in parentheses.

daughters' wage and work hour effects are also included in the analysis (under the column of Model 2).

Model 1 under the transfer incidence and transfer amount columns presents the analytical results without interaction effects. Before the interaction terms are introduced to the analysis, working adult daughters tend to give a smaller amount of transfer than sons ($p<=.001$). Adult children with higher wages are more likely to provide monetary transfers to their mothers ($p<=.10$), meaning that a higher wage rate would enhance adult children's financial ability and encourage their provision of monetary resources. The effect of weekly work hours on transfer incidence and amount is not statistically significant.

In Model 2, the interaction term of (adult daughter × hourly wage rate) demonstrates that adult daughters' monetary transfer incidences and transfer amounts would increase if they are better paid in the labor force. The interaction term of (adult daughter × weekly work hour) indicates thatwhen daughters work longer hours they are also more likely to give monetary contributions ($p<=.05$). These results support the proposition that while adult daughters' disadvantages in the labor force may not allow them to give a large amount of monetary resources to their mothers, a more equal wage structure between men and women would boost adult daughters' financial ability to contribute.

Examinations on adult children siblings' characteristics indicate that having more brothers and sisters significantly help working adult children to alleviate their monetary transfer burden. The hypothesis that grandchildren would compete for

monetary resources with their grandmothers is only partially supported. While having more children younger than age 18 reduces working adult children's transfer incidence and transfer amount ($p<=.001$), ever gave $500 to children increase the transfer likelihood and amount instead ($p<=.001$). Resource competition between two biological parents does not show a significant influence in the transfer outcomes.

Adult children's age is positively related to their transfer behaviors. Older adult children are more likely to give transfer, and the amount of contribution is greater ($p<=.05$). However, keep in mind that the oldest adult children in the 1992 study are only 61 years of age. It is possible that adult children who are older than this age threshold would have a different pattern of transfer.

All else being equal, white adult children are less likely than adult children of other racial groups (mostly Hispanic) to give transfer ($p<=.001$). However, black adult children are more likely to give more money to their mothers than other children ($p<=.01$). As discussed in the literature review chapter, black adult children's lower amount of monetary transfer relative to whites probably results from their lack of financial resources. After controlling for socioeconomic factors, the statement that black adult children tend to give less monetary transfer no longer holds.

Assessment on adult children's education and assets agrees that adult children with better ability have a higher transfer incidence and transfer amounts. Yet surprisingly, having good health is related to a decreased probability of giving transfer, but it is only marginally significant at alpha level <=.10.

Working adult children's transfer is also associated with mothers' need. Mothers with better socioeconomic status are less likely to receive money from their adult children. The only exception is mothers' age effect. Holding everything constant, working adult children become less likely to provide monetary contributions to their mothers ($p<=.01$), and their transfer amount decreases with mothers' advancing ages ($p<=.05$).

Transfer to fathers

Table 5-7 summarizes the results of working adult children giving transfer to their fathers. The two interaction effects, (adult daughter × hourly wage rate) and (adult daughter × weekly work hour) are excluded from the models to ensure the stability of the analysis.

Holding all else constant, working adult daughters are still less likely than employed sons to give transfers to fathers, and their transfer amount is lower ($p<=.01$). Since the wage and the work hour effects are also included in the models, this result points out that working adult children's gender differential in monetary transfer is not influenced by the structure of the labor force. Instead, it may be interpreted as the effect of "gender norm". People often consider working males as the major breadwinner, and giving money to the needy family members is their responsibility. In contrast, because women are mostly expected to perform the caregiving chores, they are somewhat less obligated than men to provide monetary transfer to parents. In this part of my study, the result seems to echo the gender norm argument.

Table 5-7: Monetary transfer from working adult children to their fathers in 1992, multivariate statistics using logistic and Tobit regression

N=1522

	Transfer Incidence *(a)*	**Transfer Amount** *(b)*
Adult children's gender and work status		
Female	0.35**	-0.19**
	(0.41)	(0.07)
Hourly wage rate, centered at grand mean and logged	0.89	0.03
	(0.10)	(0.02)
Weekly work hour, centered at grand mean and logged	1.13	0.02
	(0.08)	(0.01)
Adult children married	0.01***	-1.72***
	(0.54)	(0.09)
Adult children's sibling characteristics		
Number of brothers	0.81+	-0.04*
	(0.12)	(0.02)
Number of sisters	1.21	0.02
	(0.09)	(0.02)
Any sibling lives with father	2.19	0.12
	(0.50)	(0.08)
Any sibling gave money to father	81.49***	3.22***
	(0.57)	(0.17)
Competition for adult children's resources		
Children compete for resources		
Number of children under age 18	0.42	-0.22*
	(0.73)	(0.11)
Gave $500 or more to children	2.03+	0.14+
	(0.38)	(0.09)
Parents compete for resources		
Both biological parents living and live together	0.02**	-0.31**
	(0.49)	(0.11)
Both biological parents living and live separately	0.12	0.14
	(0.40)	(0.20)
Only father living (Reference category)	--	--
Adult children's characteristics		
Age	0.02+	-0.99*
	(1.18)	(0.39)
Age squared	1.04+	0.01**
	(0.02)	(0.004)
Race		
White	0.28*	-0.11
	(0.54)	(0.11)
Black	0.54	-0.08
	(0.61)	(0.14)
Other (Reference category)	--	--

Table 5-7 (cont.) : Monetary transfer from working adult children to their fathers in 1992, multivariate statistics using logistic and Tobit regression

	Transfer Incidence *(a)*	**Transfer Amount** *(b)*
Educational attainment		
Lower than high school (Reference category)	--	--
High school graduate	0.33*	-0.15+
	(0.54)	(0.09)
Some college	0.49	-0.16+
	(0.55)	(0.10)
College and above	0.94	-0.05
	(0.57)	(0.03)
Household assets, logged	1.85***	0.05
	(0.16)	(0.10)
Has good health	1.25	0.25**
	(0.58)	(0.10)
Fathers' characteristics		
Age	1.12	-0.01
	(0.08)	(0.01)
At least one ADL limitation	41.94***	1.27***
	(1.09)	(0.18)
Years of education	0.97	-0.02*
	(0.05)	(0.01)
Excellent or good financial situation	0.12*	-0.22*
	(1.06)	(0.10)
Intercept	89.90	22.25
Right censored observations		25
Uncensored observations		1497

Source: Author's analysis using Health and Retirement Study 1992.

Note: *(a):* For transfer incidence analysis, the dependent variable is coded as 1 if adult children ever gave $500 or more, 0 if otherwise. Results are presented in odds ratios.

(b): For transfer amount analysis, the dependent variable is the logged transfer amount, censoring at $500. Results are presented in coefficients.

(c): Unweighted statistics.

+<=.10, *<=.05, **<=.01, ***<=.001. Standard errors presented in parentheses.

Results on working adult children's marital status, siblings' characteristics, and resource competition are generally consistent with my previous findings. However, when looking into working adult children's age effect, we can see that older adult children give less financial contribution to their senior fathers ($p<=.05$). While having more household assets increase the likelihood of giving transfer ($p<=.001$), having longer years of schooling does not. Adult children's health effect accords with the study hypothesis. When working children have good or better health, their transfer amount to fathers also expands ($p<=.01$).

Finally, consistent with existing literature, adult children are more likely to give greater amount of money to needy fathers. The effect of fathers' functional limitation is particularly strong. When fathers have at least one ADL difficulty, working adult children will increase their transfer incidence and amount ($p<=.001$). Better educated fathers and fathers with excellent or good financial situation are less likely to receive transfer from their children.

Transfer incidence and amount in 1992, married working adult daughters to their mothers

Table 4-8 depicts how married adult daughters incorporate spouses' need into their intergenerational transfer practice in 1992. Since I am particularly interested in addressing married working adult daughters' life course constraints, in this section, I focus my study on daughters' transfer behaviors. It is important to note that after using the given criteria to select the sub-sample (working, married adult daughters with complete husbands' records), the statistical analysis on transfer to fathers becomes unstable. Therefore, it is impossible to present the transfer to fathers' results.

Table 5-8: Monetary transfer from married working adult daughters to their mothers in 1992, multivariate statistics using logistic and Tobit regression

N=781

	Transfer Incidence *(a)*	**Transfer Amount** *(b)*
Adult daughter work status		
Hourly wage rate, centered at grand mean and logged	1.45***	0.18***
	(0.08)	(0.04)
Weekly work hour, centered at grand mean and logged	0.93	-0.04
	(0.08)	(0.03)
Husbands' characteristics		
Age difference	1.03	0.01
(Husbands' age-adult daughters' age)	(0.04)	(0.01)
Years of education difference	1.13+	0.04
(Husbands' years of education-adult daughters' years of education)	(0.07)	(0.02)
Husbands working for pay	4.98*	0.36*
	(0.80)	(0.19)
Husbands have poor health	1.80	-0.01
	(0.96)	(0.30)
Adult daughter sibling characteristics		
Number of brothers	0.98	-0.04
	(0.10)	(0.04)
Number of sisters	0.79*	-0.06+
	(0.11)	(0.04)
Any sibling lives with mother	0.30*	-0.32*
	(0.49)	(0.15)
Any sibling gave money to mother	26.89***	2.31***
	(0.35)	(0.18)
Competition for adult daughters' resources		
Children compete for resources		
Number of children under age 18	0.74	-0.20
	(0.42)	(0.15)
Gave $500 or more to children	2.19*	0.30**
	(0.35)	(0.11)
Parents compete for resources		
Both biological parents living and live together	1.33	0.15
	(0.48)	(0.20)
Both biological parents living and live separately	*(d)*	
Only mother living (Reference category)	--	--
Adult daughters' characteristics		
Age	0.92	-0.03+
	(0.06)	(0.02)
Age squared	*(d)*	*(d)*

Table 5-8 (cont.) : Monetary transfer from married working adult daughters to their mothers in 1992, multivariate statistics using logistic and Tobit regression

	Transfer Incidence *(a)*	**Transfer Amount** *(b)*
Race		
White	0.81	-0.22
	(0.49)	(0.24)
Black	2.37	0.49+
	(0.16)	(0.30)
Other (Reference category)	--	--
Educational attainment		
Lower than high school (Reference category)	--	--
High school graduate	1.03	0.08
	(0.57)	(0.18)
Some college	0.92	0.02
	(0.64)	(0.20)
College and above	3.48*	0.61**
	(0.61)	(0.23)
Household assets, logged	0.94	-0.02
	(0.06)	(0.02)
Has good health	0.18***	-0.67**
	(0.49)	(0.23)
Mothers' characteristics		
Age	0.96	-0.01
	(0.03)	(0.01)
At least one ADL limitation	2.98*	0.47*
	(0.46)	(0.19)
Years of education	0.99	-0.004
	(0.05)	(0.02)
Excellent or good financial situation	0.75	-0.004
	(0.36)	(0.14)
Intercept	4.17	-3.57
Right censored observations		28
Uncensored observations		753

Source: Author's analysis using Health and Retirement Study 1992.

Note: *(a):* For transfer incidence analysis, the dependent variable is coded as 1 if adult daughters ever gave $500 or more, 0 if otherwise. Results are presented in odds ratios.

(b): For transfer amount analysis, the dependent variable is the logged transfer amount, censoring at $500. Results are presented in coefficients.

(c): The age-squared variable is excluded from statistical models for a more stable analysis. Unweighted statistics.

(d): Variable excluded from statistical model to achieve stable analysis.

+<=.10, *<=.05, **<=.01, ***<=.001. Standard errors presented in parentheses.

The final sample size for the transfers to mother's sample is 781 adult daughters. These adult daughters are all married and working for pay in 1992. Their wage rate, weekly work hours, and husbands' characteristics are the major concern of this part of the analysis.

Based on Table 5-8, because the hourly wage rate and weekly work hour variables are centered around the grand mean, we know that compared to those who have an average wage, adult daughters whose wage rates are higher will be more likely to give their mothers monetary transfer, and the amount of transfer increases with their higher wage ($p<=.001$). The effect of weekly work hours is not statistically significant. In short, all else being equal, adult daughters' financial reward from the labor force may influence their ability to give monetary transfer to mothers.

Husbands' effect is the major concern of this part of the study. I hypothesized that the greater the age difference between the husbands and the adult daughters (husbands' age -adult daughters' age), the less likely that adult daughters will contribute financial resources to their mothers because older husbands may compete for monetary resources with their mothers-in-law. Nevertheless, this hypothesis is not supported by the statistical analysis. Greater difference in years of education between the couple increase the likelihood for adult daughters to give money ($p<=.10$), possibly because better-educated husbands potentially have larger amount of financial resources thereby adult daughters are able to give transfer. Compared to daughters whose husbands are not working for pay, the odds for daughters with a working husband to give monetary transfer is almost 5 times higher ($p<=.05$). Finally, there is

no indication that having a husband of poor health would decrease adult daughters' financial contribution to their mothers. It is likely that poor-health husbands compete for time, but not monetary resources with their mothers-in-law. I will discuss this issue in the next chapter.

Siblings' support plays a very important role in adult daughters' monetary transfer practice. Having more sisters would substitute adult daughters' transfer responsibilities because the analysis shows that sisters significantly reduce adult daughters' likelihood and amount of transfer. If any sibling lives with elderly mothers, adult daughters would also have a lower transfer incidence and the amount of money they contribute decrease ($p<=.05$). Siblings' monetary transfer to mothers encourages adult daughters' transfer behaviors. In addition to what siblings had given, adult daughters add extra contribution to their mothers ($p<=.001$). Hence, adult daughters' and siblings' financial transfer to mothers complement each other.

Giving money to children has a significant effect on adult daughters' transfer practice. Adult daughters ages 51 to 61 bear the responsibility supporting their children and elderly mothers. They do not decrease their transfer amount because of their efforts to satisfy children's need. Conversely, compared to their counterpart who did not give at least $500 to their children, adult daughters who did so tend to contribute more money to their mothers ($p<=.01$).

Examinations of adult children characteristics indicate that the adult daughters' ability hypothesis provides a limited explanation of monetary transfers to mothers. Transfer amount diminishes with adult daughters' age ($p<=.10$). Education

has a non-linear effect on adult daughters' transfer outcomes. Using high school graduates as the reference group, daughters with college graduate degrees are most likely to transfer $500 dollars or higher (p<=.001). However, it is not clear how transfer patterns differ among those who do not have a college degree. The hypothesis of better health would increase adult daughters' transfer potential is not supported by the statistics either.

Examination of mothers' characteristics only shows that when mothers have ADL difficulties adult daughters would increase their transfer (p<=.01. Overall, this part of the study posits that husbands' characteristics and siblings' support are essential to adult daughters' provision of monetary transfer. When husbands have better economic ability adult daughters would be more likely to make financial contribution to their mothers. Siblings' involvement significantly reduces adult daughters' burdens, which may enhance working adult daughters' wellbeing.

Multivariate analysis, 1992-1996

In the following analysis, my major concern is whether adult children's work transition from 1992 to 1996 has an impact on their monetary transfer in 1996. I use ordered logit models to estimate adult children's change in monetary transfer from 1992 to 1996. The dependent variable has three categories: amount of transfer decreased from 1992 to 1996 coded as 1, amount of transfer stay the same from 1992 to1996 coded as 2, and amount of transfer increased from 1992 to 1996 coded as 3.

Since these three categories can be ranked, the ordered logit regression is a suitable tool to perform my estimations.

Four dichotomized independent variables are used to depict adult children's work status transition over time. They are: (1) adult children did not work in 1992 and not working in 1996; (2) adult children worked in 1992 and still in the labor force in 1996; (3) adult children worked in 1992 but retired or become a homemaker in 1996, and (4) adult children did not work in 1992 but work again in 1996. If adult children have the traits described in any of these variables, a score of 1 is given, coded 0 if otherwise. The percentage distribution of these variables has been presented in Table 3-5. When perform the regression analysis, the fourth variable, "adult children did not work in 1992 but work again in 1996" is excluded from the model to serve as the reference category.

Except the work transition variables, all other independent variables are based on the 1992 data. Results are presented in odds ratios.

Adult children's change in monetary transfer amount from 1992 to 1996

<u>All adult children</u>

From Table 5-9, we can see that adult children's gender has an impact on their over time transfer to mothers. Adult daughters are less likely than adult sons to increase transfer amount to mothers from 1992 to 1996 ($p<=.001$). However, adult children's gender does not have a significant effect on transfer to fathers.

Table 5-9: Change in monetary transfer amount to parents from 1992 to 1996, multivariate statistics using ordered logit regression *(a)*

	To mothers (n=2340)	**To fathers** (n=889)
	Model 1	Model 1
Adult children's gender and work status 1992-96 (b)		
Female	0.67***	0.97
	(0.10)	(0.22)
Did not work in 1992 and not working in 1996	1.76*	1.24
	(0.24)	(0.49)
Worked in 1992 and still in labor force in 1996	2.06**	3.26**
	(0.22)	(0.45)
Worked in 1992, retired or homemaker in 1996	1.38	1.45
	(0.25)	(0.53)
Did not work in 1992 and worked again in 1996 (Reference category)	--	--
	--	--
Adult children married, 1992	1.62***	2.08**
	(0.12)	(0.28)
Adult children's sibling characteristics, 1992		
Number of brothers	1.04	1.15**
	(0.03)	(0.05)
Number of sisters	0.94**	0.98
	(0.02)	(0.05)
Any sibling lives with mother/father	1.30*	1.29
	(0.11)	(0.22)
Any sibling gave money to mother/father	1.89 ***	3.61**
	(0.17)	(0.42)
Competition for adult children's resources, 1992		
Children compete for resource		
Number of children under age 18	1.15	1.03
	(0.09)	(0.28)
Gave $500 or more to children	1.07	0.52*
	(0.12)	(0.27)
Parents compete for resources		
Both biological parents living and live together	1.39*	1.69+
	(0.14)	(0.33)
Both biological parents living and live separately	1.28	0.57
	(0.23)	(0.65)
Only mother/father living (Reference category)	--	--
Adult child's characteristics, 1992		
Age	2.91*	0.05*
	(0.53)	(1.19)
Age squared	0.99*	1.03*
	(0.01)	(0.01)

Table 5-9 (cont.) : Change in monetary transfer amount to parents from 1992 to 1996, multivariate statistics using ordered logit regression *(a)*

	To mothers (n=2340)	**To fathers** (n=889)
	Model 1	Model 1
Race		
White	0.44***	0.27***
	(0.15)	(0.28)
Black	1.16	0.81
	(0.19)	(0.34)
Other (Reference category)	--	--
Educational attainment		
Lower than high school (Reference category)	--	--
High school graduate	1.58***	1.03
	(0.13)	(0.26)
Some college	1.70***	0.70
	(0.15)	(0.29)
College and above	2.27***	0.92
	(0.15)	(0.30)
Household assets, logged	1.02	1.02
	(0.01)	(0.02)
Has good health	1.18	0.76
	(0.13)	(0.27)
Mothers'/Fathers' characteristics, 1992		
Age	1.00	0.97
	(0.01)	(0.03)
At least one ADL limitation	0.81	0.57
	(0.15)	(0.56)
Years of education	0.99	1.03
	(0.01)	(0.02)
Excellent or good financial situation	0.97	0.89
	(0.10)	(0.32)
Intercept for transfer remain the same (2)	-26.64	89.47
Intercept for transfer increased (3)	-32.96	81.75

Source: Author's analysis using Health and Retirement Study 1992 and 1996.

Note: *(a):* The dependent variable is coded as 1 if transfer amount decreased, coded as 2 if transfer amount remain the same, coded as 3 if transfer amount increased. Results are presented in odds ratios.

(b): The work status variables are based on the 1992-1996 data. All other variables are based on the 1992 data to avoid endogenous estimations.

(c): Unweighted statistics.

+<=.10, *<=.05, **<=.01, ***<=.001. Standard errors presented in parentheses.

As hypothesized, adult children's change in monetary contribution is sensitive to their work transitions. For adult children who did not work in both 1992 and 1996, the odds ratio, 1.76, indicates that compared to adult children who did not work in 1992 but re-entered the labor force in 1996, adult children who did not work in both years are more likely to increase their amount of transfer ($p<=.05$). Although adult children who did not work in both years may have limited income, when mothers become older, these adult children still raise their amount of monetary contribution. The odds ratio for adult children who worked in both 1992 and 1996 shows an even greater effect in this regard. Compared to adult children who returned to the labor force in 1996, adult children who continually stay in their paid jobs over the 4-year period are 2 times more likely to increase their amount of transfer ($p<=.01$). Overall, these results point out that adult children's work transition may affect their transfer potentials. Adult children staying in the labor force have more economic resources and a greater potential to increase their amount of transfers than adult children otherwise. This situation also applies to the transfer to fathers' case ($p<=.01$).

Unlike in 1992 that married adult children are less likely to give transfer, adult children's marriage effect operates in an inverse direction in 1996. Married adult children become significantly more likely than unmarried ones to increase their monetary contribution. In the upcoming section, I will further discuss how adult children spouses' characteristics affect the transfer outcome from 1992 to 1996.

Siblings' sex affects adult children's changes in transfer amounts. Having more brothers causes a higher likelihood for adult children to increase their monetary

transfer to fathers (p<=.01), whereas having more sisters means that adult children may be more likely to decrease, or to maintain the same amount of transfer to mothers (p<=.01). If any sibling lives with mothers, adult children are likely to increase their transfer amount (p<=.05), implying that there is a division of caregiving duty among the siblings. Siblings who live with senior mothers may provide more time transfers due to the close proximity. Therefore, adult children who do not coreside with their mothers may wish to use money to substitute for their limited time contribution, or to compensate the expenses that incurred at sibling-mother coresident households. Lastly, as we have seen in the 1992 analysis, siblings' monetary contribution is positively related to adult children's increase in transfer in 1996. Although the responsibility of giving parents later-life support often unevenly distributed among siblings, the sense of obligation and the comparison among the siblings may cause adult children to involve more in the transfer practice.

Grandchildren compete for resources with their grandfathers (p<=.05). When both biological parents live together, adult children would increase their amount of transfer. This result is different from four years ago. In 1992, adult children were less likely to give transfer if their parents live together because mothers and fathers could share their household resources with each other thereby have lower need. In 1996, since parents' need become higher and giving transfer to either parent means both of them could indeed benefit from this contribution, adult children would increase their transfer amount accordingly.

Adult children's educational achievement has a linear relationship with their transfer to mothers' outcome. Better educated adult children are more likely to increase their contribution. This can be explained by two perspectives that I have discussed in the literature review chapter. First, adult children with more schooling may have higher wage or income, allowing them to make greater amount of financial contributions over time. This may be a valid statement here—keep in mind that adult children's wage rate and income variables are not controlled in this model. Hence, it is likely that their wage or income effect plays a role in this regard. Second, as posited in some studies, better-educated adult children may have received a substantial amount of resources from their parents when they were in school. If this is the case, better-educated adult children would have a motive to reciprocate their mother's contribution made in earlier years. It is almost impossible to find out which statement has a better explanatory power. In reality, these two arguments are not mutually exclusive. Adult children's transfer ability and transfer motivation are both important. Finally, at least in this study, parents' characteristics in 1992 do not significantly influence adult children's transfer adjustments in 1996. Thus, one may conclude that in the long term, adult children's life course transition, transfer ability, and transfer motivation are more important than parents' characteristics in the respect of making a monetary transfer decision.

Married adult children

Table 5-10 presents the monetary transfer change for married adult children. In addition to the independent variables used in the previous analysis, adult children

spouse's characteristics are also included in the regression models to examine whether adult children incorporate spouse's later-life need into their intergenerational transfer plans.

Married adult daughters are less likely than sons to increase their transfer to mothers ($p<=.01$). Work status transition has a significant effect on married adult children's monetary contribution. Compared to those who returned to the labor force, adult children with other work transition experiences are more likely to increase their monetary transfer amount. Specifically, adult children who continue to work from 1992 to 1996 have the greatest likelihood to increase. Adult children who retired from their jobs or become a homemaker also give a larger amount of monetary resource over time, although the odds ratios demonstrate that the size of effect is smaller than that of the working adult children's. In Table 5-9 this variable is not statistically significant in either transfer to mothers' or fathers' analysis. Based on this result, we can infer that all else being equal, a spouse may provide retired adult children with some necessary support thereby these adult children can still increase their transfer amount to parents.

Adult children do consider their spouses' need when they adjust their monetary transfer amount to parents. As Table 5-10 shows, older spouses would compete for monetary resources with their parents-in-law ($p<=.05$). When the age difference between the spouses and the adult children becomes larger, adult children would be more likely to decrease, or to maintain their original level of transfer as they

Table 5-10:Change in monetary transfer amount from married adult children to their parents from 1992 to 1996, multivariate statistics using ordered logit regression *(a)*

	To mothers (n=2340)	**To fathers** (n=889)
	Model 1	Model 1
Adult children's gender and work status 1992-96 (b)		
Female	0.67**	0.84
	(0.15)	(0.34)
Did not work in 1992 and not working in 1996	2.15*	1.18
	(0.31)	(0.83)
Worked in 1992 and still in labor force in 1996	2.22**	6.47*
	(0.29)	(0.78)
Worked in 1992, retired or homemaker in 1996	1.72+	4.45+
	(0.32)	(0.86)
Did not work in 1992 and worked again in 1996 (Reference category)	--	--
Adult children spouse's characteristics, 1992		
Age difference	0.98*	0.96*
(Spouses' age-adult children's age)	(0.01)	(0.02)
Years of education difference	1.01	0.95
Spouses' years of education-adult children's years of education)	(0.02)	(0.04)
Spouse worked for pay	1.13	1.67+
	(0.11)	(0.27)
Spouse had poor health	1.01	0.35
	(0.25)	(0.75)
Adult children's sibling characteristics, 1992		
Number of brothers	1.06*	1.10
	(0.03)	(0.06)
Number of sisters	0.92**	0.97
	(0.03)	(0.05)
Any sibling lives with mother/father	1.16	0.88
	(0.13)	(0.28)
Any sibling gave money to mother/father	1.30	13.14***
	(0.24)	(0.51)
Competition for adult children's resources, 1992		
Children compete for resource		
Number of children under age 18	1.46*	1.67
	(0.16)	(0.37)
Gave $500 or more to children	1.23	0.57
	(0.16)	(0.40)
Parents compete for resources		
Both biological parents living and live together	1.10	2.03+
	(0.16)	(0.41)
Both biological parents living and live separately	0.99	0.34
	(0.28)	(0.90)
Only mother/father living (Reference category)	--	--

Table 5-10 (cont.) : Change in monetary transfer amount from married adult children to their parents from 1992 to 1996, multivariate statistics using ordered logit regression *(a)*

	To mothers (n=2340)	**To fathers** (n=889)
	Model 1	Model 1
Adult children's characteristics, 1992		
Age	4.95**	0.02**
	(0.64)	(0.44)
Age squared	0.99**	1.04**
	(0.01)	(0.01)
Race		
White	0.30***	0.23***
	(0.17)	(0.32)
Black	0.78	0.71
	(0.23)	(0.41)
Other (Reference category)	--	--
Educational attainment		
Lower than high school (Reference category)	--	--
High school graduate	1.75***	0.68
	(0.17)	(0.32)
Some college	2.36***	0.53+
	(0.19)	(0.34)
College and above	2.83***	0.45*
	(0.20)	(0.38)
Household assets, logged	1.05**	1.09*
	(0.02)	(0.04)
Has good health	1.00	0.67
	(0.17)	(0.36)
Mothers'/Fathers' characteristics, 1992		
Age	1.01	0.96
	(0.01)	(0.04)
At least one ADL limitation	0.95	0.49
	(0.17)	(0.78)
Years of education	0.99	1.01
	(0.02)	(0.03)
Excellent or good financial situation	1.15	0.84
	(0.12)	(0.40)
Intercept for transfer remain the same (2)	-41.25	117.00
Intercept for transfer increased (3)	-48.36	107.60

Source: Author's analysis using Health and Retirement Study 1992 and 1996.

Note: *(a):* The dependent variable is coded as 1 if transfer amount decreased, coded as 2 if transfer amount remain the same, coded as 3 if transfer amount increased. Results are presented in odds ratios.

(b): The work status variables are based on the 1992-1996 data. All other variables are based on the 1992 data to avoid endogenous estimations.

(c): Unweighted statistics.

+<=.10, *<=.05, **<=.01, ***<=.001. Standard errors presented in parentheses.

did in 1992. If spouses worked for pay in 1992, adult children may have less financial constraints and are able to give more money to their fathers in 1996 ($p<=.10$).

Examinations on siblings' characteristics indicate that having more brothers result in a greater possibility for adult children to expand their transfer to mothers ($p<=.05$), while having more sisters reduce the chance ($p<=.01$). Analysis on adult children's and parents' characteristics exhibit coherent results as presented in Table 5-9. Adult children's social economic ability and transfer motivation jointly influence the transfer outcomes. Nevertheless, parents' characteristics described by the 1992 data do not show significant influence on the proposed relationships.

Summary of monetary transfer

Based on the above discussions, one can understand that it is necessary to assess transfer incidences and transfer amounts at the same time, because adult children with high likelihoods of giving transfers do not necessarily give large amounts.

In 1992, adult children's labor force participation has a decisive effect on adult children's monetary transfer outcomes. Adult children's gender is a key factor in this regard. The lower likelihood of providing monetary transfers, and the smaller amount of monetary contributions of the adult daughters, can both be explained by their disadvantages in the labor force. If adult daughters' wage rate expands, their monetary transfer amount becomes closer to the level offered by the adult sons.

In addition to the labor force participation experiences, adult children's transfer behaviors are also strongly influenced by their family support networks. By

incorporating spouses and siblings' characteristics into the analysis, I find that spouses and siblings are often the complement, or the substitute, of the adult children in transfer practices, although they also constrain adult children and further affect adult children's intergenerational transfer decisions.

Adult children's spouses may either compete for the household financial resources with their parents-in-law, or help adult children to fulfill their monetary transfer obligations. Spouses' advancing age is negatively related to adult children's transfer, implying that older spouses are competing for resources with their parents-in-law. Working spouses potentially increase the household income pool, thus adult children are able to give more money to their parents.

Siblings' assistance is very valuable. Having more sisters significantly decreases adult children's transfer amounts clearly validate that sisters' efforts can substitute adult children's monetary transfer burden. When siblings provide monetary resource to parents, adult children are also encouraged to participate in the transfer practice.

Grandchildren do not always compete for monetary resources with their grandparents. In 1992, when two parents live together, adult children would be less likely to give transfer. However, over time, stronger family tie encourages adult children's contributions. Adult children increase their monetary transfer amount in 1996 if both parents are stay in an intact marriage. In this situation, adult children's transfer to either parent would potentially benefit both parents' wellbeing.

Adult children's ability offers partial explanations of their transfer. According to the analysis, adult children with higher transfer ability do not necessary give more money to their mothers and fathers. Some of this variation should be interpreted as the consequence of adult children's transfer motivation. Parents' need is a more critical factor to trigger adult children's monetary transfer in 1992 than in 1996. For instance, in 1992, when parents are better educated and financially better-off than the adult children, adult children's transfer amounts decrease. However, examination of parents' characteristics in the 1996 analysis indicates that the explanatory power of parents' need becomes weaker over time.

Chapter 6

Adult Children's Provision of Time Transfers

In this chapter, I present the findings for the time transfers. The time transfer examined here refers to caregiving time. It does not include the time that adult children spent on helping around the house or companionship. As in Chapter 5, I first discuss the descriptive results and then present the regression results.

Descriptive analysis

Adult children's transfer incidence and amount in 1992

Table 6-1 summarizes the descriptive analysis results for the incidence and amount of time transfer in 1992. The results are presented by parents' and adult children's sex. The number of observations for each category is presented in parentheses.

Compared to elderly fathers, a higher percentage of elderly mothers had received 100 hours or more in time transfers. Adult daughters are more likely to be transfer givers than adult sons. The analysis points out that a very low percentage of adult sons had ever provided time transfer to their parents—only 0.66% of elderly mothers and 0.53% of elderly fathers acquired time transfers from their adult sons. These figures are much higher for adult daughters. Among all adult daughters, 4.69% transferred time to mothers and 2.64% to fathers.

Table 6-1: Adult children's provision of time transfers in 1992, by adult children and parents' sex, weighted statistics

Type of transfer	Mothers (n=5175)	Fathers (n=2444)
Ever gave 100 hours or more		
From both adult sons and daughters	2.65%	1.44%
	(n=5175)	(n=2444)
From adult sons only	0.66%	0.53%
	(n=2619)	(n=1380)
From adult daughters only	4.69%	2.64%
	(n=2556)	(n=1064)
Average amount of transfer		
From both adult sons and daughters	26.59	11.52
	(n=5175)	(n=2444)
From adult sons only	5.13	5.50
	(n=2619)	(n=1380)
From adult daughters only	48.65	19.34
	(n=2556)	(n=1064)
Average amount of transfer, only transfers >=100 hours		
From both adult sons and daughters	998.99	791.90
	(n=142)	(n=32)
From adult sons only	773.78	1047.38
	(n=14)	(n=5)
From adult daughters only	1031	725.75
	(n=128)	(n=27)

Source: Author's analysis using Health and Retirement Study 1992.
Note: Number of cases for each cell presented in parentheses.

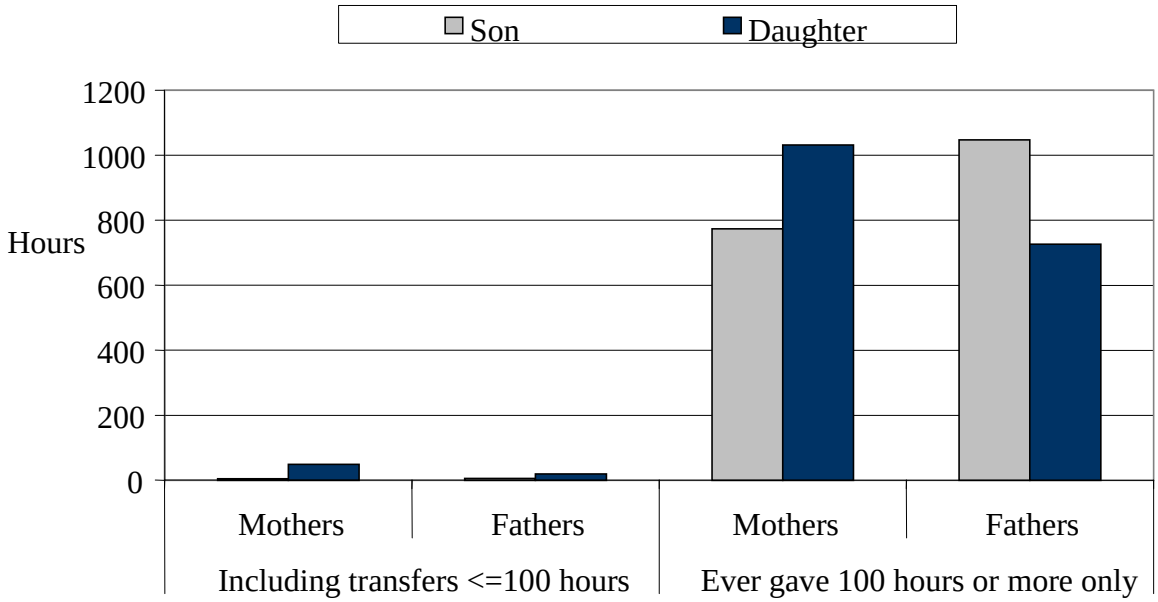
The analysis on transfer amount also indicates that adult daughters provide more transfer than adult sons. When all adult children are considered (including adult children who never gave a time transfer, ever gave transfer but under 100 hours, and ever gave transfer equal or greater than 100 hours in 1992), adult daughters on average gave 48.65 hours to their mothers in the past 12 months. The mean amount

of time adult sons gave to their mothers is 5.13 hours, which is much smaller when compared to adult daughters'. Adult daughters also gave a greater amount of time than sons in the transfer to father's sample. The average number of hours transferred from daughters to their fathers is 19.34, while it is 5.50 from sons.

Although most adult sons did not give transfer, those who had given 100 hours or more indeed gave a very large amount. Among children who provided at least 100 hours of transfer, on average, adult sons gave 774 hours to their mothers and 1047 hours to their fathers. Please notice that because very few sons belong to the ever gave time transfer category (14 cases transferred to mothers and 5 cases transferred to fathers, respectively), it is likely that sons' very large time transfer amount observed in Table 6-1 simply reflects the upper-bound values. In this scenario, parents who received time transfers from their adult sons are those with very high need, hence the transfer amount was high.

Figure 6-1 visualizes adult children's average amount of time transfer, by parents' and adult children's sex. A majority of adult children did not make time contribution equal or greater than 100 hours, yet those who spent time on their parents gave very high amount. Daughters gave more time than sons. The only exception is in the transfer to fathers: equal or greater than 100 hours category, where sons seem to spend longer time taking care of their fathers. However, as mentioned in the prior paragraph and in the Table 6-1, there are only five adult sons in this particular category thereby the result presented in Figure 6-1 mainly reflects the upper bound transfer value.

Figure 6-1: Mean amount of time transfer from adult children to their parents in 1992



Adult children's transfer incidence and amount in 1996

Table 6-2 is the weighted descriptive analysis of adult children's change in time transfer from 1992 to 1996. As in the 1992 analysis, results on transfer to mothers and fathers are both presented in this table.

The upper part of Table 6-2 summarizes the transfer incidence by adult children and parents' sex. Overall, most adult children in the sample did not transfer time to their parents in 1992 and 1996. Approximately 96% of adult sons and 93% of adult daughters never provide time transfer to their senior fathers. Also, about 94% of sons and 91% of daughters did not give time transfers to their mothers. Compared to the monetary transfer results presented in Chapter 5, it is clear that more adult

children use monetary resources rather than time to fulfill their transfer duties. This is not a surprising result because monetary transfer is less restricted by the residential proximity and physical distance. When adult children live farther from their parents, it is easier for them to use money to replace for their time transfer responsibilities.

Compared to mothers, fathers have smaller percentage to receive time transfers from their adult sons and daughters. In 1996, a total of 5.88% of mothers and 4.02% of fathers received time transfer.

Adult daughters made more transfer efforts than adult sons over the study years. In 1996, a total of 6.58% and 5.24% adult daughters reported that they had provided time transfers to their mothers and fathers, respectively. Among these adult daughters who provided time transfer in 1996, 1.16% of them started their transfer to mothers and 1.02% started their contribution to fathers since 1992. Only 5% and 3% of adult sons provided time transfers to their mothers and fathers in 1996. These results indicate that even when parents' needs increase over the years, adult daughters are still the key caregivers.

Nevertheless, the proportions of adult daughters who had withdrawn from the caregiving tasks are also significant: 2.70% in the transfer to mother's sample and 1.28% in the transfer to father's sample. There are two possible explanations of this finding. First, when parents become older and require more assistance, adult daughters may seek other sources of support to share their caregiving burdens and the observed transfer incidence among adult daughters may decrease accordingly. Second, as the aging process proceeds, husbands of the adult daughters may also need

Table 6-2: Changes in provision of time transfers from adult children to their parents 1992-1996, weighted statistics

	Mother (n=2340)	Father (n=889)
Incidence: Ever gave 100 hours or more in 1992 and 1996		
Both adult sons and daughters		
NO in 1992, NO in 1996 (- -)	92.55%	94.73%
NO in 1992, YES in 1996 (- +)	5.30%	3.59%
YES in 1992, YES in 1996 (+ +)	0.58%	0.43%
YES in 1992, NO in 1996 (+ -)	1.57%	1.25%
Adult sons only		
NO in 1992, NO in 1996 (- -)	94.36%	95.65%
NO in 1992, YES in 1996 (- +)	5.19%	3.13%
YES in 1992, YES in 1996 (+ +)	NA	NA
YES in 1992, NO in 1996 (+ -)	0.45%	1.22%
Adult daughters only		
NO in 1992, NO in 1996 (- -)	90.72%	93.48%
NO in 1992, YES in 1996 (- +)	5.42%	4.22%
YES in 1992, YES in 1996 (+ +)	1.16%	1.02%
YES in 1992, NO in 1996 (+ -)	2.70%	1.28%
Amount: Changes in amounts given to the parents		
Both adult sons and daughters		
The Same: about same amounts given in 1992 and 1996	91.15%	92.62%
Increase: 1996 transfer amount >1992 transfer amount	6.81%	5.69%
Decrease: 1996 transfer amount < 1992 transfer amount	2.04%	1.69%
Adult sons only		
The Same: about same amounts given in 1992 and 1996	93.32%	93.83%
Increase: 1996 transfer amount >1992 transfer amount	6.23%	4.95%
Decrease: 1996 transfer amount < 1992 transfer amount	0.45%	1.22%
Adult daughters only		
The Same: about same amounts given in 1992 and 1996	88.96%	90.99%
Increase: 1996 transfer amount >1992 transfer amount	7.39%	6.69%
Decrease: 1996 transfer amount < 1992 transfer amount	3.65%	2.32%

Source: Author's analysis using Health and Retirement Study 1992 and 1996. Weighted statistics.

support (adult daughters in this study project are all in their late-middle-ages, and based on the descriptive statistics presented in Table 4-6, their husbands are even older). Therefore, some of the adult daughters may have to reduce time transfer to their parents and give part of their time resources to their husbands.

The lower panel of Table 6-2 helps to evaluate the changes in time transfers. Most adult children's time transfer remains the same. More adult daughters than sons indicated that their amount of time transfers have increased over time—7.39% for mothers and 6.69% for fathers, respectively, compared to 6.23% of adult sons to mothers with less than 5% given to fathers. The higher percentage of transfer decrease among adult daughters may be caused either by other support-givers' involvement or their extra duties to take care of their aging husbands. Only about 1% of adult sons decreased their transfer amount from 1992 to 1996.

Figure 6-2 illustrates the changes in time transfer incidence over time. In every category, adult children increased their time transfer involvement after four years. This result is expected because when parents become older their demand for caregiving also expands. Furthermore, we can also see that the magnitude of increase in adult sons' time transfer incidence is substantial. On the one hand, this may imply that adult sons delay their time transfer involvement to later years. On the other, since majority of sons did not give transfer at all in 1992, it is not surprising that their degree of increase in time transfer in 1996 looks larger than that of adult daughters'.

Figure 6-2: Change in time transfer incidence, by adult children and parents' sex and transfer year

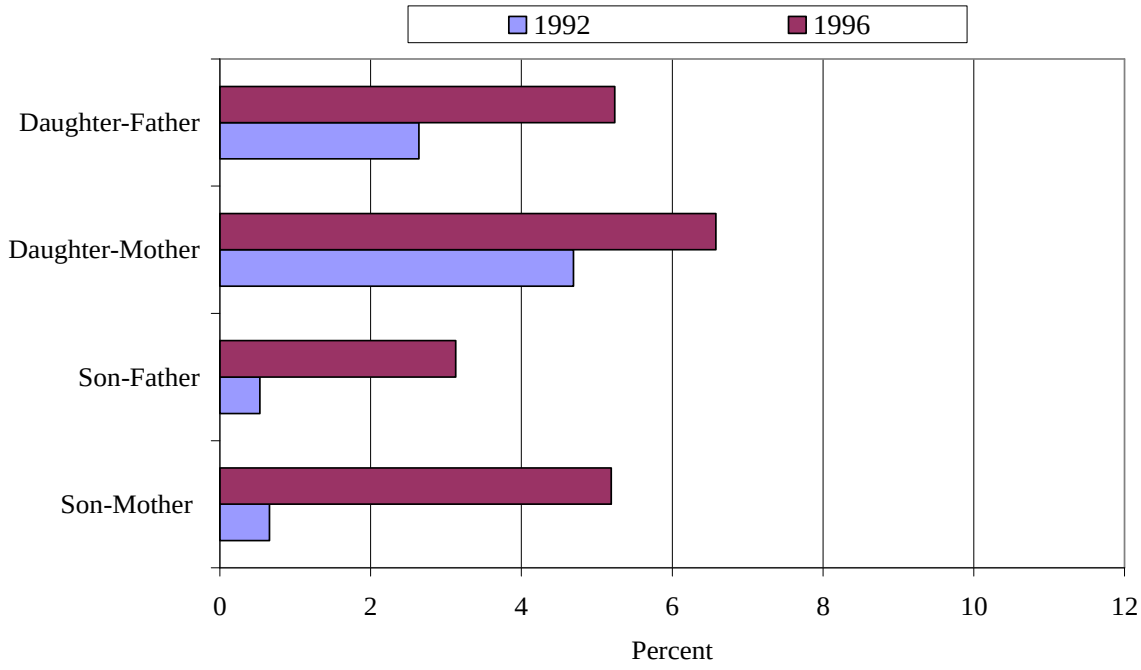
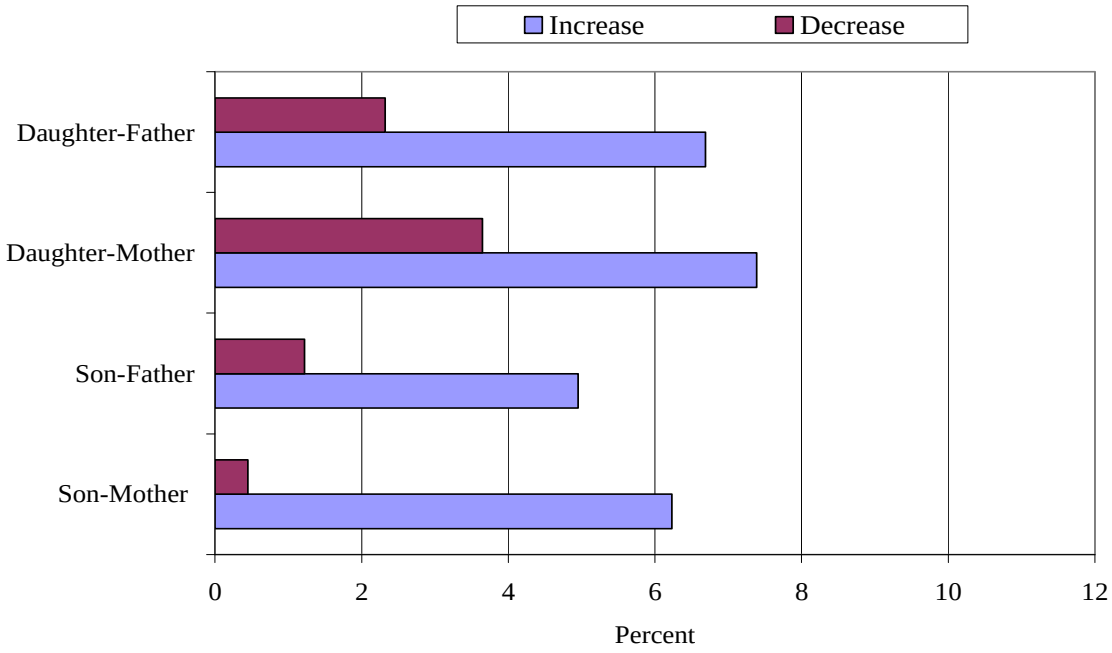


Figure 6-3 in the next page shows compared to adult sons, a greater percentage of adult daughters increased their transfer amount from 1992 to 96. This indicates that daughters keep playing a caregiving role over time. As parents' need increases, adult daughters also expand their time transfer amount accordingly. Adult daughters also have a higher percentage than sons to decrease their amount of time transfer. A reasonable interpretation would be that some adult daughters may have to allocate part of their time to their husbands as their husbands also become older. In the multivariate analysis I will provide more discussion in this regard.

Figure 6-3: Adult children who increased and decreased time transfer amount, by adult children and parents' sex



Bivariate analysis on time transfer incidence and transfer amount

Table 6-3 presents bivariate statistics for the time transfer incidence and transfer amount. The analysis is unweighted. The dependent variables for transfer incidence are whether adult children gave at least 100 hours to mothers/fathers in the past 12 months. Logistic regression is used to evaluate the associations and the results are presented in odds ratios.

The dependent variables for the transfer amount analysis are the actual amount of transfer. The amount of transfer is censored at 100 hours and the distribution has been transformed into natural log form. Tobit regression is adopted to perform the analysis and results are presented in coefficients.

Table 6-3: Bivariate analysis on time transfer to parents in 1992 using logistic *(a)* **and Tobit regression** *(b)*

	Transfer to mothers (n=5175)		Transfer to fathers (n=2444)	
	Incidence	Amount	Incidence	Amount
Adult children female	7.37***	0.60***	5.13***	0.32***
	(0.16)	(0.04)	(0.26)	(0.04)
Adult children work for pay	0.48***	-0.31***	0.42***	-0.20***
	(0.11)	(0.04)	(0.22)	(0.05)
Adult children married	0.14***	-1.09***	0.17***	-0.53***
	(0.11)	(0.05)	(0.22)	(0.06)
Number of brothers	0.89***	-0.04***	0.83*	-0.04***
	(0.04)	(0.01)	(0.07)	(0.01)
Number of sisters	0.87***	-0.04***	0.98	-0.01
	(0.03)	(0.01)	(0.06)	(0.01)
Any sibling lives with mother/father	0.77	-0.01	0.19**	-0.19***
	(0.16)	(0.05)	(0.59)	(0.06)
Any sibling gave time to mother/father	12.73***	2.07***	21.93***	2.05***
	(0.11)	(0.07)	(0.22)	(0.09)
Number of children under age 18	1.28**	0.16**	0.99	-0.02
	(0.10)	(0.06)	(0.34)	(0.07)
Both biological parents living and live together	1.34+	0.10	1.59	0.13+
	(0.16)	(0.06)	(0.30)	(0.07)
Both biological parents living and live separately	0.96	-0.05	1.48	0.08
	(0.35)	(0.12)	(0.60)	(0.14)
Right censored observations		142		32
Uncensored observations		5033		2412

Source: Author's analysis using Health and Retirement Study 1992.

Note: *(a):* For transfer incidence analysis, the dependent variable is coded as 1 if adult children ever gave 100 hours or more, 0 if otherwise. Results are presented in odds ratios.

(b): For transfer amount analysis, the dependent variable is the logged transfer amount, censoring at 100 hours. Results are presented in coefficients.

(c): Unweighted statistics. Results of major explanatory variables are presented.

+<=.10, *<=.05, **<=.01, ***<=.001. Standard errors presented in parentheses.

Transfer to mothers

The bivariate results for time transfer to mothers show that adult daughters are 7 times more likely than adult sons to give time transfers, and their transfer amount is higher ($p<=.001$). This is consistent with the descriptive statistics presented in Table 6-1 that daughters bear heavier time transfer duty than sons. Working adult children are significantly less likely to give time transfer ($p<=.001$). Being a married adult child decreases the transfer likelihood and transfer amount ($p<=.001$).

Having more brothers or sisters significantly reduces the likelihood and amount of transfer ($p<=.001$). Nevertheless, if any sibling gave time to mothers, adult children are also encouraged to participate in the time transfer practice ($p<=.001$). Having a sibling live with elderly mothers does not affect adult children's time transfer behaviors.

Financially dependent children do not reduce adult children's time transfer to their mothers. When both biological parents are living and residing together, adult children would be more likely to give transfer ($p<=.10$). However, the examination on the transfer amount does not show a significant effect.

Transfer to fathers

Bivariate analysis for the transfer to father's sample demonstrates that daughters are more likely than sons to give transfers ($p<=.001$). Paid-job curtails adult children's time availability and results in a smaller amount of transfer to fathers ($p<=.001$). Married adult children are significantly less likely to give transfer.

Although having more brothers means adult children could decrease their time transfer efforts (p<=.001), an investigation on sister's effect does not show a consistent pattern. Different from what has been found in the transfer to mother's sample, the analysis shows that if any sibling coresides with fathers, adult children would be less likely to give time transfer (p<=.01). Thus, siblings who live with the elderly fathers may shoulder the major responsibility of providing care to the fathers.

There is no evidence to attest that grandchildren would compete for time resources with their grandfathers. Finally, if elderly fathers live with adult children's biological mothers, adult children would increase their amount of time transfer to fathers (p<=.10).

Multivariate analysis, 1992

Transfer incidence and amount in 1992, all adult children

Tables 6-4 and 6-5 summarize the multivariate results of time transfer incidence and transfer amount. These regression results are unweighted and presented by parents' sex. In each Table, Model 1 demonstrates the analytical results without interaction effect; Model 2 includes an interaction term (adult children female × working for pay) to examine whether adult daughters' paid-job responsibility affect their provision of time transfer.

Transfer to mothers

Table 6-4 presents the findings for transfer to mothers. The hypothesis that daughters are more likely than sons to give time transfer is supported by the statistics. Before the interaction term is introduced to the logistic regression model, we can see that the odds for a daughter to perform time transfer task is more than 4 times higher than a son's ($p<=.001$). The examination on transfer amount also shows a parallel result that daughters spend longer hours than sons on caregiving chores ($p<=.001$).

Investigation on adult children's labor force participation status indicates that all else being equal, working for pay potentially constraint adult children's time availability and causes a lower transfer incidence and transfer amount ($p<=.001$). Inclusion of the interaction term further indicates that even when daughters are working for pay, they are still more likely than sons to give time transfer ($p<=.001$), although the interaction effect on transfer amount is not statistically significant. Based on these results, my research hypothesis that regardless of their work status, adult daughters are still more likely than sons to be the primary caregiver is generally supported.

Married adult children have a lower incidence to give time resources to their mothers, and the transfer amount is significantly smaller ($p<=.001$). A possible interpretation for this outcome is that, due to the coresidence proximity, married adult children may firstly spend time on their spouses and therefore limit their contribution to mothers. Since mothers in this study do not live with the adult children, it is harder for them to receive full attention from their non-coresident adult children.

Table 6-4: Time transfer to mothers in 1992, multivariate statistics using logistic and Tobit regression

N=5175

	Transfer Incidence *(a)*		**Transfer Amount** *(b)*	
	Model 1	Model 2	Model 1	Model 2
Adult children's gender and work status				
Female	4.20***	1.54+	0.22***	0.16*
	(0.17)	(0.24)	(0.04)	(0.08)
Work for pay	0.42***	0.09***	-0.23***	-0.28***
	(0.13)	(0.34)	(0.05)	(0.07)
Female*work for pay	--	5.77***	--	0.08
		(0.36)		(0.09)
Adult children married	0.13***	0.14***	-0.91***	-0.91***
	(0.13)	(0.13)	(0.05)	(0.05)
Adult children's sibling characteristics				
Number of brothers	0.92*	0.93+	-0.01	-0.01
	(0.04)	(0.04)	(0.01)	(0.01)
Number of sisters	0.75***	0.76***	-0.05***	-0.05***
	(0.05)	(0.05)	(0.01)	(0.01)
Any sibling lives with mother	0.45***	0.46***	-0.16**	-0.16**
	(0.18)	(0.18)	(0.05)	(0.05)
Any sibling gave time to mother	13.82***	13.95***	1.91***	1.91***
	(0.14)	(0.14)	(0.07)	(0.07)
Competition for adult children's resources				
Number of children under age 18	0.97	0.94	-0.10+	-0.10+
	(0.13)	(0.13)	(0.06)	(0.06)
Parents compete for resources				
Both biological parents living and live together	1.30	1.34	0.12+	0.12+
	(0.20)	(0.20)	(0.07)	(0.07)
Both biological parents living and live separately	1.65	1.33	0.16	0.16
	(0.39)	(0.41)	(0.12)	(0.12)
Only mother living (Reference category)	--	--	--	--
Adult children's characteristics				
Age	7.72**	7.39*	0.72**	0.72**
	(0.79)	(0.79)	(0.24)	(0.24)
Age squared	0.98**	0.98**	-0.01**	-0.01**
	(0.01)	(0.01)	(0.002)	(0.002)
Race				
White	0.72+	0.70+	-0.13+	-0.13+
	(0.21)	(0.21)	(0.07)	(0.07)
Black	1.22	1.14	0.12	0.12
	(0.25)	(0.25)	(0.09)	(0.09)
Other (Reference category)	--	--	--	--

Table 6-4 (cont.) : Time transfer to mothers in 1992, multivariate statistics using logistic and Tobit regression

	Transfer Incidence *(a)*		**Transfer Amount** *(b)*	
	Model 1	Model 2	Model 1	Model 2
Educational attainment				
Lower than high school (Reference category)	--	--	--	--
High school graduate	0.94	0.92	-0.02	-0.02
	(0.17)	(0.17)	(0.05)	(0.05)
Some college	0.51***	0.50***	-0.16**	-0.16**
	(0.21)	(0.21)	(0.06)	(0.06)
College and above	0.93	0.91	-0.02	-0.02
	(0.21)	(0.21)	(0.07)	(0.07)
Household assets, logged	1.09***	1.09***	0.03***	0.03***
	(0.02)	(0.02)	(0.01)	(0.01)
Has good health	1.72**	1.82***	0.11*	0.12*
	(0.18)	(0.18)	(0.06)	(0.06)
Mothers' characteristics				
Age	1.06***	1.06***	0.02***	0.02***
	(0.01)	(0.01)	(0.004)	(0.004)
At least one ADL limitation	0.98	0.96	-0.04	-0.04
	(0.21)	(0.21)	(0.07)	(0.07)
Years of education	0.98	0.98	-0.01	-0.01
	(0.02)	(0.02)	(0.01)	(0.01)
Excellent or good financial situation	1.20	1.22	0.04	0.04
	(0.15)	(0.15)	(0.05)	(0.05)
Intercept	-63.64	-61.73	-27.25	-27.16
Right censored observations			142	142
Uncensored observations			5033	5033

Source: Author's analysis using Health and Retirement Study 1992.

Note: *(a):* For transfer incidence analysis, the dependent variable is coded as 1 if adult children ever gave 100 hours or more, 0 if otherwise. Results are presented in odds ratios.

(b): For transfer amount analysis, the dependent variable is the logged transfer amount, censoring at 100 hours. Results are presented in coefficients.

(c): Unweighted statistics.

+<=.10, *<=.05, **<=.01, ***<=.001. Standard errors presented in parentheses.

The next step is to examine siblings' effect on adult children's time transfer behaviors. Table 6-4 shows that having more brothers decrease the likelihood of giving time transfer, but this brother effect does not significantly influence adult children's time transfer amount. The hypothesis that sisters substitute for adult children's time transfer responsibilities is supported here. Having more sisters means adult children would have a lower time transfer incidence ($p<=.001$), and their amount of transfer also decline ($p<=.001$). Hence, it is obvious that sisters can help adult children to alleviate their time transfer duties to a large extent. Having at least one sibling live with the elderly mothers has a similar effect. Among all siblings, brothers and sisters who coreside with mothers often perform most caregiving chores to satisfy their mothers' need. In this sense, the non-coresident adult children are no longer required to give large amount of time transfer to their mothers. This is not to say that non-coresident adult children would completely withdraw from their time transfer responsibilities. Holding everything constant, if any sibling ever gave time transfer to mothers, adult children would also increase their transfer incidence and transfer amount ($p<=.001$).

The hypothesis that younger grandchildren may compete for time resources with their grandmothers is partially supported. Adult children with more children younger than age 18 give lower amounts of transfer to their mothers. This result is marginally significant at alpha=.10 level. Moreover, there is no evidence to argue that two living biological parents would compete for time transfer with each other. When

mothers are living with the adult children's biological fathers, the transfer amount made by adult children indeed increase ($p<=.10$).

Adult children's ability affects their time transfer. Healthy adult children, and adult children who have more household assets, are more likely to give time to their mothers. These characteristics are also associated with an increase in transfer amount. Older adult children provide more transfer to their mothers ($p<=.01$). Compared to adult children of other race/ethnic groups, white adult children are less likely to give transfer. This result supports the widely accepted statement in the literature that adult children of racial minority origin tend to give more time to their parents than whites.

Finally, controlling for mothers' characteristics found that mothers' age plays an important role in the transfer practice. Adult children's transfer incidence and transfer amount has a positive relationship with mothers' advancing ages ($p<=.001$).

Transfer to fathers

Table 6-5 summarizes results of time transfer to fathers in 1992. As in the transfer to mother's analysis, Model 1 results under the transfer incidence and transfer amount column are the estimations without interaction effect. In Model 2, the interaction term (adult children female × adult children work for pay) is added to the analysis. One of the control variables, "father has at least one ADL limitation", is excluded from the model to ensure the converging in the estimation procedure.

Table 6-5: Time transfer to fathers in 1992, multivariate statistics using logistic and Tobit regression

N=2444

	Transfer Incidence *(a)*		**Transfer Amount** *(b)*	
	Model 1	Model 2	Model 1	Model 2
Adult children's gender and work status				
Female	2.05*	0.63	0.06	-0.05
	(0.29)	(0.42)	(0.04)	(0.09)
Work for pay	0.50**	0.12***	-0.13**	-0.21**
	(0.25)	(0.49)	(0.05)	(0.08)
Female*work for pay	--	6.75***	--	0.13
		(0.57)		(0.10)
Adult child married	0.19***	0.21***	-0.41***	-0.40***
	(0.26)	(0.26)	(0.06)	(0.06)
Adult children's sibling characteristics				
Number of brothers	0.86+	0.87+	-0.03*	-0.03*
	(0.09)	(0.09)	(0.01)	(0.01)
Number of sisters	0.99	0.99	0.001	0.001
	(0.07)	(0.07)	(0.01)	(0.01)
Any sibling lives with father	0.13***	0.13***	-0.25***	-0.25***
	(0.62)	(0.61)	(0.06)	(0.06)
Any sibling gave time to father	21.74***	23.91***	2.02***	2.02***
	(0.27)	(0.27)	(0.10)	(0.10)
Competition for adult children's resources				
Number of children under age 18	0.79	0.85	-0.10	-0.09
	(0.42)	(0.41)	(0.07)	(0.07)
Parents compete for resources				
Both biological parents living and live together	0.72	0.64	-0.01	-0.01
	(0.47)	(0.47)	(0.08)	(0.08)
Both biological parents living and live separately	0.98	0.92	0.02	0.02
	(0.74)	(0.73)	(0.14)	(0.14)
Only father living (Reference category)	--	--	--	--
Adult children's characteristics				
Age	0.13	0.10	-0.44+	-0.43
	(0.54)	(0.55)	(0.27)	(0.27)
Age squared	1.02	1.02	0.004+	0.004
	(0.01)	(0.01)	(0.002)	(0.002)
Race				
White	1.06	1.10	-0.03	-0.03
	(0.48)	(0.47)	(0.08)	(0.08)
Black	0.73	0.74	-0.05	-0.05
	(0.58)	(0.58)	(0.10)	(0.10)
Other (Reference category)	--	--	--	--

Table 6-5(cont.) : Time transfer to fathers in 1992, multivariate statistics using logistic and Tobit regression

	Transfer Incidence *(a)*		**Transfer Amount** *(b)*	
	Model 1	Model 2	Model 1	Model 2
Educational attainment				
Lower than high school (Reference category)	--	--	--	--
High school graduate	0.81	0.73	0.02	0.02
	(0.38)	(0.39)	(0.06)	(0.06)
Some college	0.82	0.75	0.08	0.08
	(0.41)	(0.42)	(0.07)	(0.07)
College and above	0.43*	0.40*	-0.10	-0.10
	(0.46)	(0.46)	(0.07)	(0.07)
Household assets, logged	1.06+	1.06+	0.01*	0.01*
	(0.03)	(0.03)	(0.005)	(0.005)
Has good health	2.37*	2.34*	0.14*	0.14*
	(0.38)	(0.37)	(0.06)	(0.06)
Fathers' characteristics				
Age	1.00	0.99	-0.01	-0.01
	(0.04)	(0.03)	(0.01)	(0.01)
Years of education	1.01	1.01	0.001	0.001
	(0.03)	(0.03)	(0.006)	(0.006)
Excellent or good financial situation	1.47	1.65	0.06	0.06
	(0.43)	(0.43)	(0.08)	(0.08)
Intercept	53.52	60.98	6.33	6.09
Right censored observations			32	32
Uncensored observations			2412	2412

Source: Author's analysis using Health and Retirement Study 1992.

Note: *(a):* For transfer incidence analysis, the dependent variable is coded as 1 if adult children ever gave 100 hours or more, 0 if otherwise. Results are presented in odds ratios.

(b): For transfer amount analysis, the dependent variable is the logged transfer amount, censoring at 100 hours. Results are presented in coefficients.

(c): Unweighted statistics.

+<=.10, *<=.05, **<=.01, ***<=.001. Standard errors presented in parentheses.

From Table 6-5, Model 1, we can see that holding everything constant, adult daughters are more likely than sons to give time transfer to fathers ($p<=.05$). The odds for daughters to give time transfer are doubled when compared to adult sons. Adult children who are working for pay become less likely to give time ($p<=.01$), and the transfer amount decrease when adult children have a paid job ($p<=.01$). Nevertheless, in Model 2, the results show that adult daughters' transfer likelihood does not decline with their working status ($p<=.001$). Instead, working adult daughters have a higher incidence to give time transfer to their fathers.

Married adult children are significantly less likely to give transfer, and their transfer amount is smaller ($p<=.001$). This result points out that spouses of the adult children may play an influential role in the time transfer practice and a further examination on this regard is necessary.

While having more brothers reduces transfer incidence and transfer amount to fathers, having more sisters does not significantly affect adult children's time contributions. Therefore, the hypothesis that number of sisters has an inverted relationship with adult children's time transfer incidence and amount is not supported in this study. However, having any sibling live with fathers significantly reduces adult children's time spent on fathers ($p<=.001$), implying that intergenerational coresidence has a remarkable influence on adult children's time transfer behaviors. Although the distribution of time transfer responsibility among siblings is usually uneven, if any sibling gave time to fathers, adult children themselves are also more like to give transfer ($p<=.001$).

Investigation on the resource competition does not show that grandchildren would compete for time resources with their grandfathers. Likewise, there is little evidence to attest that two living parents would compete for time transfer with each other.

Adult children's transfer ability is rather critical because a greater amount of household assets and good health increase the likelihood and amount of giving transfer. Compared to adult children who do not have a high school graduate diploma, adult children who graduated from a college have a lower time transfer incidence ($p<=.05$). Since the wage effect is not yet controlled in this part of analysis, it is possible that better-educated adult children have a greater opportunity cost in the labor force, therefore they have to reduce their time contribution to fathers.

Lastly, none of the father's characteristic variables exert a statistically significant effect to adult children's time transfer outcomes. Perhaps other variables can better represent father's need than the ones employed in this study.

Transfer incidence and amount in 1992, working adult children

Transfer to mothers

Table 6-6 extends my prior analysis and presents the findings on working adult children's time transfer to mothers. In Model 1, variables of adult children's hourly wage rate and weekly work hour are introduced to examine whether working adult children's wage rate and work hours affect their time transfer outcomes. In Model 2, the interaction terms of (adult children female × adult children wage rate)

Table 6-6: Time transfer from working adult children to their mothers in 1992, multivariate statistics using logistic and Tobit regression

N=3029

	Transfer Incidence *(a)*		**Transfer Amount** *(b)*	
	Model 1	Model 2	Model 1	Model 2
Adult children's gender and work status				
Female	7.83***	5.99***	0.22***	0.25***
	(0.31)	(0.34)	(0.04)	(0.06)
Hourly wage rate, centered at grand mean and logged	0.89*	1.25+	0.01	0.01
	(0.03)	(0.15)	(0.01)	(0.01)
Female* hourly wage rate	--	0.85	--	0.04
		(0.16)		(0.02)
Weekly work hour, centered at grand mean and logged	0.92*	6.40***	-0.001	-0.01
	(0.04)	(0.48)	(0.008)	(0.01)
Female* weekly work hour	--	0.13***	--	-0.03*
		(0.46)		(0.01)
Adult children married	0.12***	0.10***	-0.67***	-0.68***
	(0.21)	(0.22)	(0.06)	(0.06)
Adult children's sibling characteristics				
Number of brothers	1.03	1.04	0.01	0.01
	(0.06)	(0.06)	(0.01)	(0.01)
Number of sisters	0.75***	0.74***	-0.04***	-0.04***
	(0.07)	(0.07)	(0.01)	(0.01)
Any sibling lives with mother	0.54**	0.58**	-0.09+	-0.09+
	(0.27)	(0.27)	(0.05)	(0.05)
Any sibling gave time to mother	21.01***	24.05***	1.73***	1.73***
	(0.22)	(0.23)	(0.08)	(0.08)
Competition for adult children's resources				
Children compete for resources				
Number of children under age 18	0.66	0.64	-0.21**	-0.22**
	(0.31)	(0.31)	(0.07)	(0.07)
Parents compete for resources				
Both biological parents living and live together	0.56+	0.61+	-0.04	-0.03
	(0.33)	(0.34)	(0.07)	(0.07)
Both biological parents living and live separately	*(d)*	*(d)*	-0.21	-0.21
			(0.13)	(0.13)
Only mother living (Reference category)	--			
Adult children's characteristics				
Age	0.97	0.98	0.89***	0.88***
	(0.03)	(0.03)	(0.26)	(0.26)
Age squared	*(d)*	*(d)*	-0.01***	-0.01***
			(0.002)	(0.002)

Table 6-6 (cont.) : Time transfer from working adult children to their mothers in 1992, multivariate statistics using logistic and Tobit regression

	Transfer Incidence *(a)*		**Transfer Amount** *(b)*	
	Model 1	Model 2	Model 1	Model 2
Race				
White	0.88	0.81	-0.03	-0.03
	(0.36)	(0.36)	(0.08)	(0.08)
Black	1.73	1.68	0.28**	0.28**
	(0.42)	(0.42)	(0.10)	(0.10)
Other (Reference category)	--	--	--	--
Educational attainment				
Lower than high school (Reference category)	--	--	--	--
High school graduate	0.93	1.13	0.03	0.03
	(0.30)	(0.31)	(0.06)	(0.06)
Some college	0.70	0.85	0.01	0.02
	(0.33)	(0.34)	(0.07)	(0.07)
College and above	0.68	0.79	0.03	0.04
	(0.35)	(0.36)	(0.07)	(0.07)
Household assets, logged	1.14***	1.15***	0.03***	0.03***
	(0.03)	(0.03)	(0.01)	(0.01)
Has good health	0.65	0.63	-0.22**	-0.22**
	(0.29)	(0.30)	(0.07)	(0.07)
Mothers' characteristics				
Age	1.02	1.02	0.005	0.05
	(0.02)	(0.02)	(0.004)	(0.004)
At least one ADL limitation	1.40	1.52	0.08	0.08
	(0.28)	(0.28)	(0.07)	(0.07)
Years of education	1.02	1.02	-0.004	-0.004
	(0.03)	(0.03)	(0.007)	(0.007)
Excellent or good financial situation	1.88**	2.04**	0.12*	0.12*
	(0.22)	(0.22)	(0.05)	(0.05)
Intercept	-5.36	-9.88	-31.31	-31.06
Right censored observations			64	64
Uncensored observations			2965	2965

Source: Author's analysis using Health and Retirement Study 1992.

Note: *(a):* For transfer incidence analysis, the dependent variable is coded as 1 if adult children ever gave 100 hours or more, 0 if otherwise. Results are presented in odds ratios.

(b): For transfer amount analysis, the dependent variable is the logged transfer amount, censoring at 100 hours. Results are presented in coefficients.

(c): Unweighted statistics.

(d): Variable excluded from statistical model to achieve stable analysis.

+<=.10, *<=.05, **<=.01, ***<=.001. Standard errors presented in parentheses.

and (adult children female × adult children weekly work hours) are included to evaluate adult daughters' transfer behaviors.

As shown in Table 6-6, Model 1, before taking the interaction terms into account, working adult daughters are more likely than sons to give time transfers, and their transfer amount is greater ($p<=.001$). The hourly wage rate variable has been centered at the grand mean ($24.77 per hour). We can see that adult children with a higher hourly wage rate are less likely to provide time transfers to their mothers ($p<=.05$). The values of the weekly work hour variable are also centered around the grand mean (33.82 hours per week). The odds ratio is smaller than 1, meaning that longer work hours is negatively related to adult children's time transfer incidence ($p<=.05$). These two variables, however, do not show a significant effect when transfer amount is assessed.

Once we look into the Model 2 and examine the interaction variables, we can see that adult daughters' higher hourly wage rate does not significantly reduce their transfer likelihood, while adult daughters who work long hours in the labor force are likely to decrease their amount of time contribution to mothers ($p<=.05$). In short, these results indicate that adult children who have a higher opportunity cost in the labor market would be less likely to give time transfer, and because longer work hours constrain adult children's time availability, those who spend longer hours in the labor force would have a lower incidence of time transfer. Adult daughters who are better-paid in the market do not necessarily relegate their caregiving responsibilities.

Yet when they are dedicating long hours in their paid-jobs, they would adjust their time transfer amount accordingly.

Being a married adult child is negatively associated with the transfer outcomes ($p<=.001$). Analysis on adult children siblings' characteristics demonstrate the same results shown in the earlier discussions. Having more sisters or having any sibling live with mothers ease adult children's time transfer responsibilities. Any siblings' time contribution increases adult children's probability of giving transfer ($p<=.001$).

The hypothesis that grandchildren would compete for time resources with their grandmothers is partially supported. Having more children younger than age 18 reduces working adult children's transfer amount but not transfer likelihood. Resource competition between two biological parents exists when both parents live together ($p<=.10$).

Older adult children make a greater amount of contribution ($p<=.001$). As hypothesized, black adult children also spend longer time than others to help their elderly mothers ($p<=.01$). A larger amount of household assets enhances adult children's transfer ability ($p<=.001$), nonetheless, having good health is related to a decreased amount of transfer ($p<=.01$).

Working adult children's transfer is also associated with their transfer motivation. Analysis based on mothers' characteristics shows that adult children would transfer greater amount of time to mothers with excellent or good financial situations ($p<=.05$). According to the literature, this result may be attributed to adult

children's reciprocity for the support they received from mothers in the past. Or, it may be that adult children have a rational calculation in their mind and wish to obtain financial bequest from their well-off mothers in the future.

Transfer to fathers

Table 6-7 summarizes the results of working adult children giving transfer to their fathers. The two interaction effects, (adult daughter × hourly wage rate) and (adult daughter × weekly work hours) are not included in the models to ensure that logistic regression estimations can successfully converge and generate meaningful results.

Holding all else constant, working adult daughters are more likely than employed sons to give transfers to fathers ($p<=.01$). A higher hourly wage rate increases the transfer incidence but not transfer amount.

Results on working adult children's marital status and siblings' characteristics are consistent with my previous findings. When fathers live with adult children's mothers, adult children would be less likely to give time transfer and the transfer amount may decrease ($p<=.01$). Because fathers tend to receive support from their spouses, adult children do not have to give large amount of time transfer.

Variables on working adult children's ability provide very limited insight into their transfer behaviors. Consistent with what was found in the transfer to mothers' analysis, working adult children will increase their transfer incidence when their fathers are financially well-off ($p<=.10$). Again, this is an indication that adult children's motivation is an important determinant in their time transfer process.

Table 6-7: Time transfer from working adult children to their fathers in 1992, multivariate statistics using logistic and Tobit regression

N=1522

	Transfer Incidence *(a)*	**Transfer Amount** *(b)*
Adult children's gender and work status		
Female	3.56**	0.03
	(0.47)	(0.05)
Hourly wage rate, centered at grand mean and logged	1.31*	0.02
	(0.12)	(0.01)
Weekly work hour, centered at grand mean and logged	1.06	0.01
	(0.09)	(0.01)
Adult children married	0.08***	-0.40***
	(0.44)	(0.06)
Adult children's sibling characteristics		
Number of brothers	1.05	-0.02
	(0.12)	(0.01)
Number of sisters	1.19	0.01
	(0.11)	(0.01)
Sibling gave time to father	41.10***	1.85***
	(0.47)	(0.11)
Competition for adult children's resources		
Children compete for resources		
Number of children under age 18	0.92	-0.03
	(0.60)	(0.08)
Parents compete for resources		
Both biological parents living and live together	0.09**	-0.20**
	(0.82)	(0.08)
Both biological parents living and live separately	*(d)*	-0.22
		(0.14)
Only father living (Reference category)	--	--
Adult children's characteristics		
Age	0.04	-0.29
	(1.06)	(0.28)
Age squared	1.03	0.003
	(0.03)	(0.003)
Race		
White	1.62	0.10
	(0.79)	(0.08)
Black	0.17	-0.09
	(0.15)	(0.10)
Other (Reference category)	--	--

Table 6-7 (cont.) : Time transfer from working adult children to their fathers in 1992, multivariate statistics using logistic and Tobit regression

	Transfer Incidence *(a)*	**Transfer Amount** *(b)*
Educational attainment		
Lower than high school (Reference category)	--	--
High school graduate	0.34+	-0.04
	(0.59)	(0.06)
Some college	0.48	-0.01
	(0.65)	(0.07)
College and above	0.10**	-0.16*
	(0.83)	(0.07)
Household assets, logged	1.07	0.01
	(0.05)	(0.01)
Has good health	2.58	0.07
	(0.69)	(0.07)
Fathers' characteristics		
Age	0.91+	-0.02*
	(0.06)	(0.01)
Years of education	1.06	0.004
	(0.06)	(0.006)
Excellent or good financial situation	2.34+	0.08
	(0.52)	(0.07)
Intercept	94.11	2.93
Right censored observations		12
Uncensored observations		1510

Source: Author's analysis using Health and Retirement Study 1992.

Note: *(a):* For transfer incidence analysis, the dependent variable is coded as 1 if adult children ever gave 100 hours or more, 0 if otherwise. Results are presented in odds ratios.

(b): For transfer amount analysis, the dependent variable is the logged transfer amount, censoring at 100 hours. Results are presented in coefficients.

(c): Unweighted statistics.

(d): Variable excluded from statistical model to ensure the converging of the estimation procedures.

+<=.10, *<=.05, **<=.01, ***<=.001. Standard errors presented in parentheses.

Transfer incidence and amount in 1992, married working adult daughters to their mothers

Because I am interested in how married working adult daughters' life course constrains their time transfer behaviors, Table 6-8 does not present adult sons' time transfer results. After using the given criteria to select the sub-sample (working, married adult daughters with complete husbands' records), the statistical analysis on transfer to fathers become unstable. Thus, in this section, only transfer to mother's results is discussed.

Adult daughters' wage rate, weekly work hours, and husbands' characteristics are the major focus here. Based on Table 6-8, it is clear that adult daughters with a higher wage rate are more likely to give time transfer, and the amount of transfer increases with their advancing wage ($p<=.001$). In other words, although adult daughters with a higher wage rate have a greater opportunity cost in the labor market, the gender norms regarding adult daughters' caregiving obligation may prevent them from using financial resources to replace for their time contribution. Longer work hours fundamentally constrain adult daughters' time availability and affect their transfer outcomes. All else being equal, adult daughters who spend longer hours in their paid-jobs are less likely to give time resources to their mothers ($p<=.05$), and they are also likely to decrease their caregiving time in order to fit their work schedules ($p<=.05$).

In 1992, husbands' characteristics do not significantly affect adult daughters' transfer to their mothers. It is possible that husbands' effects will have an influence on adult daughters' time transfer behaviors in the long-term.

Table 6-8: Time transfer from married working adult daughters to their mothers in 1992, multivariate statistics using logistic and Tobit regression

N=781

	Transfer Incidence *(a)*	**Transfer Amount** *(b)*
Adult daughter work status		
Hourly wage rate, centered at grand mean and logged	1.34***	0.13***
	(0.08)	(0.03)
Weekly work hour, centered at grand mean and logged	0.85*	-0.04*
	(0.08)	(0.02)
Husbands' characteristics		
Age difference	1.06	0.01
(Husbands' age-adult daughters' age)	(0.04)	(0.01)
Years of education difference	1.13	0.03
(Husbands' years of education-adult daughters' years of education)	(0.08)	(0.02)
Husbands working for pay	1.17	0.05
	(0.63)	(0.14)
Husbands have poor health	*(d)*	*(d)*
Adult daughters' sibling characteristics		
Number of brothers	1.22*	0.06*
	(0.09)	(0.03)
Number of sisters	1.18+	0.03
	(0.09)	(0.03)
Any sibling lives with mother	0.76	-0.10
	(0.51)	(0.12)
Any sibling gave time to mother	*(d)*	*(d)*
Competition for adult daughters' resources		
Children compete for resources		
Number of children under age 18	1.17	0.09
	(0.41)	(0.11)
Parents compete for resources		
Both biological parents living and live together	1.06	-0.06
	(0.51)	(0.16)
Both biological parents living and live separately	*(d)*	-0.44
		(0.32)
Only mother living (Reference category)	--	--
Adult daughters' characteristics		
Age	0.99	-0.01
	(0.06)	(0.02)
Age squared	*(d)*	*(d)*
Race: White	2.66	0.20
	(0.72)	(0.13)

Table 6-8 (cont.) : Time transfer from married working adult daughters to their mothers in 1992, multivariate statistics using logistic and Tobit regression

	Transfer Incidence *(a)*	**Transfer Amount** *(b)*
Educational attainment		
Lower than high school (Reference category)	--	--
High school graduate	6.00*	0.31*
	(0.82)	(0.14)
Some college	4.04+	0.27+
	(0.87)	(0.16)
College and above	6.01+	0.26
	(0.95)	(0.17)
Household assets, logged	0.92	-0.02
	(0.05)	(0.02)
Has good health	0.48	-0.23
	(0.60)	(0.17)
Mothers' characteristics		
Age	1.01	-0.01
	(0.03)	(0.01)
At least one ADL limitation	3.00**	0.51***
	(0.38)	(0.14)
Years of education	1.02	0.001
	(0.06)	(0.01)
Excellent or good financial situation	2.39**	0.23*
	(0.35)	(0.11)
Intercept	-5.70	-6.08
Right censored observations		18
Uncensored observations		763

Source: Author's analysis using Health and Retirement Study 1992.

Note: *(a):* For transfer incidence analysis, the dependent variable is coded as 1 if adult children ever gave 100 hours or more, 0 if otherwise. Results are presented in odds ratios.

(b): For transfer amount analysis, the dependent variable is the logged transfer amount, censoring at 100 hour. Results are presented in coefficients.

(c): Unweighted statistics.

(d): Variable excluded from statistical model to ensure the convergence of the estimation procedures.

+<=.10, *<=.05, **<=.01, ***<=.001. Standard errors presented in parentheses.

For adult daughters, siblings' assistance plays a complementary, rather than substitution role in the transfer practice. Having more brothers and sisters increases adult daughters' transfer incidence and transfer amount ($p<=.05$). In addition, there was no support for the hypotheses that grandchildren and living fathers would compete for time resources with elderly mothers.

Examinations of adult daughters' ability indicate that adult daughters' education has a non-linear effect on their transfer incidence. Using adult daughters who received lower than high school education as the reference group, daughters with college graduate degrees are most likely to give transfer, followed by adult daughters who graduated from a high school ($p<=.10$). The hypotheses thatgreater amount of household assets and better health would increase adult daughters' transfer can not be supported by the regression analysis.

Examination of mothers' need shows that when mothers have ADL difficulties, adult daughters are 3 times more likely to give transfer ($p<=.01$). Nevertheless, adult daughters' time transfer decision is also related to their motives because the likelihood and amount of time contribution expands when mothers have good financial situations.

Multivariate analysis, 1992-1996

In the following analysis, my focus is on whether adult children's work transition from 1992 to 1996 affects their time transfer in 1996. Ordered logit models are employed to estimate adult children's change in time transfer from 1992 to 1996.

The dependent variable has three categories: amount of transfer decreased from 1992 to 1996 (coded as 1), amount of transfer stay the same (coded as 2), and amount of transfer increased (coded as 3).

As in the monetary transfer analysis, four dichotomized independent variables are used to describe adult children's work transition from 1992 to 1996. They are: (1) adult children did not work in 1992 and 1996; (2) adult children worked in 1992 and still in the labor force in 1996; (3) adult children worked in 1992 but retired or became a homemaker in 1996, and (4) adult children did not work in 1992 but worked again in 1996. If adult children experienced the transition described in any of these variables, a score of 1 is given, otherwise coded as 0. In the regression analysis, the fourth variable, "adult children did not work in 1992 but worked again in 1996" is the reference category.

Except for the work transition variables, all other independent variables are based on the 1992 data to make sure that the estimations are not endogenous. Statistic results are presented in odds ratios and by parents' sex. Due to the nature of variable coding, an odds ratio greater than 1 means that adult children with defined characteristics are more likely to increase their amount of transfer over time. Conversely, an odds ratio smaller than 1 indicates adult children are more likely to decrease or maintain the same amount of time transfers in 1996 when compared to 1992. These results are unweighted.

Adult children's change in time transfer amount from 1992 to 1996

All adult children

Table 6-9 demonstrates that over time, adult children's gender has an impact on their transfer to fathers but not to mothers. Adult daughters are more likely than adult sons to increase transfer amount to fathers from 1992 to 1996 ($p<=.05$). When fathers become older, adult daughters as the primary caregiver would spend longer hours than sons to fulfill their time transfer responsibilities. My research hypothesis is supported.

The work transition variables affect adult children's transfer to mothers and fathers in a different manner. Compared to adult children who re-entered the labor force in 1996, those who did not work in both 1992 and 1996 are more likely to decrease or to maintain their transfer amount to mothers ($p<=.10$). However, the same group of adult children are more likely to increase their transfer amount to fathers ($p<=.01$). Adult children who continually work in the labor force are still more likely to increase their transfer to fathers ($p<=.05$), implying that adult children's transfer is sensitive to fathers' aging need, regardless of their work hour constraints. This variable is not statistically significant in transfer to mothers' sample. The only similarity of the transfer to mother's and to father's analysis is that, in both cases, adult children who retired or became a homemaker are likely to increase their transfer over time. This result is somewhat consistent with the literature that substantial number of adult children would leave the labor force in order to fulfill their caregiving duties.

Table 6-9: Change in time transfer amount to parents from 1992 to 1996, multivariate statistics using ordered logit regression *(a)*

	To mothers (n=2340)	**To fathers** (n=889)
	Model 1	Model 1
Adult children's gender and work status 1992-96 (b)		
Female	0.92	1.61*
	(0.10)	(0.19)
Did not work in 1992 and not working in 1996	0.93+	3.92**
	(0.24)	(0.45)
Worked in 1992 and still in labor force in 1996	1.04	2.46*
	(0.23)	(0.42)
Worked in 1992, retired or homemaker in 1996	1.42*	2.37+
	(0.26)	(0.49)
Did not work in 1992 and worked again in 1996 (Reference category)	--	--
	--	--
Adult children married, 1992	1.43**	4.43***
	(0.13)	(0.27)
Adult children's sibling characteristics, 1992		
Number of brothers	0.95	1.09+
	(0.03)	(0.05)
Number of sisters	1.00	0.94
	(0.03)	(0.05)
Any sibling lives with mother/father	0.87*	1.87**
	(0.11)	(0.23)
Any sibling gave time to mother/father	0.60**	0.21***
	(0.20)	(0.44)
Competition for adult children's resources, 1992		
Children compete for resource		
Number of children under age 18	0.76**	1.11
	(0.10)	(0.25)
Parents compete for resources		
Both biological parents living and live together	0.70*	0.45*
	(0.17)	(0.34)
Both biological parents living and live separately	1.59+	0.28*
	(0.24)	(0.63)
Only mother/father living (Reference category)	--	--
Adult children's characteristics, 1992		
Age	1.51	1.13
	(0.59)	(1.15)
Age squared	1.00	1.00
	(0.01)	(0.01)

Table 6-9 (cont.) : Change in time transfer amount to parents from 1992 to 1996, multivariate statistics using ordered logit regression *(a)*

	To mothers (n=2340)	**To fathers** (n=889)
	Model 1	Model 1
Race		
White	0.96	2.99**
	(0.20)	(0.35)
Black	2.35***	3.92***
	(0.24)	(0.42)
Other (Reference category)	--	--
Educational attainment		
Lower than high school (Reference category)	--	--
High school graduate	1.48**	0.65+
	(0.14)	(0.26)
Some college	1.40**	0.70
	(0.16)	(0.28)
College and above	1.15	1.01
	(0.18)	(0.29)
Household assets, logged	1.04**	0.97
	(0.01)	(0.02)
Has good health	0.76*	0.65+
	(0.14)	(0.25)
Mothers'/Fathers' characteristics, 1992		
Age	1.00	0.99
	(0.01)	(0.02)
At least one ADL limitation	1.39*	0.36*
	(0.15)	(0.53)
Years of education	1.02	0.98
	(0.02)	(0.02)
Excellent or good financial situation	0.92	3.49***
	(0.12)	(0.29)
Intercept for transfer remain the same (2)	-9.63	-2.00
Intercept for transfer increased (3)	-16.32	-9.60

Source: Author's analysis using Health and Retirement Study 1992 and 1996.

Note: *(a):* The dependent variable is coded as 1 if transfer amount decreased, coded as 2 if transfer amount remain the same, coded as 3 if transfer amount increased. Results are presented in odds ratios.

(b): The work status variables are based on the 1992-1996 data. All other variables are based on the 1992 data to avoid endogenous estimations.

(c): Unweighted statistics.

+<=.10, *<=.05, **<=.01, ***<=.001. Standard errors presented in parentheses.

Unlike in 1992, adult children who were married in 1992 become significantly more likely than their unmarried counterparts to increase time transfer in 1996 ($p<=.01$ to mothers and $p<=.001$ to fathers, respectively). Perhaps married adult children have a more stable economic situation due to the income pooling, thus a better ability to increase their transfer amount to parents. Later I will further discuss how adult children spouses' characteristics affect the transfer outcome over time.

Having more brothers causes a higher likelihood for adult children to increase their time transfer to fathers ($p<=.01$). Hence, brothers' time contributions add up to what adult children have given and can be viewed as complementary. If any sibling lives with mothers, adult children are more likely to decrease or maintain their levels of contribution ($p<=.05$). On the other hand, if any sibling lives with elderly fathers, adult children's probability to increase their transfer also expands ($p<=.01$). Having any sibling gave time to parents significantly reduces the likelihood for adult children to increase their transfer amount in 1996. This phenomenon may indicate that certain siblings are bearing more and more caregiving burden when their parents get older. The division of care becomes less even among the siblings over time.

Grandchildren compete for resources with their grandmothers ($p<=.01$). When both biological parents live together, adult children are less likely to increase their amount of transfer because coresident mothers and fathers could support each other ($p<=.05$). If the parent lives alone, the situations will be different. In transfer to mothers' case, adult children are more likely to increase their transfer amount to lone mothers ($p<=.10$), whereas when transfer to fathers is assessed, adult children are less

likely to increase their transfer amount (p<=.05). Some possible explanations include (1): Mothers tend to have more chronic health conditions and ADL difficulties than fathers, thereby increase their need for time transfer. (2): Based on the empirical studies, if the reason for both parents live separately is divorce, it is likely that adult children would have a closer parent-child relationship with their mothers. Therefore, it is not surprising that lone mothers would receive more time transfer than fathers who live alone.

Compared to others, black adult children are the most likely to increase their time transfer amount (p<=.001). While having a greater amount of assets is associated with an increase in transfer to mothers (p<=.01), good health reduces the likelihood.

Finally, it seems that when fathers' case is evaluated, it is adult children's motivation, rather than fathers' need, has more influence in the time transfer practice. Not only are adult children less likely to increase their transfer amount when fathers suffer from ADL difficulties (p<=.05), the analysis also shows that if fathers are in excellent or good financial situation adult children will be more likely to contribute longer hours in the caregiving chores in 1996 (p<=.001). Conversely, adult children's transfer to mothers mainly reflects mothers' need. Adult children will increase their time transfer if their mothers have functionality limitations.

Married adult children

Table 6-10 summarizes the time transfer change for married adult children. Adult children spouses' characteristics are included in the regression models to

examine adult children spouses' role in the transfer practice. In general, the results are very similar to the information presented in Table 6-9.

Compared to those who returned to the labor force, retired adult children and adult children who became a homemaker are more likely to give a larger amount of time transfer to their mothers in 1996 ($p<=.05$). Hence, we may infer that adult children do adjust their later-life work plan in order to accommodate their intergenerational transfer duties.

Contrary to my hypothesis, holding everything constant, a greater age difference between spouses and the adult children is related to a higher likelihood of increase in transfer. Therefore, older spouses do not compete for caregiving time with their parents-in-law. What matters more is spouses' health. Married adult children are less likely to increase their transfer amount to mothers if their spouses have poor health ($p<=.01$). Although spouses' health does not have a significant impact on adult children's time transfer behaviors in 1992, after four years, spouses' health effect becomes more salient.

A final note for this part of the analysis: although the prior discussions mentioned that adult children's transfer to mothers is affected by mothers' need (i.e., ADL difficulties), here I found that mothers who have more years of education are also more likely to experience an increase in receiving time transfer ($p<=.10$). Therefore, married adult children's motivation influences their long-term transfer behaviors—including transfer to mothers and to fathers.

Table 6-10:Change in time transfer amount from married adult children to their parents from 1992 to 1996, multivariate statistics using ordered logit regression *(a)*

	To mothers (n=2340)	**To fathers** (n=889)
	Model 1	Model 1
Adult children's gender and work status 1992-96 (b)		
Female	0.71*	0.91
	(0.15)	(0.28)
Did not work in 1992 and not working in 1996	0.82+	2.45+
	(0.18)	(0.56)
Worked in 1992 and still in labor force in 1996	0.95	1.23
	(0.27)	(0.54)
Worked in 1992, retired or homemaker in 1996	1.55*	1.16
	(0.31)	(0.61)
Did not work in 1992 and worked again in 1996 (Reference category)	--	--
Adult children spouses' characteristics, 1992		
Age difference	1.03**	1.03+
(Spouses' age-adult children's age)	(0.01)	(0.02)
Years of education difference	0.98	0.94
(Spouses' years of education-adult children's years of education)	(0.02)	(0.04)
Spouses worked for pay	0.91	1.25
	(0.12)	(0.23)
Spouses have poor health	0.40**	0.47
	(0.31)	(0.55)
Adult children siblings' characteristics, 1992		
Number of brothers	0.94+	1.03
	(0.04)	(0.06)
Number of sisters	0.98	0.93
	(0.03)	(0.05)
Any sibling lives with mother/father	0.83	1.63+
	(0.16)	(0.26)
Any sibling gave money to mother/father	1.73*	0.14**
	(0.23)	(0.64)
Competition for adult children's resources, 1992		
Children compete for resource		
Number of children under age 18	0.67+	0.98
	(0.21)	(0.34)
Parents compete for resources		
Both biological parents living and live together	0.73	0.87
	(0.21)	(0.38)
Both biological parents living and live separately	1.60+	0.10**
	(0.28)	(0.92)
Only mother/father living (Reference category)	--	--

Table 6-10 (cont.) : Change in time transfer amount from married adult children to their parents from 1992 to 1996, multivariate statistics using ordered logit regression *(a)*

	To mothers (n=2340)	**To fathers** (n=889)
	Model 1	Model 1
Adult children's characteristics, 1992		
Age	0.34	0.09+
	(0.70)	(0.44)
Age squared	1.01	1.02+
	(0.01)	(0.01)
Race		
White	0.57**	2.30*
	(0.23)	(0.41)
Black	1.37	2.63+
	(0.29)	(0.51)
Other (Reference category)	--	--
Educational attainment		
Lower than high school (Reference category)	--	--
High school graduate	1.43*	0.76
	(0.18)	(0.30)
Some college	1.21	0.74
	(0.20)	(0.33)
College and above	1.02	0.81
	(0.22)	(0.35)
Household assets, logged	1.09***	0.96+
	(0.02)	(0.02)
Has good health	0.71*	0.77
	(0.17)	(0.30)
Mothers'/Fathers' characteristics, 1992		
Age	1.02	0.97
	(0.01)	(0.03)
At least one ADL limitation	1.28	0.07***
	(0.18)	(0.67)
Years of education	1.04+	0.96
	(0.02)	(0.03)
Excellent or good financial situation	0.98	3.46***
	(0.14)	(0.34)
Intercept for transfer remain the same (2)	31.97	74.45
Intercept for transfer increased (3)	24.50	66.18

Source: Author's analysis using Health and Retirement Study 1992 and 1996.

Note: *(a):* The dependent variable is coded as 1 if transfer amount decreased, coded as 2 if transfer amount remain the same, coded as 3 if transfer amount increased. Results are presented in odds ratios.

(b): The work status variables are based on the 1992-1996 data. All other variables are based on the 1992 data to avoid endogenous estimations.

(c): Unweighted statistics.

+<=.10, *<=.05, **<=.01, ***<=.001. Standard errors presented in parentheses.

Summary of time transfer

Adult daughters are more likely than adult sons to provide more hours of time transfers, and this contribution does not decline even when daughters are well-paid in the labor force. Adult daughters would reduce their time transfer only if they have to work long hours for their paid-jobs. In addition to the time availability issue that may fundamentally affect adult daughters' time contribution, the consequence of uneven transfer loads between adult daughters and sons can be attributed to gender norms. Even with large opportunity costs in the labor market, adult daughters are still more likely than sons to give time transfer because the society expects women to play the caregiving role.

Other family members' characteristics also affect adult children's time transfer behaviors. Adult children's spouses may compete for the time resources with their parents-in-law, if they are in poor health. Having more sisters decreases adult children's transfer efforts therefore they can be viewed as the substitution to the adult children. Siblings live with elderly parents have the closest proximity to fulfill parents' daily need and hence adult children can spend less time helping their parents. However, these results also point out one issue. That is, the caregiving responsibilities are unevenly distributed among the siblings. Especially for siblings who coreside with the elderly parents, their transfer burden may increase over time.

Grandchildren do not always compete for time resources with their grandparents. When two parents live together, adult children would be less likely to give transfer because parents can obtain support from their coresident spouses.

However, over time, adult children would be more likely to give greater amount of time to mothers who live alone.

Examination on adult children's ability offers partial explanations to the transfer outcomes. According to the analysis, adult children with higher transfer ability do not necessary give more time to their mothers and fathers. Likewise, parents with a higher need may not receive a greater amount of transfer as expected in my study hypotheses. This result can be interpreted as the function of adult children's transfer motivation. The fact that better educated parents and parents who are financially well-off tend to receive more transfer means that their receipt of transfer is not need-based. Instead, adult children may have some rational calculations when they give transfers. It is possible that these adult children wish to use their time resources in exchange future financial transfers from their well-off parents.

Chapter 7

Conclusion

The United States is being transformed into an aging society. Accompanied by a decline in fertility, the speed of population aging becomes even more drastic. Satisfying later-life needs and providing essential care to the elderly has become a crucial issue for society as a whole. Without comprehensive welfare policies, the families of seniors have the major responsibilities to support their elders, and the adult children, in particular, are leading candidates to perform important caregiving tasks.

While a sense of obligation mandates that adult children provide monetary and time resources to their aging parents, social forces bring many challenges to adult children who are shouldering elderly-care duties. This is especially difficult for women. Although women are increasingly participating in the labor force, care for elderly parents undoubtedly brings more stress for women than men. Deep-rooted gender norms insist that women's lives should center on their families. For many women, paid-jobs outside the home are primarily subsidies to husbands' income. In the past, working women needed only to struggle between their child-care and wage-job duties. But in a graying society, women also have to bear elderly caregiving responsibilities. The baby boomer generations will soon be entering old age. If men do not share the time transfer burden with their female counterparts, how can women

protect the wellbeing of the senior population alone, in addition to their paid work and child-care duties?

Why do men rarely provide caregiving services to their elderly parents while women are relegated to this duty? Numerous studies point out that there is a gender gap between men and women's caregiving involvement. Both daughters and daughters-in-law spend longer time than men taking care of elders. The conventional role expectations of women suggest that this phenomenon is somehow rational, and people never challenged this establishment until very recent decades. But simply using gender role to analyze the caregiving discrepancy between women and men fails to reach a satisfactory answer to the question, because the discussion overlooked the fact that gendered labor force structure may also contribute to this undesirable consequence. Analysis of the labor force effect is very important because it points out the major constraint that women have experienced over the past decades. It also offers a guideline for the future generations since the aging process and women's labor force participation will only proceed in the forthcoming years. This research demonstrates how future sandwich generations will cope with support of their elders within the constraints of the labor market and American gender norms.

Moving beyond the existing research framework, this study addressed the above question by incorporating additional element of labor force participation inequality into the analysis. Using the 1992 to 1996 Health and Retirement Study, this project examined how gender norms, labor force structure, family support network, resource competition between grandchildren and elderly parents, may jointly affect

adult children's provision of support to their non-coresident parents. The longitudinal analysis approach not only allows investigators to evaluate the long-term effect of the labor force inequality on adult children's intergenerational transfer outcomes, it also permits an assessment of how late-middle-aged adult children's life course transition needs may cause adult children's adjustment in their transfer plans for the following years.

In the following sections, I first summarize the major findings, and then address the social and policy implications based on the study results. I conclude by discussing limitations of this research and provide suggestions for future studies.

Summary of major findings

Major finding 1: The differentials in transfer practices between adult daughters and sons are a by-product of gender norms and the gendered labor force structure. The wage inequality between men and women dominates adult sons' and daughters' monetary transfer ability and transfer options.

Because the gender norm encourages men to prove themselves in the work arena, their way of providing feedback to parents becomes intrinsically embedded in their job achievements. Compared to their female coworkers, men are paid better in the wage market. When men enjoy a higher wage rate, their incentives to stay in the labor force also increase. Longer work hours often correlate with greater earnings, making it economically inefficient to sacrifice work hours for the sake of caregiving. Based on this rationale, adult sons certainly would prefer to use their work income to defray caregiving costs, which is usually a tolerable amount relative to their wages.

Conversely, since adult daughters do not possess comparative advantages when competing with men in the wage market, they become service providers, which is another way of showing their dedication to the elderly parents. At an aggregated level, these support-giving strategies are associated with adult children's employment experiences. It is not surprising that adult sons would give proportionally more monetary resources than adult daughters. Nevertheless, this is not to say that adult sons do not give time transfers. Based on the descriptive statistics, adult sons simply start their time transfers later than adult daughters. As parents grow older, adult sons' transfer involvements increase. Adult sons' senses of obligation of providing time transfer increases with parents' aging process.

In this study, the multivariate analysis confirmed that adult sons give greater amount of monetary transfer than adult daughters, while adult daughters are more likely than adult sons to give time transfers. Examinations on adult daughters' labor force participation variables show that a higher earning potential of the adult daughters is positively associated with their monetary contributions to mothers. Compared to adult sons, adult daughters' lower wage rates and shorter work hours may constraint their financial transfer ability and hence push them to perform caregiving chores. This discussion generally fits Gary Becker's theory that comparative advantages in the labor force have an effect on the household division of labor (1991).

While a higher wage rate may enhance adult daughters' monetary transfer ability, the analysis also found that adult daughters' time contributions do not decline

with their earning potentials. Well-paid daughters still spend longer hours than sons to fulfill elderly parents' caregiving need. Therefore, we can see that adult daughters do not use monetary resources to substitute for their time transfers to parents. Instead, it is more likely they provide monetary and time transfers simultaneously and view both transfer capitals as a complement to each other. Why don't well-paid adult daughters use money as their major transfer capital in the same way as men? This may be explained by gender role expectations.

Gender norms play a very important role in the time transfer practice. Regardless of adult daughters' career achievement, the society expects them to be the primary caregivers because women are more caring and loving than men. Rather than a market mechanism, the gendered differential in time transfer provision is therefore cultivated by a social norm and can be better explained by the theory of gender roles. Adult daughters sometimes reduce their time transfers, however. The fundamental constraint is their own time availability. In contemporary society, where women's work full-time has become more and more common, how to satisfy elders' caregiving need without sacrificing women's career development is important.

Major finding 2: While spouses may substitute, or complement adult children's intergenerational transfer efforts, they can become resource competitors to their parents-in-law as well.

Spouses' transfer contributions to their parents-in-law alleviate adult children's burdens. Thus, spouses are important helpers to adult children in general. For instance, this study shows that if husbands have a paid-job, adult daughters would be more likely to give monetary transfers to their mothers, and their transfer amounts

are greater. However, based on the 1992 analysis, before controlling for spouses' characteristics, married adult children are indeed less likely to give monetary and time transfers to their senior parents. This study focuses on transfers from adult children to their non-coresident parents. Therefore, the closest person who may have a claim on an adult child's transfers is not their elderly parent but their spouses. Since sharing a residential space promotes monetary and time transfer flows among household members, spouses, who usually coreside with adult children, are very likely to receive transfers from adult children. Because the vast majority of adult children have limited monetary and time resources, elderly parents will not receive a large amount of transfer after these transfer capitals are divided into two shares. Based on this rationale, one can posit that spouses of adult children are potential resource competitors to needy seniors. Married adult children may first allocate their money and time to their coresident family members. If they have extra resources left, they will incorporate their parents' need and provide intergenerational transfers.

The long-term effect of spouses' characteristics on adult children's transfer outcomes makes the resource competition even more clear. As spouses become older, adult children are less likely to give major amounts of money and time to their parents. The longitudinal analysis indicates that when spouses are much older than the adult children, adult children would decrease their amount of monetary transfer to fathers. In addition, if spouses have poor health, adult children would reduce their time transfer amount to mothers in order to provide care to their needy spouses. The life course perspective accounts for these results rather well. When parents and

spouses are both growing older, adult children must develop a coping strategy and prioritize their transfer flows between the two parties.

Major finding 3: Siblings play an important role in the transfer practice. Sisters often substitute for adult children's monetary and time transfer efforts to their mothers. Over time, adult children shift their time transfer responsbilities to siblings who coreside with the parents, indicating that the distribution of caregiving duties among siblings will become less even.

This study supports the hypothesis that in some situations siblings can substitute for adult children's transfer role. Men's gendered wage advantage affects transfers. Having more brothers helps adult children to lower their monetary transfer duties, this result is consistent with what Zissimopoulos (2001) has posited previously. On the other hand, having more sisters decreases adult children's monetary and time transfer pressures. Overall, siblings' transfer involvements would encourage adult children's transfers. As long as any sibling provides monetary or time resources to parents, adult children's transfer incidence and amount also increase. Apparently, there is a consensus among the siblings that supporting elderly parents should be a joint effort, although each sibling's ability and degree of involvement may be different.

Non-coresident adult children's time transfer responsibilities may be substituted by siblings who live with the elderly parents. Siblings who coreside with the needy parents have the closest proximity to provide time transfers and adult children's time contribution would decrease accordingly. This study also indicates that in the long-term, adult children may increase their amount of monetary transfers to mothers to compensate their lower amount of time transfers if mothers live with

one of the siblings. This result not only implies that adult children may use monetary transfer to replace for their time contribution, it also demonstrates thatthe distribution of caregiving duties would gradually shift onto siblings who live with the elderly mothers, causing higher level of pressures of the co-resident adult children.

Major finding 4: Grandchildren sometimes compete for resources with their grandparents. In addition, if adult children's biological parents are living, depending on their coresident status, there will be a different competition dynamic.

If adult children have several financially dependent children, it is likely that adult children would try to satisfy their children's need by decreasing their monetary and time transfer amount to parents. When both parents are living, depending on their coresident status, adult children would develop a different transfer strategy. In 1992, if both parents live together, adult children would be less likely to give financial transfers because two parents can share the financial resources with each other thereby have a lower level of need for monetary transfer. Nevertheless, in 1996, adult children may increase their transfer amount. As parents getting older, their need also increases. Adult children's increases in monetary contributions potentially benefit both parents but not just one of them.

Conversely, if both biological parents are living but they live separately, adult children may adjust their time transfer decisions. The longitudinal analysis shows that adult children would increase their time transfer amount to lone mothers, but it is less likely for them to increase the time transfer to fathers who live alone. This is not a surprising result because elderly mothers may have a greater later-life need than fathers, and adult children may have a better parent-child relation with their mothers.

Major finding 5: As adult children get older, they incorporate their own life course transition into consideration, causing variation in transfers to parents over time.

Because late-middle-aged adult children are also approaching the young-old stage, their stage of life course transition is the key issue in their long-term transfer plans. Older adult children eventually exit the labor force and have a reduced income. Yet leaving paid jobs also allows adult children to have more time. Adult children would evaluate these conditions before they give transfers.

This study found that over a four-year period, although adult children are likely to increase monetary transfers to their parents, the extent of increase is mainly a function of their financial withholding. Specifically, adult children who worked in 1992 and stayed in the labor force in 1996 are the most likely to increase their transfer amount because they still receive work-related income. On the other hand, adult children who worked in 1992 and retired in 1996 have the highest likelihood of increase in time transfer. These results demonstrates that adult children evaluate what they can offer based on their own life course transitions, and deliberately adjust their actual transfer plans to the parents.

Major finding 6: All else being equal, while adult children's ability and parents' later-life need are crucial to intergenerational transfer practices, there are significant exceptions. Sometimes adult children with good transfer ability do not offer more support to their parents; others may find that parents with a higher level of need do not necessarily receive more support from their children. These inconsistencies could be interpreted as reflective of adult children's sense of obligation and transfer motivation.

Even when controlling for relevant factors, adult children's transfer ability and parents' later life need do not sufficiently to explain all of the studied hypotheses.

The study finds that the likelihood for adult children to offer time transfers will increase if elderly parents have better financial situations. One can see that the concepts of "ability" and "need" inadequately capture the transfer dynamics. Adult children's transfer motivation could provide a valid explanation in this regard. The exchange theory and altruism have been widely used to delineate adult children's transfer motivations, and the results based on my analysis again confirmed that the conventional adult children's ability vs. parents' need approach do not offer a sufficient knowledge to the intergenerational transfer studies.

Tables 7-1A through 7-8 summarize the results of the analyses on which these conclusions are based. These Tables are attached in the back of this chapter.

Social and policy implications

There are various problems associated with an aging society. Support for needy elders deserves prioritized attention, but the dynamics of providing support are inherently complicated. It must be viewed as structurally conditioned by the nature of inequality. While family, market, and welfare policy all impact elders' later-life wellbeing, a senior's family is still the dominant source of transfers. On the other hand, gendered social institutions deepen the tensions embedded within the family support system. Society as a whole must re-examine how elderly support should be delivered so that the gendered disparity of transfer practices can be minimized.

As noted in this study, the caregiving issue is also a gender issue. Acker (1992) contends that gender is a dimension of discrimination and social institutions

are defined by men without women's presence or input. Moreover, gender is a crucial element in economic and power relations, as well as in life course transitions. The incorporation of gender into my theoretical model, therefore, allows me to use the social inequality perspective to appraise intergenerational transfer practice.

According to this study, wage inequality between men and women is the central cause of adult daughters' disuse of monetary transfers. In a globalization context, women of different class and race/ethnicity compete unequally with men for a greater wage reward. The existing labor force structure creates a difficult situation for women with elderly-care responsibilities, and it is exceptionally hard for low-income women to shoulder their elderly parents' economic wellbeing. Yet gender inequality in employment is sustained not only in the public sphere, "it also interdependent with the household division of labor" (Ridgeway, 1997). At present, gender norms remain unable to catch up with the pace of social change, thus women spend long hours in caregiving tasks regardless of their employment status. Additionally, because women tend to marry older men, many women not only have to provide caregiving services to their senior parents but are also required to offer supports to their aging husbands. Is it possible that in the future reduced caregiving time will no longer be an unpractical dream, and women can be in the position to adopt monetary transfers, rather than using their time to fulfill their transfer duties?

To broaden women's elderly-care and transfer options, it is necessary to inquire in to the role of the state. Can the U.S. government develop policies that

satisfy the needs of our elders but preserve and nurture women's rights for self-fulfillment?

While the state recognizes that it is critical to act against gender-related discrimination and make certain that women will be paid equally, over the years, market wage regulations have not worked as effectively as originally expected. For instance, Blau, Ferber, and Winkler (1998) contend that the Equal Pay Act has had relatively little impact on market wage regulation. The reason for this ineffectiveness is that even when men and women work for the same firms they rarely do exactly the same type of work—which is a tacit form of gender discrimination that allows the employers to lower female workers' financial rewards.

A remedy to the Equal Pay Act is affirmative action. It posits that the employers should develop a thorough management program that critically evaluates all personnel procedures to enhance equal employment and promotion opportunity for women and minority groups (Thomas and Garrett, 1999). With affirmative action, employers can give employment and promotion preference to women thereby increasing their earning potential. Nevertheless, because a large number of affirmative-preference programs have quota limitations that limit number of people who can be hired or promoted, only a few women can really benefit from it. As for women who are hired or promoted, they are easily stigmatized as less competent. As McWhirter (1996) states, so long as affirmative action is enacted as a license to hire or promote people with the "right sex" regardless of ability, women will still be victims.

The ineffectiveness of state policies on women's work and wage protection points out that it is very arduous to improve women's monetary transfer abilities by changing the labor force structure per se. So why not let the state share women's time transfer burdens?

What has government done on the issue of elderly welfare? Policymakers may need to reconsider what kind of outcomes they plan to target. Do policy makers expect to see elders who can spend their later-lives without worry for their economic wellbeing? Do they want to make sure elders in general have access to affordable medical and long-term care services? Or, more ambitiously, do policymakers wish to see both happen in our society, and gradually transfer the elderly care burdens from the families to the state?

Apparently the Social Security system cannot guarantee the older population's financial wellbeing in their later stages of life. Firstly, Social Security is not gender neutral as the policy does not make efforts to compensate for the sex-based differential in labor force participation and the wage gap (Estes, 2001). This implies that older women, especially minority women, are most disadvantaged in terms of the economic outcomes of Social Security policy (Harrington Meyer, 1996). Furthermore, with the increasing age of eligibility to collect benefits, given the variations in life expectancies and morbidity, elders of different race and ethnic groups are likely to be vulnerable due to the changing regulations of Social Security.

At least for now, providing satisfactory medical and caregiving services through state intervention is not yet plausible. Although currently need-based benefits

such as Medicaid, and universal-based ones like Medicare, are both available to the elderly, with the unmet need of having affordable prescription drug for the older population, the current elderly welfare programs are seriously flawed. In 2003, seniors comprise approximately 12% of the population and consume nearly 40% of all prescription drugs, yet nearly one-third of Medicare beneficiaries do not have some type of prescription drug coverage, and those without coverage often pay the highest prices for their medications (108th Congress "Expanding Coverage of Prescription Drugs in Medicare" hearing report, 2003). Without reasonable coverage for their prescription drugs, the elderly may either forgo their medication or turn to their adult children for financial help. Thus, it is very important for the government to expand the scale of need-based benefit programs in the upcoming years, otherwise elders' families will have to absorb all of these burdens. And if they do, women are likely to experience most of the caregiving stress.

Limitations and suggestions for future study

While this study extends previously used concepts and analytical approaches, there are some limitations and future study plans that need to be addressed. First, because very few fathers had received transfers from their adult sons in the 1992 study, including adult children's sex and related interaction terms into the statistical models to evaluate how gendered labor force participation experiences may affect adult children's transfers to fathers was not possible. In the near future, I plan to use the 1998 HRS, which has been adding new cases and merged with the *Assets and*

Health Dynamics among the Oldest Old datasets (AHEAD), to conduct a parallel research if the 1998 sample contains sufficient numbers of adult children before retirement age.

Second, my 1992 analysis only examined how adult children's current labor force participation experiences affect their transfer behaviors. This approach provides limited insight into how adult children's earlier life course transition may have an impact on their transfer provision ability at their late-middle-ages. HRS has detailed questions on adult children's employment history. If I incorporate this information into my analysis, I should be able to address adult children's labor force participation effect more completely.

Third, although I have included many parents' characteristics to evaluate parents' need, since this study is based on the adult children's perspective, the control variables are somewhat biased by the fact that adult children may not necessarily know all the details regarding their non-coresident parents. Unfortunately, this is the nature of the data and there is no other way available to independently verify the quality of parents' information.

In sum, this dissertation has confirmed the importance of including adult children's labor force participation experiences and structural effect in the study of intergenerational transfers. It also built the foundations for several research projects to be conducted in the future. Data availability is a major problem in intergenerational transfer research, yet as studies on aging become increasingly necessary, this data problem must be addressed.

Table 7-1A: Summary of hypotheses and findings, monetary transfer incidence to mothers in 1992

Hypotheses	All adult children	Working adult children	Married, working adult daughters
Adult daughters are less likely than adult sons to give transfer	Does not support	Does not support	
Adult children who are working for pay are more likely to give transfer	Does not support		
Adult daughter who are working for pay are more likely to give transfer	Supports		
A higher wage rate is associated with a greater likelihood of giving transfer		Supports	
Adult daughters with a higher wage rate have a greater likelihood of giving transfer		Supports	Supports
Longer work hour is associated with a greater likelihood of giving transfer		Does not supports	
Adult daughters who work longer hours are more likely to give monetary transfer		Supports	Does not supports
Married adult children are more likely to give transfer	Does not support	Does not supports	
A greater age difference between husbands and adult daughters decreases the incidence of giving transfer			Does not support
A greater educational difference between husbands and adult daughters decreases the incidence of giving transfer			Does not support
When husbands are employed, adult daughters will be more likely to give transfer			Supports
Having unhealthy husbands decreases adult daughters' incidence of transfer			Does not support
Brothers substitute for adult children's transfer	Does not support	Does not support	Does not support
Sisters substitute adult children's transfer	Supports	Supports	Supports
Any sibling lives with mothers increases adult children's likelihood of giving transfer	Does not support	Does not support	Does not support
Siblings' monetary transfer involvements complement adult children's transfer	Supports	Supports	Supports
Financially dependent children compete for resource with their grandmothers	Partially supports	Partially supports	Does not support
When both biological parents are living and live together, adult children are less likely to give transfer to mothers	Does not supports	Does not supports	Does not support
When both biological parents are living but not live together, adult children are more likely to give transfer to mothers	Does not support	Does not support	

Table 7-1B: Summary of hypotheses and findings, monetary transfer amount to mothers in 1992

Hypotheses	All adult children	Working adult children	Married, working adult daughters
Adult daughters give smaller amount of transfer than adult sons	Supports	Supports	
Adult children who are working for pay give greater amount of transfer	Does not support		
Adult daughter who are working for pay give greater amount of transfer	Does not support		
A higher wage rate is associated with a greater amount of transfer		Does not support	
Adult daughters with a higher wage rate give greater amount of transfer		Supports	Supports
Longer work hour is associated with a greater transfer amount		Does not support	
Adult daughters who work longer hours give more monetary transfer		Does not support	Does not support
Married adult children give greater amount of transfer	Does not support	Does not support	
A greater age difference between husbands and adult daughters decreases the amount of transfer			Does not support
A greater educational difference between husbands and adult daughter decreases the amount of transfer			Does not support
When husbands are employed, adult daughters will give more transfer			Supports
Having unhealthy husbands decreases adult daughters' amount of transfer			Does not support
Brothers substitute for adult children's transfer	Does not supports	Supports	Does not support
Sisters substitute adult children's transfer	Supports	Supports	Supports
Any sibling lives with mother increases adult children's transfer amount	Does not support	Does not support	Does not support
Siblings' monetary transfer involvements complement adult children's transfer	Supports	Supports	Supports
Financially dependent children compete for resource with their grandmothers	Partially support	Partially support	Does not support
When both biological parents are living and live together, adult children give smaller amount of transfer to mothers	Supports	Does not support	Does not support
When both biological parents are living but not live together, adult children give more transfer to mothers	Does not supports	Does not support	

Table 7-2A: Summary of hypotheses and findings, monetary transfer incidence to fathers in 1992

Hypotheses	All adult children	Working adult children
Adult daughters are less likely than adult sons to give transfer	Does not support	Supports
Adult children who are working for pay are more likely to give transfer	Supports	
A higher wage rate is associated with a greater likelihood of giving transfer		Does not support
Longer work hour is associated with a greater likelihood of giving transfer		Does not support
Married adult children are more likely to give transfer	Does not support	Does not support
Brothers substitute for adult children's transfer	Supports	Supports
Sisters complement adult children's transfer	Supports	Does not support
Any sibling lives with fathers increases adult children's likelihood of giving transfer	Does not support	Does not support
Siblings' monetary transfer involvements complement adult children's transfer	Supports	Supports
Financially dependent children compete for resource with their grandfathers	Does not support	Partially support
When both biological parents are living and live together, adult children are less likely to give transfer to fathers	Supports	Supports
When both biological parents are living but not live together, adult children are more likely to give transfer to fathers	Does not support	Does not support

Table 7-2B: Summary of hypotheses and findings, monetary transfer amount to fathers in 1992

Hypotheses	All adult children	Working adult children
Adult daughters give smaller amount of transfer than adult sons	Does not support	Supports
Adult children who are working for pay give greater amount of transfer	Supports	
A higher wage rate is associated with a greater amount of transfer		Does not support
Longer work hour is associated with a greater transfer amount		Does not support
Married adult children give greater amount of transfer	Does not support	Does not support
Brothers substitute for adult children's transfer	Supports	Supports
Sisters complement adult children's transfer	Does not support	Does not support
Any sibling lives with fathers increases adult children's transfer amount	Does not support	Does not support
Siblings' monetary transfer involvements complement adult children's transfer	Supports	Supports
Financially dependent children compete for resource with their grandfathers	Does not support	Partially support
When both biological parents are living and live together, adult children give smaller amount of transfer to fathers	Supports	Supports
When both biological parents are living but not live together, adult children give more transfer to fathers	Supports	Does not support

Table 7-3: Summary of hypotheses and findings, change in monetary transfer amount to mothers from 1992- 1996

Hypotheses	All adult children	Married adult children
Adult daughters are less likely than adult sons to increase transfer	Supports	Supports
Adult children who did not work in 1992 and 96 are less likely to increase transfer *(a)*	Does not support	Does not support
Adult children who worked in 1992 and still working in 96 are more likely to increase transfer *(a)*	Supports	Supports
Adult children who worked in 1992 but retired in 96 are less likely to increase transfer *(a)*	Does not support	Does not support
Married adult children are more likely to increase transfer	Supports	
A greater age difference between spouses and adult children decreases the transfer		Supports
A greater educational difference between spouses and adult children decreases the transfer		Does not support
When spouses are employed, adult children will be more likely to increase transfer		Does not support
Having unhealthy spouses decreases adult children's transfer		Does not support
Brothers complement adult children's transfer	Does not support	Supports
Sisters complement adult children's transfer	Does not support	Does not support
Any sibling lives with mother increases adult children's likelihood of increase transfer	Supports	Does not support
Siblings' monetary transfer involvements complement adult children's transfer	Supports	Does not support
Financially dependent children compete for resource with their grandmothers	Does not support	Does not support
When both biological parents are living and live together, adult children are more likely to increase transfer to mothers	Supports	Does not support
When both biological parents are living but not live together, adult children are more likely to increase transfer to mothers	Does not support	Does not support

Note: (a) based on both 1992 and 96 data. The reference category is adult children who did not work in 1992 but work again in 1996.

Table 7-4: Summary of hypotheses and findings, change in monetary transfer amount to fathers from 1992 to 1996

Hypotheses	All adult children	Married adult children
Adult daughters are less likely than adult sons to increase transfer	Does not support	Does not support
Adult children who did not work in 1992 and 96 are less likely to increase transfer *(a)*	Does not support	Does not support
Adult children who worked in 1992 and still working in 96 are more likely to increase transfer *(a)*	Supports	Supports
Adult children who worked in 1992 but retired in 96 are less likely to increase transfer *(a)*	Does not support	Does not support
Married adult children are more likely to increase transfer	Supports	
A greater age difference between spouses and adult children decreases the transfer		Supports
A greater educational difference between spouses and adult children decreases the transfer		Does not support
When spouses are employed, adult children will be more likely to increase transfer		Supports
Having unhealthy spouses decreases adult children's transfer		Does not support
Brothers complement adult children's transfer	Supports	Does not support
Sisters complement adult children's transfer	Does not support	Does not support
Any sibling lives with fathers increases adult children's likelihood of increase transfer	Does not support	Does not support
Siblings' monetary transfer involvements complement adult children's transfer	Supports	Supports
Financially dependent children compete for resource with their grandfathers	Partially supports	Does not support
When both biological parents are living and live together, adult children are more likely to increase transfer to fathers	Supports	Supports
When both biological parents are living but not live together, adult children are more likely to increase transfer to fathers	Does not support	Does not support

Note: (a) based on both 1992 and 96 data. The reference category is adult children who did not work in 1992 but work again in 1996.

Table 7-5A: Summary of hypotheses and findings, time transfer incidence to mothers in 1992

Hypotheses	All adult children	Working adult children	Married, working adult daughters
Adult daughters are more likely than adult sons to give transfer	Supports	Supports	
Adult children who are working for pay are less likely to give transfer	Supports		
Adult daughters who are working for pay are still more likely to give transfer	Supports		
A higher wage rate is associated with a lower likelihood of giving transfer		Supports	
Adult daughters with a higher wage rate have a lower likelihood of giving transfer		Does not support	Does not support
Longer work hour is associated with a lower likelihood of giving transfer		Supports	
Adult daughters who work longer hours are less likely to give time transfer		Supports	Supports
Married adult children are more likely to give transfer	Does not support	Does not support	
A greater age difference between husbands and adult daughters decreases the incidence of giving transfer			Does not support
A greater educational difference between husbands and adult daughters decreases the incidence of giving transfer			Does not support
When husbands are employed, adult daughters will be more likely to give transfer			Does not support
Brothers complement adult children's transfer	Does not support	Does not support	Supports
Sisters substitute adult children's transfer	Supports	Supports	Does not support
Any sibling lives with mother decreases adult children's likelihood of giving transfer	Supports	Supports	Does not support
Siblings' time transfer involvements complement adult children's transfer	Supports	Supports	
Financially dependent children compete for resource with their grandmothers	Does not support	Does not support	Does not support
When both biological parents are living and live together, adult children are less likely to give transfer to mothers	Does not support	Supports	Does not support
When both biological parents are living but not live together, adult children are more likely to give transfer to mothers	Does not support		Does not support

Table 7-5B: Summary of hypotheses and findings, time transfer amount to mothers in 1992

Hypotheses	All adult children	Working adult children	Married, working adult daughters
Adult daughters give greater amount of transfer than adult sons	Supports	Supports	
Adult children who are working for pay give smaller amount of transfer	Supports		
Adult daughters who are working for pay still give greater amount of transfer	Does not support		
A higher wage rate is associated with a smaller amount of transfer		Does not support	
Adult daughters with a higher wage rate give greater amount of transfer		Does not support	Does not support
Longer work hour is associated with a smaller transfer amount		Does not support	
Adult daughters who work longer hours give less time transfer		Supports	Supports
Married adult children give greater amount of transfer	Does not support	Does not support	
A greater age difference between husbands and adult daughters decreases the amount of transfer			Does not support
A greater educational difference between husbands and adult daughter decreases the amount of transfer			Does not support
When husbands are employed, adult daughters will give more transfer			Does not support
Brothers complement adult children's transfer	Does not support	Does not support	Supports
Sisters substitute adult children's transfer	Supports	Supports	Does not support
Any sibling lives with mother decrease adult children's transfer amount	Supports	Supports	Does not support
Siblings' time transfer involvements complement adult children's transfer	Supports	Supports	
Financially dependent children compete for resource with their grandmothers	Supports	Supports	Does not support
When both biological parents are living and live together, adult children give smaller amount of transfer to mothers	Does not support	Does not support	Does not support
When both biological parents are living but not live together, adult children give more transfer to mothers	Does not support	Does not support	Does not support

Table 7-6A: Summary of hypotheses and findings, time transfer incidence to fathers in 1992

Hypotheses	All adult children	Working adult children
Adult daughters are more likely than adult sons to give transfer	Supports	Supports
Adult children who are working for pay are less likely to give transfer	Supports	
Adult daughters who are working for pay are still more likely to give transfer	Does not support	
A higher wage rate is associated with a lower likelihood of giving transfer		Does not support
Longer work hour is associated with a lower likelihood of giving transfer		Does not support
Married adult children are more likely to give transfer	Does not support	Does not support
Brothers complement adult children's transfer	Does not support	Does not support
Sisters substitute adult children's transfer	Does not support	Does not support
Any sibling lives with fathers decreases adult children's likelihood of giving transfer	Supports	
Siblings' time transfer involvements complement adult children's transfer	Supports	Supports
Financially dependent children compete for resource with their grandfathers	Does not support	Does not support
When both biological parents are living and live together, adult children are less likely to give transfer to fathers	Does not support	Supports
When both biological parents are living but not live together, adult children are more likely to give transfer to fathers	Does not support	

Table 7-6B: Summary of hypotheses and findings, time transfer amount to fathers in 1992

Hypotheses	All adult children	Working adult children
Adult daughters give greater amount of transfer than adult sons	Does not support	Does not support
Adult children who are working for pay give smaller amount of transfer	Supports	
Adult daughters who are working for pay still give greater amount of transfer	Does not support	
A higher wage rate is associated with a greater amount of transfer		Does not support
Longer work hour is associated with a smaller transfer amount		Does not support
Married adult children give greater amount of transfer	Does not support	Does not support
Brothers complement adult children's transfer	Does not support	Does not support
Sisters substitute adult children's transfer	Does not support	Does not support
Any sibling lives with fathers decreases adult children's transfer amount	Supports	
Siblings' time transfer involvements complement adult children's transfer	Supports	Supports
Financially dependent children compete for resource with their grandfathers	Does not support	Does not support
When both biological parents are living and live together, adult children give smaller amount of transfer to fathers	Does not support	Supports
When both biological parents are living but not live together, adult children give more transfer to fathers	Does not support	Does not support

Table 7-7: Summary of hypotheses and findings, change in time transfer amount to mothers from 1992- 1996

Hypotheses	All adult children	Married adult children
Adult daughters are more likely than adult sons to increase transfer	Does not support	Does not support
Adult children who did not work in 1992 and 96 are more likely to increase transfer *(a)*	Does not support	Does not support
Adult children who worked in 1992 and still working in 96 are less likely to increase transfer *(a)*	Does not support	Does not support
Adult children who worked in 1992 but retired in 96 are more likely to increase transfer *(a)*	Supports	Supports
Married adult children are more likely to increase transfer	Supports	
A greater age difference between spouses and adult children decreases the transfer		Does not support
A greater educational difference between spouses and adult children decreases the transfer		Does not support
When spouses are employed, adult children wll be more likely to increase transfer		Does not support
Having unhealthy spouses decreases adult children's transfer		Supports
Brothers complement adult children's transfer	Does not support	Does not support
Sisters complement adult children's transfer	Does not support	Does not support
Any sibling lives with mother decreases adult children's likelihood of increase transfer	Support	Does not support
Siblings' time transfer involvements substitute adult children's transfer	Support	Does not support
Financially dependent children compete for resource with their grandmothers	Supports	Supports
When both biological parents are living and live together, adult children are less likely to increase transfer to mothers	Supports	Does not support
When both biological parents are living but not live together, adult children are more likely to increase transfer to mothers	Supports	Supports

Note: (a) based on both 1992 and 96 data. The reference category is adult children who did not work in 1992 but work again in 1996.

Table 7-8: Summary of hypotheses and findings, change in time transfer amount to fathers from 1992 to 1996

Hypotheses	All adult children	Married adult children
Adult daughters are more likely than adult sons to increase transfer	Supports	Does not support
Adult children who did not work in 1992 and 96 are more likely to increase transfer *(a)*	Supports	Supports
Adult children who worked in 1992 and still working in 96 are less likely to increase transfer *(a)*	Does not support	Does not support
Adult children who worked in 1992 but retired in 96 are more likely to increase transfer *(a)*	Supports	Does not support
Married adult children are more likely to increase transfer	Supports	
A greater age difference between spouses and adult children decreases the transfer		Does not support
A greater educational difference between spouses and adult children decreases the transfer		Does not support
When spouses are employed, adult children will be more likely to increase transfer		Does not support
Having unhealthy spouses decrease adult children's transfer		Does not support
Brothers complement adult children's transfer	Supports	Does not support
Sisters complement adult children's transfer	Does not support	Does not support
Any sibling lives with fathers decreases adult children's likelihood of increase transfer	Does not support	Does not support
Siblings' time transfer involvements substitute adult children's transfer	Supports	Supports
Financially dependent children compete for resource with their grandfathers	Does not support	Does not support
When both biological parents are living and live together, adult children are less likely to increase transfer to fathers	Supports	Does not support
When both biological parents are living but not live together, adult children are more likely to increase transfer to fathers	Does not support	Does not support

Note: (a) based on both 1992 and 96 data. The reference category is adult children who did not work in 1992 but work again in 1996.

Appendix Table 1: Adult children provided both monetary and time transfers, by adult children and parents' sex

	To mothers	To fathers
Transfer in 1992		
From both adult sons and daughters	0.53%	0.07%
	(n=5175)	(n=2444)
From adult sons only	0.27%	NA
	(n=2619)	(n=1380)
From adult daughters only	0.80%	0.16%
	(n=2556)	(n=1064)
Transfer in 1996		
From both adult sons and daughters	1.00%	0.78%
	(n=2340)	(n=889)
From adult sons only	0.65%	0.97%
	(n=1160)	(n=501)
From adult daughters only	1.34%	0.53%
	(n=1180)	(n=388)

Source: Author's analysis using Health and Retirement Study 1992 and 1996.
Note: Number of cases for each cell presented in parentheses. Weighted statistics.

Appendix Table 2: Bivariate analysis on adult children gave both monetary and time transfers using logistic regression *(a)*, by parents' sex and year

	To mothers		To fathers
	1992 (n=5175)	**1996 (n=2340)**	**1996 (n=889)**
Adult children female	2.93*** (0.27)	2.04** (0.27)	0.70 (0.54)
Adult children work for pay	0.54** (0.24)	0.99 (0.29)	1.94 (0.75)
Adult children married	0.09*** (0.26)	1.25 (0.35)	0.62 (0.61)
Number of brothers	0.85+ (0.08)	1.03 (0.02)	1.46*** (0.08)
Number of sisters	0.74*** (0.09)	0.88+ (0.08)	1.04 (0.13)
Any sibling lives with mother/father	0.95 (0.33)	0.94 (0.37)	4.69** (0.53)
Any sibling gave money to mother/father	3.65*** (0.30)	5.81*** (0.31)	7.12** (0.70)
Any sibling gave time to mother/father	11.73*** (0.24)	3.00*** (0.34)	4.74* (0.70)
Number of children under age 18	1.28 (0.18)	NA	NA
Gave $500 or more to children	4.66*** (0.24)	1.29 (0.29)	0.79 (0.69)
Both biological parents living and live together	0.38 (0.59)	0.83 (0.46)	0.86 (0.90)
Both biological parents living and live separately	5.44*** (0.36)	0.67 (0.88)	NA

Source: Author's analysis using Health and Retirement Study 1992 and 1996.

Note: *(a):* The dependent variables for 1992 and 1996 analyses are coded as 1 if adult children gave at least $500 and 100 hours in that year, 0 if otherwise. Results are presented in odds ratios.

(b): All the independent variables are from 1992 data.

(c): Because very few adult children provided both types of transfers to their fathers in 1992, this part of analysis results are unstable. Therefore, they are excluded from this table.

(d): Unweighted statistics. Results of major explanatory variables are presented.

+<=.10, *<=.05, **<=.01, ***<=.001. Standard errors presented in parentheses.

Appendix Table 3: Adult children provided monetary and time transfers to their mothers in 1992, multivariate statistics using logistic regression

	All adult children (n=5157)		Working adult children (n=3029)	
	Model 1	Model 2	Model 1	Model 2
Adult children's gender and work status				
Female	1.51	0.78	3.58*	2.60*
	(0.32)	(0.47)	(0.62)	(0.57)
Work for pay	0.44**	0.19**	--	--
	(0.29)	(0.55)		
Female*work for pay	--	3.07*	--	--
		(0.62)		
Hourly wage rate, centered at grand mean and logged	--	--	1.32*	1.92**
			(0.11)	(0.22)
Female* hourly wage rate	--	--	--	0.63+
				(0.24)
Weekly work hour, centered at grand mean and logged	--	--	1.03	1.53*
			(0.10)	(0.01)
Female* weekly work hour	--	--	--	0.70*
				(0.22)
Adult children married	0.12***	0.12***	0.12***	0.10***
	(0.30)	(0.30)	(0.46)	(0.48)
Adult children's sibling characteristics				
Number of brothers	1.03	1.04	1.00	0.99
	(0.09)	(0.09)	(0.15)	(0.15)
Number of sisters	0.61***	0.62***	0.61**	0.62**
	(0.11)	(0.11)	(0.18)	(0.09)
Any sibling lives with mother	0.55	0.57	0.54	0.61
	(0.38)	(0.37)	(0.60)	(0.60)
Any sibling gave money to mother	1.44	1.33	2.61+	2.37+
	(0.35)	(0.36)	(0.50)	(0.52)
Any sibling gave time to mother	13.31***	13.17**	8.22***	9.62***
	(0.30)	(0.30)	(0.46)	(0.49)
Competition for adult children's resources				
Children compete for resources				
Number of children under age 18	0.88	0.85	0.77	0.67
	(0.23)	(0.24)	(0.50)	(0.51)
Gave $500 or more to children	2.31**	2.29**	4.62***	5.13***
	(0.28)	(0.28)	(0.46)	(0.47)
Parents compete for resources				
Both biological parents living and live together	0.30+	0.30+	0.18+	0.18*
	(0.65)	(0.65)	(0.87)	(0.85)
Both biological parents living and live separately	5.75***	5.16**	*(c)*	*(c)*
	(0.50)	(0.51)		
Only mother living (Reference category)	--	--	--	--

Appendix Table 3 (cont.) : Adult children provided monetary and time transfers to their mothers in 1992, multivariate statistics using logistic regression

	All adult children (n=5157)		Transfer Amount (n=3029)	
	Model 1	Model 2	Model 1	Model 2
Adult children's characteristics				
Age	0.80	0.80	0.90	0.90
	(1.56)	(1.57)	(0.07)	(0.07)
Age squared	1.00	1.00	*(c)*	*(c)*
	(0.01)	(0.01)		
Race				
White	0.52	0.48	0.49	0.41
	(0.46)	(0.46)	(0.62)	(0.65)
Black	1.83	1.71	0.86	0.74
	(0.47)	(0.47)	(0.72)	(0.73)
Other (Reference category)	--	--	--	--
Educational attainment				
Lower than high school (Reference category)	--	--	--	--
High school graduate	3.07*	2.99*	1.45	1.37
	(0.46)	(0.46)	(0.81)	(0.83)
Some college	2.35+	2.28	2.74	2.69
	(0.51)	(0.51)	(0.84)	(0.87)
College and above	3.28*	3.15*	2.81	2.51
	(0.50)	(0.50)	(0.85)	(0.86)
Household assets, logged	1.04	1.05	1.01	1.02
	(0.03)	(0.03)	(0.06)	(0.06)
Has good health	1.06	1.12	0.34+	0.34+
	(0.36)	(0.37)	(0.56)	(0.57)
Mothers' characteristics				
Age	0.96	0.96	0.95	0.94
	(0.03)	(0.03)	(0.04)	(0.04)
At least one ADL limitation	1.34	1.33	3.00*	3.42*
	(0.43)	(0.43)	(0.53)	(0.55)
Years of education	0.96	0.95	0.94	0.95
	(0.04)	(0.04)	(0.07)	(0.07)
Excellent or good financial situation	1.14	1.14	1.61	1.78
	(0.32)	(0.32)	(0.43)	(0.43)
Intercept	5.52	6.07	5.47	6.28

Source: Author's analysis using Health and Retirement Study 1992.

Note: *(a):* The dependent variable is coded as 1 if adult children gave at least $500 and 100 hours in 1992, 0 if otherwise. Results are presented in odds ratios.

(b): Unweighted statistics.

(c): Variable excluded from the statistical model to ensure the convergence of the estimation procedures.

+<=.10, *<=.05, **<=.01, ***<=.001. Standard errors presented in parentheses.

Appendix Table 4: Adult children provided both monetary and time transfers to mothers in 1996, multivariate statistics using logistic regression *(a)*

	All adult children (n=2340)	**Married adult children** (n=1877)
Adult children's gender and work status 1992-96 (b)		
Female	2.08*	2.58*
	(0.34)	(0.45)
Did not work in 1992 and not working in 1996	1.94	1.77
	(0.93)	(0.97)
Worked in 1992 and still in labor force in 1996	2.26+	2.32+
	(0.85)	(0.86)
Worked in 1992, retired or homemaker in 1996	0.46	0.45
	(0.86)	(0.90)
Did not work in 1992 and worked again in 1996 (Reference category)	--	--
	--	--
Adult children married, 1992	1.47	--
	(0.39)	
Adult children spouses' characteristics		
Age difference	--	1.00
(Spouses' age-adult children's age)		(0.03)
Years of education difference	--	0.90
(Spouses' years of education-adult children's years of education)		(0.07)
Spouses working for pay	--	2.18+
		(0.42)
Adult children siblings' characteristics, 1992		
Number of brothers	1.10	1.04
	(0.09)	(0.10)
Number of sisters	0.81*	0.74**
	(0.09)	(0.11)
Any sibling lives with mother	0.63	0.54
	(0.41)	(0.52)
Any sibling gave money to mother	5.39***	4.85***
	(0.38)	(0.45)
Any sibling gave time to mother	1.93+	1.85
	(0.42)	(0.52)
Competition for adult child's resources, 1992		
Children compete for resource		
Number of children under age 18	0.82	1.25
	(0.43)	(0.42)
Gave children $500 or more	0.56+	0.46+
	(0.35)	(0.41)
Parents compete for resources		
Both biological parents living and live together	0.53	0.35+
	(0.49)	(0.61)
Both biological parents living and live separately	0.69	0.62
	(0.90)	(0.91)
Only mother living (Reference category)	--	--

Appendix Table 4 (cont.) : Adult children who provided both monetary and time transfers to mothers in 1996, multivariate statistics using logistic regression *(a)*

	All adult children (n=2340)	**Married adult children** (n=1877)
Adult child's characteristics, 1992		
Age	1.30	0.32
	(1.72)	(1.91)
Age squared	1.00	1.01
	(0.02)	(0.02)
Race		
White	0.54	0.27*
	(0.52)	(0.55)
Black	1.81	0.64
	(0.59)	(0.74)
Other (Reference category)	--	--
Educational attainment		
Lower than high school (Reference category)	--	--
High school graduate	2.61+	6.29*
	(0.52)	(1.23)
Some college	2.35	3.43+
	(0.58)	(1.26)
College and above	3.75*	5.72+
	(0.58)	(1.28)
Household assets, logged	1.78*	1.33*
	(0.08)	(0.12)
Has good health	0.66	1.10
	(0.40)	(0.60)
Mother's characteristics, 1992		
Age	1.01	1.01
	(0.03)	(0.03)
At least one ADL limitation	2.16*	2.34*
	(0.38)	(0.41)
Years of education	0.97	1.03
	(0.05)	(0.05)
Excellent or good financial situation	2.19**	2.44**
	(0.29)	(0.31)
Intercept	-17.44	-16.11

Source: Author's analysis using Health and Retirement Study 1992 and 1996.

Note: *(a):* The dependent variable is coded as 1 if adult children gave at least $500 and 100 hours in 1992, 0 if otherwise. Results are presented in odds ratios.

(b): The work status variables are based on the 1992-1996 data. All other variables are based on the 1992 data to avoid endogenous estimations.

(c): Unweighted statistics.

+<=.10, *<=.05, **<=.01, ***<=.001, +<=.10. Standard errors presented in parentheses.

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