Number of Children and Upstream Intergenerational Financial Transfers: Evidence From Hong Kong

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Objectives. This study examined financial transfers from adult children to elderly parents in Hong Kong and tested three hypotheses about the motives for such transfers. We address previous research, suggesting that family financial support for retirees will decline in the coming decades as a consequence of the reduction in the fertility rate; we also examine whether financial transfers are a function of the number of adult children in the family.

Methods. We used multiple regression models based on data from a representative sample of parents aged 60 years and older to identify the correlates of the amount of transfers from adult children to their elderly parents.

Results. We found evidence for the hypothesis that upstream transfers to elderly parents are their way of withdrawing savings from a “support bank” in which they made contributions for their children’s education earlier in life and that transfers are altruistic in nature, but our results provide only moderate support to the old age security hypothesis that perceives family as a source of capital.

Discussion. The number of children has a ceiling effect on transfers, which calls into question common assumptions about the extent to which the decline in fertility will pose a severe threat to the extent of familial support of older persons over the coming decades.

Key Words: Adult children—Chinese—Elderly parents—Intergenerational transfers.

It is difficult to underestimate the importance of the monetary support given by adult children to their elderly parents in Asian societies, such as Hong Kong, because the impending aging of the population augurs an enormous increase in the demand for financial security in old age. In Hong Kong, the percentage of the population aged 60 years and older is projected to increase from 16.5% (1.1 million) in 2001 to 33.4% (2.7 million) in 2036 (Census and Statistics Department, 2007a). A substantial proportion (58.4%) of the current cohort of older adults receives financial support from their adult children, with the median annual income from this source being about USD 2,460 (Census and Statistics Department, 2001). But a general decline in family size has elicited concerns from both policy makers and researchers about the ability of adult children to sustain the monetary support of elderly parents in Chinese or other Asian societies (Knodel, Friedman, Anh, & Cuong, 2000; Logan & Bian, 2003; Zimmer & Kwong, 2003). As a result of both modernization and a series of successful family planning programs, total fertility rates in Hong Kong fell substantially from 3.5 in the early 1970s to about 1.0 in 2006 (Census and Statistics Department, 2007b). Therefore, it is essential that the relationship between the number of children in a family and the upstream intergenerational transfers they provide be examined to help determine the extent to which this funding stream will contribute to retirement security over the next several decades. Another possible outcome of a low fertility rate is that the proportion of elderly people without children will increase in the coming decades. Obviously, childless older adults will have no financial support from children; thus, there is a question whether they will be able to compensate for the lack of this source of income in old age by financial support from other family members, private savings, or retirement protection schemes.

The Situation in Hong Kong

Similar to other Chinese societies, Hong Kong is characterized by strong norms of filial support, grounded in the strength of traditional values such as filial piety (Cheng & Chan, 2006; Lee & Kwok, 2005; Zhan, 2004). In Hong Kong, retirement protection currently rests on three pillars. The first is public, consisting of two programs (Chou, Chow, & Chi, 2004). First, the Old Age Category of Comprehensive Social Security Assistance (Old Age CSSA) scheme, which is noncontributory, means-tested, and financed from tax revenues, provides financial assistance for about 17% of older adults (Social Welfare Department, 2007). In a typical Old Age CSSA case, an elderly recipient receives about USD 6,154 per year, which is about 40% of the median salary (Chou et al.), although the assets and annual income criteria of the means-tested for a singleton were USD 2,821 and 4,454, respectively. The second public program is the Old Age Allowance (OAA). Individuals aged between 65 and 69 years are eligible to apply for one form of this, called Normal Old Age Allowance (NOAA), but this is means-tested. The criteria for the OAA are looser than those for...
Old Age CSSA, as the assets and annual income limits for a singleton were USD 21,667 and 9,092, respectively. When adults reach 70 years of age, they become eligible for another type of OAA, namely Higher Old Age Allowance (HOAA), for which income and asset tests are waived. The amount of OAA is nominal, fixed at USD 962 and 1,085 annually for NOAA and HOAA, respectively. About 60% of older adults receive benefits under these two schemes (Social Welfare Department).

A new retirement income protection program, the Mandatory Provident Fund (MPF) scheme, was implemented in 2000. It can be characterized as employment based, contribution defined, privately managed, and involving compulsory savings. Before its implementation, approximately 30% of the 3.4 million workers at the time participated in retirement protection programs, either the Occupational Retirement Scheme Ordinance (ORSO) schemes provided by individual employers or the pension scheme for civil servants (Siu, 2002), and they were exempted from the MPF scheme. These two schemes, coupled with the MPF, form the second pillar of retirement protection in Hong Kong. Benefits of MPF and ORSO schemes are paid in a lump sum, but in the pension scheme for civil servants, benefits can be a mix of lump sum payment and annuity arrangement. The third pillar of retirement protection in Hong Kong consists of both private savings and family financial support, mainly from adult children (Chou et al., 2004).

**Number of Children and Upstream Intergenerational Transfers**

In accordance with traditional Chinese customs, relying on one’s children is still the most commonly accepted way of meeting economic needs in later life (Chou et al., 2004; Lee & Kwok, 2005). The “convoy of social support” model, one theory of intergenerational transfers, dictates that a decline in the availability of adult children will result in parallel reductions in support for elderly parents (Frankenberg, Lillard, & Willis, 2002; Shaw, Krause, Liang, & Bennett, 2007). According to the convoy model (Ajrouch, Blandon, & Antonucci, 2005; Shaw et al., 2007), individuals move through life encompassed by groups of people to whom they are related through the exchange of social support (Cox, 2003) in terms of both money and time (Hypothesis 1). Specifically, older persons might provide financial support for their children’s education as contributions to a “support bank” from which they can make withdrawals later in life (Ajrouch et al., 2005). In other words, they may view the earlier provision of financial support as a form of loan that will, in a sense, be repaid later. If we assume that all children’s educational needs are fulfilled by parental savings in this “support bank,” then it implies that the more children parents have, the more savings they will have in this bank, and in return, their children repay more to their parents by providing them retirement security in old age. Consequently, according to Hypothesis 1, a strong and positive association will be expected between the number of children and the amount of transfers to elderly parents from them.

Moreover, Hypothesis 1 also predicts a strong positive relationship between the education level of adult children and their financial transfers to their elderly parents because education represents the amount of financial support the parents saved in the support bank. Third, the hypothesis predicts that because of the obligation for reciprocity in the convoy of support, no relationship will exist between the amount of upstream transfers and the current financial circumstances of the elderly parents. Finally, the hypothesis suggests that if childless older adults provide loans to younger relatives, such as nephews, when they are of working age, their family members might repay the loans or return the favor to them when they are in their old age. Therefore, the hypothesis would predict that financial support from family members other than adult children would be greater for childless older adults than for those with children.

On the other hand, the closeness of the association between the number of children and upstream intergenerational transfers might have been overstated, especially if transfers are motivated by altruism on the part of children based on meeting the needs of their elderly parents (Cardia & Michel, 2004; Pezzin & Schone, 2001), namely altruistic hypothesis (Hypothesis 2). In other words, adult children may provide financial security for their elderly parents because their parents need it. If altruism motivates transfers between family members, then a child will reduce financial support to their parents once their parents’ needs have been met (Künemund, Motel-Klingebiel, & Kohli, 2005; Litwin, 2004). Consequently, Hypothesis 2 would lead us to expect that no relationship exists between the number of children and the total amount that adult children transfer to their elderly parents but that the total amount transferred will be related to the elders’ current financial circumstances instead.

Besides the number of children and parents’ financial needs, other financial circumstances may affect the pattern of upstream intergenerational transfers (Koh & MacDonald, 2006; Kohli & Künemund, 2003). One of the oldest models of such transfers, “old age security,” forms our third hypothesis (Hypothesis 3). This hypothesis perceives family as a source of capital (Becker, 1991; Eswaran, 2002). In other words, from the perspective of elderly parents, when financial institutions have not matured and public assistance or private pension schemes have not yet been developed, particularly in traditional societies, individuals may struggle to find a reliable means for saving for their old age. Therefore, children offer an alternative long-term mechanism for obtaining financial security in later life, alongside other forms of asset accumulation. As economic development takes place, a financial market emerges, public pension arrangements develop, and individuals will have access to retirement savings methods other than their children. Because
the risks involved in relying on children and on savings are to some extent independent, one might expect an optimally diversified portfolio to include both children and nonhuman assets. Accordingly, older adults will rely increasingly on public pensions, real estate investment, or financial products (like stocks, bonds, and funds) for retirement security rather than intergenerational transfers. Therefore, this hypothesis predicts that there will be no relationship between the number of children and levels of upstream transfers from children to elderly parents but that some characteristics of elderly parents will be associated with the levels of transfer, including the receipt of welfare (Old Age CSSA and OAA), participation in ORSO or the pension scheme for civil servants, the amount and type of assets they own, and the revenue generated from their investments. In addition, this hypothesis also suggests that childless older adults will prepare for their retirement security through private savings and participation in retirement protection schemes; therefore, we would expect that childless older adults would have more assets accumulated by private savings and would be more likely to participate in voluntary retirement protection schemes than those with children.

Previous Studies
Elderly parents with more children are more likely to receive filial financial support in most Asian countries (Lillard & Willis, 1997), such as Vietnam (Knodel et al., 2000) and China (Logan & Bian, 2003; Zimmer & Kwong, 2003). But most previous studies of intergenerational transfers have not collected data on the amount of transfers (Knodel et al.; Zimmer & Kwong). Although Logan and Bian found that the number of children had a positive impact on the amount of support elderly parents received in China, they assumed a linear relationship between the number of children and the total amount of upstream transfers in their data analyses. In addition, they investigated financial support from only children living apart from their parents, neglecting the contribution of coresident children.

Intergenerational coresidence not only facilitates the social exchange across generations (Agree, Biddlecom, Chang, & Perez, 2002; Yan, Chen, & Yang, 2003) but also beneficially affects the well-being of older parents (Silverstein, Cong, & Li, 2006). Findings suggest that living arrangements are an important structural factor that affects the nature and the magnitude of social exchanges in tangible, financial, and emotional support. Surprisingly, unlike other Asian societies where intergenerational coresidence rates have decreased substantially (Knodel & Ofstedal, 2002), in Hong Kong, coresidence between older parents and adult children continues to be relatively common. Specifically, for a period of 15 years (from 1991 to 2006), four population censuses (1991, 1996, 2001, and 2006) have indicated that the prevalence of older persons living with their children has remained in a range from 53.5% (in 2006) to 60.3% (in 1996). Therefore, it is important to examine financial transfers from coresident children because their numbers are too large to be ignored. Furthermore, the data used by Logan and Bian (2003) were collected for a period of 20 years ago (in 1987) and so are presumably out of date. In what follows, we provide new evidence of the effect of the number of children on upstream transfers to elderly parents, and we also identify differences between childless older adults and those with children in their sources of income and financial situations.

Methods
Source of Data
The data for the study were collected in the General Household Survey (GHS) conducted in 2004 by the Department of Census and Statistics of the Hong Kong Special Administration Region Government (Census and Statistics Department, 2005a). The GHS has been conducted continuously since 1981. Because each sweep selects respondents by a systematic random sample of households, the survey produces samples that are very good representations of the general Hong Kong population. In this survey, 6,468 households were selected to screen for eligible respondents aged 60 years and older. A total of 4,812 completed the questionnaires, another 825 refused to be interviewed, and 831 could not be reached, yielding a response rate of 74.4%. The Department of Census and Statistics provided weighting to adjust for systematic errors (i.e., no response rate) and boost the sample into the population it represented. The descriptive statistics and multivariate analyses presented here take this weighting into account.

Dependent Variables
The survey asked respondents whether they had received financial transfers from their coresident or nonresident children each month in the past year using a 21-option item based on USD (USD 1 = HKD 7.8); 1 = none; 2 = less than 128; 3 = 129–256; 4 = 257–385; 5 = 386–513; 6 = 514–641; 7 = 642–769; 8 = 770–897; 9 = 898–1,026; 10 = 1,027–1,154; 11 = 1,155–1,282; 12 = 1,283–1,602; 13 = 1,603–1,923; 14 = 1,924–2,564; 15 = 2,565–3,205; 16 = 3,206–3,846; 17 = 3,847–5,128; 18 = 5,129–6,410; 19 = 6,411–7,692; 20 = 7,693–8,974; and 21 = more than 8,974. We estimated the actual amount of the transfers from both groups of children by imputation using the median of the range of all categories except the last (more than USD 8,974), which we imputed by the lower bound. We acknowledge that this imputation procedure introduced errors into our measurements, but if we were to ask for the exact amount of transfers, the nonresponse rate for these sensitive items would be high, which would also introduce nonsystematic errors into our data set. Therefore, we believe that using a range as response format struck a balance between the accuracy of the answer and an acceptable
response rate on these sensitive items. We calculated the total amount of transfers from all children as the sum of the amount from coresident children and from children living apart from their parents. We used the log amount of money to indicate the amount of transfers from all children to change its skewness from 5.71 (before taking the log) to −0.07 (after taking the log) so that the normality of the dependent variable used in multiple regression analysis can be held. Because we could not calculate the logarithm of zero, we used all values plus one.

Independent Variable
Our main independent variable was the number of all respondents’ children who were living in Hong Kong.

Covariates
We assessed 13 covariates related to sources of income and assets. In addition to financial support from children, we also asked respondents to report the amount of financial support they received from nine other sources of income, consisting of a monthly pension, financial support from other relatives, salary, rent, interest, alimony, directors’ remuneration, housing allowance, and bonuses using the same 21-item question described earlier. Similar imputations (using the median of the range) were performed on these sources of income. We then summed the amount of income from the latter eight sources (from salary to bonuses) as a single category called self-reliance income. We created two dummy variables to indicate whether respondents received payments from either the Old Age CSSA or the OAA schemes. So in summary, we created two dummy variables for welfare benefits (Old Age CSSA and OAA) and three continuous variables for the log amount of financial support from other relatives, pension, and self-reliance sources. Similar to financial support from adult children, we used all values plus one for the logarithm.

Next, we measured financial assets by asking respondents whether they had received a lump sum from their retirement schemes (ORSO or MPF) when they retired, for which we created a dummy variable. We also asked respondents to report their possession of four categories of assets, namely (a) cash and savings; (b) stocks, bonds, and funds; (c) property they occupied; and (d) property they did not occupy. We then created four dummy variables to indicate whether respondents owned these four types of assets. We also measured the value of all assets owned by respondents (excluding property they occupied) by a single dummy variable (worth more than USD 128,205 or not).

The demographic control variables included gender, age, marital status, and education level. We created one dummy variable for gender (0 = men, 1 = women), whereas two dummy variables were created to represent marital status by contrasting married, single, and divorced/separated with widowed persons. We also coded three dichotomous variables for education by contrasting no formal education with elementary school, high school, and university education. Lastly, we assessed living arrangements by asking respondents whether or not they were living with their children.

Analysis
We first performed descriptive statistics on all the dependent variables, independent variable, and covariates. We then performed one multiple regression model to evaluate the association of the independent with the dependent variables, namely transfers from all children, after adjusting for covariates. The independent variable in this model was used as a continuous variable. We examined multicollinearity between all independent variables and covariates, and all tolerance values were at an acceptable level. Next, we performed a univariate general linear model using the same dependent variable we had used in the multiple regression models, and the covariates included all independent variables used in the multiple regression analyses, but the fixed variable was the number of children that was recoded as a variable with six levels (having no child and having one, two, three, four, and five or more children). Finally, we undertook bivariate analyses to assess the differences between those with child(ren) and those without in five sources of income as well as types and amount of assets possessed. We performed and computed the data management and regression models using SPSS for Windows 16.0 (SPSS Inc., 2006).

RESULTS
Sample Characteristics
After weighting, our samples represented 985,731 older adults. Number of children ranged from 0 to 11, while nearly half (45.1%) had either one or two children, and only about one quarter (28.3%) had four or more. The total amount of annual financial support received from children was about USD 2.97 billion (HKD 23.2 billion), which was substantial compared with the expenditures on Old Age CSSA and OAA, which were about USD 1.54 billion (HKD 12 billion) each year. Specifically, the amount of upstream transfers from coresiding children was about USD 1.42 billion (HKD 11.05 billion) and from children living apart was about USD 1.54 billion (HKD 12 billion) (Table 1).

Financial Support From Children
Table 2 presents the determinants of money transfers from children to elderly respondents. First, the number of children is positively related to the amount transferred from children. Second, five sources of income—payments from other relatives, self-reliance, monthly pension payments, Old Age CSSA, and OAA—had a significant but adverse
effect on the amount of transfers except OAA that had a positive impact on the transfers. Receiving lump sum benefits from ORSO or MPF and possessing three categories of assets—stock, bonds, or funds; self-occupied property; and non–self-occupied property—were positively associated with transfers. In contrast, possessing assets worth more than USD 128,205 (HKD 1 million) was negatively related to the amount of financial support.

Finally, living arrangements (whether elderly people were living with their children) were positively and significantly related to financial transfers. Regarding demographic variables, we found significant associations of the amount of transfers with gender, age, marital status, and education. Specifically, elderly mothers received more than elderly fathers, and older parents less than younger ones. Compared with those who were widowed, those who were currently married or who were singles received less support from their children. Education level also had a positive impact on transfers from adult children.

Effect of Number of Children on Transfers

We used a univariate general linear model and conducted a post hoc Tukey’s test to assess significant differences between each pair of levels used to measure the number of children. We found, based on the findings shown in Table 3, significant differences between all pairs of levels except in three comparisons: three versus four children; three versus five or more children; and four versus five or more children.
Table 2. Unstandardized Weighted Least Square Regression Estimates Predicting the Log Amount of Financial Transfers From All Children (N = 4,812)

<table>
<thead>
<tr>
<th>Income from all children beta</th>
<th>Constant</th>
<th>1.537***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent variable</td>
<td>Number of all children living in Hong Kong</td>
<td>0.232***</td>
</tr>
<tr>
<td>Demographics</td>
<td>Gender (1 = women)</td>
<td>0.199***</td>
</tr>
<tr>
<td></td>
<td>Age 60-64 (ref)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Age 65-69</td>
<td>0.013</td>
</tr>
<tr>
<td></td>
<td>Age 70-74</td>
<td>-0.198*</td>
</tr>
<tr>
<td></td>
<td>Age 75-79</td>
<td>-0.323**</td>
</tr>
<tr>
<td></td>
<td>Age 80+</td>
<td>-0.280**</td>
</tr>
<tr>
<td></td>
<td>Widowed (ref)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Married</td>
<td>-0.351***</td>
</tr>
<tr>
<td></td>
<td>Divorced/separated</td>
<td>-0.235</td>
</tr>
<tr>
<td></td>
<td>Single</td>
<td>-0.852***</td>
</tr>
<tr>
<td></td>
<td>No formal education (ref)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Elementary school</td>
<td>0.185**</td>
</tr>
<tr>
<td></td>
<td>High school</td>
<td>0.191**</td>
</tr>
<tr>
<td></td>
<td>University or above</td>
<td>0.321***</td>
</tr>
<tr>
<td></td>
<td>Living with children</td>
<td>0.154***</td>
</tr>
<tr>
<td></td>
<td>Sources of Income</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Log (from other relatives)</td>
<td>-0.297***</td>
</tr>
<tr>
<td></td>
<td>Log (self-reliance)</td>
<td>-0.340***</td>
</tr>
<tr>
<td></td>
<td>Log (monthly pension payment)</td>
<td>-0.268***</td>
</tr>
<tr>
<td></td>
<td>Receiving CSSA</td>
<td>-1.555***</td>
</tr>
<tr>
<td></td>
<td>Receiving OAA</td>
<td>0.154*</td>
</tr>
<tr>
<td></td>
<td>Types of assets possessed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ORSO or MPF lump sum benefits</td>
<td>0.199*</td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td>0.055</td>
</tr>
<tr>
<td></td>
<td>Stocks, bonds, or funds</td>
<td>0.310**</td>
</tr>
<tr>
<td></td>
<td>Self-occupied property</td>
<td>0.302***</td>
</tr>
<tr>
<td></td>
<td>Non-self-occupied property</td>
<td>0.587***</td>
</tr>
<tr>
<td></td>
<td>Amount of assets &gt;USD 128,205.10</td>
<td>-0.598***</td>
</tr>
<tr>
<td></td>
<td>Adjusted $R^2$</td>
<td>0.263</td>
</tr>
<tr>
<td></td>
<td>$F(24, 4,787) = 72.6***</td>
<td></td>
</tr>
</tbody>
</table>

Notes: CSSA = Old Age Category of Comprehensive Social Security Assistance; MPF = Mandatory Provident Fund; OAA = Old Age Allowance; ORSO = Occupational Retirement Scheme Ordinance.

Childless Older Adults

Table 4 indicates that compared with those with child(ren), childless older people were more likely to receive Old Age CSSA and tended to receive more income from other relatives, self-reliance means, and pension payments; they were also more likely to possess assets in the form of stocks, bonds, and funds and to have assets worth more than USD 128,205.

Discussion

Our findings show how important child support is to old age security in Hong Kong. Upstream transfers amount to USD 2.97 billion each year compared with annual public expenditures of USD 1.54 billion on retirement protection. The expectation that low fertility will contribute to the erosion of upstream intergenerational transfers is predicated on the assumption that the extent of transfer from adult children to their elderly parents is associated with the number of children in the family. Our findings can be used to examine the extent to which such an association actually exists in Hong Kong Chinese society. Consistent with our Hypothesis 1 (the convoy model of social support), the foregoing analysis confirms that an association does exist, but there is also a ceiling effect. Specifically, no significant difference in support appears between those with three children and those with more than three children. The reason for the ceiling on the impact of the number of children on upstream transfers may simply be that there is a limit to the resources that parents can allocate as a deposit in the “support bank,” as conceived by the convoy model. We believe that because of this ceiling effect, the negative impact of low fertility on retirement income protection may not be as much as policy makers and researchers might expect. Endorsing the convoy model of social support (Hypothesis 1), our findings also suggest that childless older people received more financial support from other relatives than elderly parents. Moreover, childless older persons are also better prepared for their retirement security by their participation in retirement schemes, accumulation of assets, and generation of revenue through self-reliance means compared with elderly parents, which is in line with the old age security hypothesis. Based on these findings, although we believe that in the coming three decades, an extremely low fertility rate will have a detrimental impact on the financial support of elderly people by their adult children, it seems that the effects may not be as great as we have been anticipating.

Table 3. Univariate Linear General Model Predicting the Amount of Financial Support From All Children (N = 4,812): Mean Difference (post hoc Turkey’s test) for the Number of Children as the Fixed Factor

<table>
<thead>
<tr>
<th>No. of children</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-1.057***</td>
<td>-1.529***</td>
<td>-1.900***</td>
<td>-1.956***</td>
<td>-2.054***</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>-0.472***</td>
<td>-0.843***</td>
<td>-0.898***</td>
<td>-0.996***</td>
</tr>
<tr>
<td>2</td>
<td>0.472***</td>
<td></td>
<td>-0.371***</td>
<td>-0.427***</td>
<td>-0.525***</td>
</tr>
<tr>
<td>3</td>
<td>0.843***</td>
<td>0.371***</td>
<td></td>
<td>-0.056</td>
<td>-0.154</td>
</tr>
<tr>
<td>4</td>
<td>0.898***</td>
<td>0.427***</td>
<td>0.056</td>
<td></td>
<td>-0.098</td>
</tr>
<tr>
<td>5 or more</td>
<td>0.996***</td>
<td>0.525***</td>
<td>0.154</td>
<td>0.098</td>
<td></td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>0.297</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$F(30, 4,781) = 67.2***$

Notes: Linear general model with covariates including sex, age, marital status, education, living with children, seven sources of income, six variables related to the possession of assets, and two variables related to exchange in support.

*p < .05; **p < .01; ***p < .001.
Consistent with the altruistic hypothesis (Hypothesis 2), the amount of transfers received from children is negatively associated with the amount of income received from four other means: other family members, self-reliance, pension payments, and welfare. These findings suggest that the amount of financial transfer from adult children to elderly parents is needs based. In particular, we note a strong but negative relationship between the transfers and the receipt of welfare (Old Age CSSA). The primary reason for this is institutional. The regulations for applying to the Old Age CSSA fund state that all children, whether or not they live with their parents, must declare that they are not able to support them. In addition, our results are based on cross-sectional data that do not exclude the possibility that older adults have received public support specifically because they receive little or no money from their children.

The pattern of private transfers depicted in this study is partially consistent with our Hypothesis 3, the old age security hypothesis. This hypothesis predicts that pensions for civil servants and possession of assets like stocks, funds, bonds, and property (other than that which they occupy) make monetary support from adult children less important. Looking at transfers of money to elderly parents, we find evidence that moderately supports this prediction. A negative relationship exists between the pensioner status and the amount of support from children, suggesting that receiving a pension detrimentally affects the amount received from one’s children. These results therefore appear to support the old age security hypothesis (Hypothesis 3). In addition, individuals who are asset rich (worth more than USD 128,205 or HKD 1 million) also tend to receive less from their children. But possessing assets (such as stocks, bonds, funds, and real estate) is also positively related to transfers from children, which is the opposite of what the old age security hypothesis would predict. One possible explanation is that the children of elderly parents with such assets are willing to support them in exchange for receiving those assets by way of bequest when their parents die. This reason could also be applied to another surprising finding: that receiving an ORSO or MPF lump sum payment does not adversely affect the amount of transfers from coresident and all children but in fact has a positive influence. This may suggest that receiving retirement savings will not “crowd out” intergenerational upstream transfers as the MPF matures over the coming decades.

In this paper, our main focus is the relationship between the amount of transfers to older people and the number of children they have, and our results related to this relationship largely support the convoy model of social support (Hypothesis 1) and are not consistent with the predictions made by the other two hypotheses, namely altruism (Hypothesis 2) and the old age security hypothesis (Hypothesis 3). In addition, the differences between childless elders and elderly parents in financial support from relatives and retirement preparation are consistent with both the convoy model of social support and the old age security hypothesis. On the other hand, the significant associations between the amount of transfers and the elders’ current financial circumstances as well as their participation in other retirement security systems found in this study are consistent with altruism and the old age security hypothesis, respectively. Therefore, it seems that these three hypotheses concerning intergenerational transfers are not mutually exclusive with each other. In other words, intergenerational transfers are complex phenomena, which involve different mechanisms simultaneously (Silverstein, 2006), and future research is needed to further distinguish these theories or hypotheses on intergenerational transfers.

LIMITATIONS
We recognize that this research is based upon cross-sectional data and that longitudinal data are needed to further understand the causal and temporal relations between transfer behavior and its motivation among elderly people in Hong Kong. Second, the intergenerational transfers studied in this investigation are unidirectional, that is to say, we have not examined downstream transfers from elderly parents to
their adult children. Third, children who were not living in Hong Kong were not included in this study. The number of children living in other countries or Mainland China is unknown, but it has been estimated that about 240,000 Hong Kong residents were working in the mainland in 2004 (Census and Statistics Department, 2005b). But one quarter of them did not stay overnight and about 65% traveled frequently (i.e., 20 times or more in the past year) between Hong Kong and Mainland China. We estimate that only about 10% (i.e., 24,000) lived in Mainland China most of the time, which accounted for only 0.7% of the total employed population at that time. Fourth, some older adults might have asked their coresiding children to act as their financial managers and take charge of their financial activities, in which case they may not have separated their assets. Although we did not collect such information, the fact that about half of the older persons who responded to the survey received no financial support from their children may indicate that this is a possibility. Fifth, measurement of the education levels and altruism of adult children was almost nonexistent in our data set. Therefore, we were unable to test either the convoy of social support model regarding the relationship between education levels of adult children and their financial support of their elderly parents or the altruism theory concerning the relationship of altruistic attitudes on the part of adult children and their upstream transfers. Last, our major variable was income, which is a sensitive topic for most people and, thus, may have been either underreported or overreported as a result of social desirability or recall problems (Agree, Biddlecom, & Valente, 2005; Roan, Hermanlin, & Ofstedar, 1996). Research indicates that errors in reporting income are more likely when a summary question is used instead of a set of detailed questions (Survey Research Center, Institute for Social Research, 1991 as cited in Cox & Jimenez, 1998, p. 637). In this study, we did not base information about income on a single summary question but instead collected it separately for 12 different sources, thereby minimizing any errors in the income data collected.

CONCLUSION
This study used a large data set looking at intergenerational transfers of money in Hong Kong from the perspective of elderly adults to address three hypotheses concerning the determinants of intergenerational transfers from adult children. To sum up, our findings demonstrate how important support from adult children is in retirement income protection in Hong Kong. Our evidence suggests an association between the number of children and how much money is transferred; furthermore, having more than three children may not increase the amount of transfer. But future studies need to collect more data so that the hypotheses related to intergenerational transfers can be examined comprehensively.

FUNDING
Research Grant Council (HKU 7420/05H).

ACKNOWLEDGMENT
The analyses presented here are based on anonymized data made available by the Census and Statistics Department, Hong Kong Special Administration Region Government.

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