

Living Arrangements and Support for the Elderly in Taiwan

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This chapter examines how Taiwanese elders support themselves and are supported by the productive members of the society. Given that the living arrangement of the elderly is usually a significant determinant of their economic welfare, we examine how the composition of income sources of the elders varies by household type. Using the NTA data for 1998, we found that Taiwanese elders residing with their children relied primarily upon intrafamilial transfers, elders living with spouses or grandchildren only, relied on their own resources, and the elders living alone relied heavily on government support.

The remainder of the chapter is organized as follows. First it looks into the issue of living arrangements of the elderly and their economic security. Next it reviews Taiwan's rapid economic growth and demographic transition in recent decades, and examines the changing pattern of living arrangement and economic support for the elderly. Then it discusses the data and the methodology used in the analysis. The following section studies how elderly consumption is financed in various living arrangements, also reporting results

under alternative assumptions. The last section summarizes the findings and suggests some topics for future research.

Living arrangements and economic support for the elderly

The living arrangement of the elderly is usually a significant determinant of their economic security and welfare. The issue is critical for poor elders in the developing world, where formal welfare systems are less extensive than in more developed countries. It is also of major concern for any economy undergoing rapid dissolution of traditional co-residence patterns. Although co-residence benefits the younger as well as the older generation, in many societies living together with adult children has been “a fundamental means of ensuring that the day-to-day needs of the older population would be met” (UN Population Division 2005, p.75).

In Taiwan the proportion of elders (persons aged 65 or older) co-residing with their offspring dropped from 70.2 to 60.4 percent between 1986 and 2005, while the ratio of elders relying on children as their main income source plunged from 65.8 to 46.5 percent, according to the Elderly Condition Survey conducted by the Ministry of Interior. The elderly rely on three major sources to finance their consumption: personal resources (labor income, asset income, and past savings), private transfers, and public transfers. As financial support from adult children has become less reliable as the major source of income, the elderly in Taiwan have gradually shifted toward public or personal sources—from 1.2 to 16.0 percent for public sources, and from 30.9 to 40.8 percent for personal sources, between 1986 and 2005—to fund their consumption (MOI 2005).

A vast literature on the theory of co-residence examines the motivation, benefits and costs, and underlying constraints and preferences of individuals, families, and societies with various living arrangements (Kinsella 1990). Old-age support has been an important focus of this literature, and researchers have sought to identify the determinants of living

arrangements of the elders, as well as the direction of support flows within the family (Hermalin 2002). Given the paucity of systematic quantitative data, however, these studies usually rely on survey data on attitudes toward co-residence or on the frequency and intensity of various types of support. The results provide useful guidelines but no precise answers to basic questions about the magnitude of and changes in old-age support. One would need more systematic data to address such issues as how personal income complements or substitutes for familial and public transfers, or whether the composition of income sources affects the consumption level of the elderly.

The NTA framework offers an effective solution to the data-deficiency problem. To begin with, the data are constructed from micro sources but are adjusted so as to be consistent with macroeconomic data. Secondly, the age profile of consumption and income is estimated on an individual basis. In contrast, previous studies of lifecycle consumption have usually analyzed the consumption of households according to the age of the head, giving less attention to the very young and the very old. Thirdly, the size of both inter- and intrafamilial transfers is estimated, which has rarely been calculated before. Finally, public and private transfers are measured consistently, and by doing so one may better understand the substitutability of one for the other. Therefore this study makes use of the NTA data to explore how old-age economic security varies by household type.

Economic and demographic background

Taiwan has experienced tremendous economic growth in the six decades since World War II. Per capita GDP rose from US \$137 in 1951 to US \$17,536 in 2007, with an annual compound rate of 8.6 percent, although growth has stagnated since 2000. Measured in current international dollars, the per capita income of Taiwan relative to the United States grew from 8.0 percent in 1951 to 54.2 percent in 2004 (calculated from Penn World Table, version 6.2).

Income distribution has traditionally been rather equitable in Taiwan, but has worsened somewhat in the past two decades. The income ratio of the top quintile households to the bottom quintile worsened from 4.17 in 1980 to 6.39 in 2000. By 2007 the ratio was down to 5.98, a little better than in the Republic of Korea at 6.84 (2000), Japan at 6.39 (2007), and the United States at 11.14 (2004) (DGBAS 2008).

Fertility reached the replacement level in the early 1980s. By 2007 the total fertility rate had declined to 1.10 births per woman, as compared with 7.04 in 1951 and 2.05 in 1984. For females, life expectancy at age 0 lengthened from 56.3 years to 81.4 years between 1951 and 2007, and medium age of first marriage rose from 25.7 to 27.5 between 1991 and 2006.

Taiwan's total population was about 23 million by the end of 2008. It is projected to rise to 23.2 million by 2018 and decline afterward, according to the government's medium projection. The dependency ratio of the older population (ages 65+) to the working-age population (ages 15–64) is projected to rise from 13.9 percent in 2005 to 67.0 percent in 2051, while the dependency ratio of youth (ages 0–14) is projected to decline from 25.2 percent to 14.2 percent.

Filial piety being a central Confucian ethic, the extended living arrangement has been more prevalent in Taiwan and elsewhere in East Asia than in the West. Survey data suggest that the majority of Taiwanese elders still reside with their children or grandchildren, and about 60 percent of the older population consider living with children to be the ideal arrangement. Nonetheless, the nuclear family is becoming more common and fewer elders are living with their children. Between 1986 and 2005 the ratio of elders living by themselves rose from 11.6 to 13.7 percent, and the ratio of those living with only their spouse rose from 14.0 to 22.2 percent (MOI 2005).

Social insurance and welfare programs focusing on the older population have greatly expanded since the 1990s (Table 1). The National Health Insurance Program started in 1995.

It consolidated the health element of several former occupational insurance programs, including Government Employee Insurance, Servicemen's Insurance, Labor Insurance, and Farmers' Insurance. In 1994, before the implementation of the National Health Insurance, only half of the population was insured by Government Employee Insurance or Labor Insurance. Since 1995, the coverage rate quickly rose to about 98 percent, extending health benefits to those previously uninsured—e.g., youths, housewives, the unemployed, and the elderly.

[Table 1 about here]

Government Employee Insurance and Labor Insurance are the two major occupational insurance programs. Both continued to offer non-medical cash benefits after 1995, such as maternity and disability benefits. With respect to old-age benefits, both programs provide a lump-sum retirement payment, and the related Government Employee Pension and Labor Pension offer additional one-time or monthly pension benefits. The National Pension Program was started in 2008, integrating a number of existing social welfare programs, as well as Labor Insurance and Farmers' Insurance, but not yet Government Employee Insurance or Servicemen's Insurance. However, the monthly payment available to pensioners through either the previous welfare programs or the new National Pension Program, in its initial stage, has been only a meager NT 3,000–6000 (about US \$85–170), as compared with per capita private consumption at NT 25,834 in 2005.

On the aggregate level, total social security expenditures represented only 2.3 percent of GDP in 1993. The ratio rose to 9.7 percent in 2004, but it is still low relative to that of industrial countries. In Japan, social security expenditures accounted for 10.2 percent of GDP in 1980, when the percentage of elderly in total population was similar to that in present-day Taiwan (DGBAS 2006).

Data from the aforementioned Elderly Condition Survey show that, over time, fewer Taiwanese elderly have considered asset income as their main income source (16.1 percent in 1989 and 9.2 percent in 2005), and more have been relying on their own and their spouse's labor income and retirement income (from 20.1 percent in 1989 to 27.5 percent in 2005). According to the Citizens Living Condition Survey, however, more adults of ages 20–59 were saving for their old age in 2000 (46.5 percent) than in 1988 (13.8 percent) (MOI 2000), and by the Employee Turnover Survey, the average retirement age of employees from their main job decreased from 58.3 in 1991 to 55.2 in 2006 (DGBAS 2007). Given the mixed evidence, our own study assesses how personal sources of income serve to meet the needs of Taiwanese in their old age.

Data and measuring scheme

Following the NTA methodology as described in Mason et al. (2009) and other chapters of this volume, we draw upon a variety of data sources, including the Family Income and Expenditure Survey (FIES), National Income, and public administrative records on health, education, social insurance, and public assistance in Taiwan. The FIES, the major data source, is a nationally representative survey that has been conducted annually since 1978 and contains income and expenditure information at both individual and household levels. Sampled households are interviewed annually, and selected households are requested to maintain daily diaries of household income and expenditures to serve as a form of quality control. In 1998 the sample size of 14,031 households represented 0.22 percent of all households in the population.

We classified the basic NTA results by living arrangement. Although the standard NTA data reported are smoothed across ages, our discussion of various living arrangements is based on unsmoothed data by broad age group, so as to preserve maximum information. We

have applied the same aggregate controls across household types to ensure consistency with National Income data.

In accordance with the classification system used by the United Nations (UN Population Division 2005), modified slightly according to the Taiwan context, the basic comparative scheme used here encompasses five mutually exclusive categories of living arrangement for the noninstitutionalized population: (A) living alone; (B) living with spouse only; (C) living with a grandchild but not a child (or with a grandparent but not a parent); (D) living with a child or child-in-law (or with a parent or parent-in-law) , and may also be living with other relatives or non-relatives; and (E) living with others (other relatives or unrelated people only). Category (D) includes two subcategories: (D1) living with a younger generation (ages 19 or younger) in the household, and (D2) living with adults (ages 20 or older) only.

One feature of this scheme is that the classification is based on familial relationships rather than on marital status. Older persons living alone (household category A) constitute a group that is naturally of social and policy concern, as they are more likely than others to be poor, even in developed economies (Casey and Yamada 2002). In addition to these one-person households, couple households (category B) also represent an independent style of living, with most private transfers taking place between the spouses. In skipped-generation households (category C), the support flow within the household usually goes downward from grandparent to grandchild. Category D is by far the largest group, consisting of both nuclear and extended families, by conventional definition. For those households with at least one young member (category D1), the direction of support may go from the working-age adult to the young dependent and possibly also to elderly parents, whereas for those households with no young members (category D2), the support flow within the family is expected to go upward.

Table 2 summarizes the distribution of these five types of household in Taiwan in 1998. The first two columns list the percentages of households and population by household type. The third column shows the relative population size of the elderly households, defined as households with at least an elderly member. Younger households are not listed here. Column (4) reports the relative size of the elderly population by household type. The differences between columns (2) and (4) indicate that more elderly were living independently (type A and type B), or with grandchildren (type C) than the average, and that fewer than average were living with young family members (type D1). The final column shows the percentage of elders who were the economic head of the household. The head, being defined as the main breadwinner of the family, was likely to be a net provider of resources to other family members. The low ratios of elderly heads in D1 and D2 households suggest that the elderly were likely to be net receivers of intrahousehold transfers, provided that they were not household heads.

[Table 2 about here]

Among those elderly living by themselves, 57.2 percent were male, a much higher percentage than the average ratio for the total population (50.5 percent according to the FIES 1998). This is probably because many of these elderly males were mainlander soldiers who had come to Taiwan around 1949 with the Nationalist Party government. It may also explain why only 5.9 percent of elders living in type A households were farmers, whereas a larger portion (19.8 percent) lived in rural areas than the average of 16.0 percent for elderly and 12.5 percent for the total population. The elderly-couple households also had a greater tendency to live in rural areas (22.3 percent). As for educational level, elders living alone, with a spouse, or with grandchildren tended to have fewer years of schooling than other elders. Among those elder subgroups, 79.5 percent of those living alone, 72.4 percent of those living with a spouse, and 61.5 percent of those living with grandchildren had only an

elementary education or no schooling at all, whereas the average ratio for all elderly with only elementary or no schooling was 52.3 percent. (It was 41.7 percent for the total population.) Among elderly living with only their adult children (type D2), 19.7 percent had a university degree, whereas the average ratio for the elderly was 12.9 percent (22.5 percent for the total adult population).

Financing elderly consumption

As shown in Figure 1, the per capita labor earnings curve exhibits the characteristic inverted U-shape, with most earnings coming from employee compensation (light hatched area) and only 7.2 percent coming from self-employment (dark area). Total per capita labor income peaks at age 39 and becomes very low after age 65, the official retirement age in the public sector. For those between ages 25 and 54, mean labor income exceeds total consumption.

The age pattern of consumption (thick line) has a much more dampened shape. Private consumption (thin line) represents 73.2 percent of total consumption, and public consumption (broken line) accounts for the other 26.8 percent. Total consumption, which is affected by high education expenses at younger ages, peaks at age 20. The consumption age profile rises at older ages because of rising health care consumption, both private and public.

[Figure 1 about here]

Figure 2 shows private and public per capita consumption by broad age group. Public consumption of education, health care, and “other” is drawn below the dashed line, and private consumption of education, health care, and “other” is shown above. The mean consumption level is the highest for the age group 10–19, owing to high education costs. Total consumption per capita then decreases along the age-group scale, with the reduction of education cost, but rises again at the 80+ age group with rising expenditure on health care.

[Figure 2 about here]

Consumption can be funded by a number of sources: current labor income, net private transfers (both intrahousehold and interhousehold), private asset reallocation (net private asset income and dissaving), net public transfers (public transfer inflows, including in-kind and cash transfers minus outflows, such as taxes), and public asset reallocation (net public asset income minus public savings allocated to individuals). The components are shown in Figure 3.

[Figure 3 about here]

Members of the working-age population finance their own consumption by labor income and asset-based reallocations, and they have surplus to support older and younger age groups through either private or public transfer outflows (shown in Figure 3 by negative bars). The young population (ages 19 and below) relies mainly on familial transfers, supplemented by public transfers. The older population has some personal resources (e.g., labor or asset income), but still needs private and public transfers to fulfill the rest of its needs. In particular, elders aged 80 and above rely mostly on private transfers to finance their consumption.

With our focus on old-age consumption, we first single out elderly households, defined as households that have at least some elderly members, from young households that have no elderly members. In 1998 three quarters of the Taiwan's population were living in young households, with 65.8 percent of their members aged 20–64. One quarter of the population was living in elderly households, with 45.9 percent of their members in the economically active 20–64 age range.

Although the dependency ratio was low in the young households, both youths and working-age adults had higher mean consumption than their counterparts in the elderly households. But mean consumption by the elderly in the elderly households (Figure 4) was

rather close to the average for the economy as a whole (horizontal line in Figure 4). The following analysis will concentrate on the elderly households.

[Figure 4 about here]

The level of consumption is a good indicator of welfare level, although it does not translate directly into welfare level because of scale economies within the household and the nature of certain kinds of consumption, such as health care. Figure 5 compares the average consumption of elders by household type, omitting the “other” type (type E), which had too few observations to be of significance. The elderly living with grandchildren, but without adult children (type C), are seen to have fared the worst, as such elders usually have to support their grandchildren. Those elderly living in households with young members (type D1) also had a low consumption level because some of the resources of the family, either from working-age adults or the elderly, were going to the young dependents. The consumption level of the elderly living with only a spouse (type B) was higher, and it was even higher for those living with adult children (type D2). What is somewhat surprising is that the solitary-living group (type A) had the highest level of consumption, against conventional wisdom (UN Population Division 2005). We examine this phenomenon next.

[Figure 5 about here]

Figure 6 illustrates six income sources used to finance elderly consumption. All sources are in net terms. We divided private transfers into interhousehold and intrahousehold transfers. Private asset reallocation is composed of net private asset income and dissaving. It is worth noting that average dissaving was negative for all five categories; that is, the elders were still saving, though their net asset reallocation was small for household types A, D1, and D2. Public asset reallocation was insignificant, and therefore we combined it with private asset reallocation in the figure.

[Figure 6 about here]

A number of interesting points stand out. For those living alone (type A), public transfer was by far the most important source for financing consumption, and they received far more social assistances than elders in other living arrangements. A likely explanation is that some kinds of welfare assistance, in particular the assistance for low-income elderly, are based on the level of household income and are therefore more favorable to those who live alone. For those living with a spouse (household type B) or only with grandchildren (type C), private asset income (net of savings) was the major source. Although this result may suggest that these elders owned more assets, it could as well be a statistical artifact. To be specific, elders in types D1 and D2 were less likely to be household heads than were those in type B or C, while household assets were owned by household heads under the usual NTA assumption.

Net interhousehold transfer was positive in household types A, B, and C, and a substantial portion of it is likely to have come from family members living separately (Tung, Chen, and Liu 2006). But for elders living with children, the amount of interhousehold transfer was negligible.

Intrahousehold transfers were negative for elders in household type B but positive and large in types D1 and D2. In the skipped-generation elderly households, about 50 percent of the elderly population were economic heads of household (Table 2), another 20 percent were their spouses, and only 30 percent were dependents. That means most grandparents in this category had to support their grandchildren through intrahousehold transfers. It follows that their consumption level was the lowest among all elderly. By contrast, intrahousehold transfers were the dominant income source for those elders who were residing with children, as only a small portion of them (8.4 percent) were the economic heads.

To sum up, our findings indicate that the major source of income to support elderly consumption in Taiwan is intrahousehold transfers for those elderly living with their children, who accounted for 61.0 percent of all elderly in 1998. Those with no children living in the

same household and living with spouses or grandchildren (27.0 percent of elderly population in 1998) must resort to their own asset income or dissavings. The elders living alone (11.3 percent of the elder population) have few personal resources and receive modest interhousehold transfers. Government transfers are their major source of income.

The composition of sources to finance consumption depends on the preferences and constraints of the elderly in each living arrangement. The underlying causal relation is beyond the scope of the present study, but some of the differences may be related to assumptions about transfers between households and asset ownership within the households. In the basic NTA methodology, it is assumed that only the household head owns (private) assets, and the head also receives all interhousehold transfer flows. As a sensitivity test, we make an alternative assumption that all household members had equal shares in asset ownership and interhousehold transfers.

The disparity between the new results, as illustrated in Figure 7, and the original ones is not very large. We see no difference for the older population living alone, and little difference for the couple households, because in most cases the spouses were also elders. For elders in the skipped-generation households, private asset reallocation became smaller but was still the major income source. Yet these elders were no longer the net providers of resources to other family members, but rather net receivers, shifting the burden to working-age grandchildren in the household, if any. Finally, for elderly living in household types D1 and D2, the importance of private asset reallocation increased considerably; nevertheless, intrahousehold transfers remained an importance source.

The true situation may lie either between, or outside of, these two sets of assumptions. For example, if most of the household assets come with the elders when they join the household (in their old age) in type D2, then both assumptions may understate the role of

private assets in funding consumption by the elderly. In any case, the type of living arrangement does seem to be relevant to the composition of income sources.

[Figure 7 about here]

Concluding remarks

This chapter has examined how the elderly in Taiwan support themselves and are supported by the productive members of the society. Using data for 1998, we found that most Taiwanese elders resided with their children, and they relied primarily upon intrafamilial transfers; for the elders who lived with spouses or grandchildren only, they relied on their own resources, mainly asset income net of savings; for the elders living alone, they relied mostly on government support.

Although the results seem to follow naturally from the structure of the household, several points deserve further thought. Firstly, given that family nuclearization continues and population aging accelerates, the government will have to undertake more responsibilities for supporting the elderly. The elderly themselves may also need to save more during working ages or to delay retirement so as to finance their own consumption at old age.

The issue is further complicated by the potential substitutability among financing sources. For example, it is likely that an increase in interhousehold resource flows compensates for the decrease in intrahousehold transfers when adult children continue to send money to their parents after forming their own households (Tung, Chen, and Liu 2006). And when national income increases in Taiwan and the government plays a larger role in supporting the elderly, as is often observed in richer countries, it is plausible that public transfers may crowd out either private transfers (Lai 2006, Lai and Orsuwan 2009) or personal savings (Hu, Chen, and Chen 2000). Moreover, public provision of health care or other services may reduce private consumption of such items (Hsieh 2008).

An even more intriguing question is whether the differences observed in the funding of consumption are a result or a determinant of living arrangements. That is, do Taiwanese elders live alone because they have large public transfers, or do they receive large public transfers because they live alone? Do elders living with children rely on intrafamilial transfers because they themselves do not have enough assets to spend? Is there some selectivity into other household types? These are issues inviting future investigation.

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Taiwan (SEW new tables)

Table 1. Social benefits for the elderly: Taiwan, 2005

Program	Social benefit (NT\$ million)	
	Cash	In-kind
Social insurance programs		
National Health Insurance (since 1995)		367,397
Labor Insurance (since 1950)	176,313	10,211
Farmers' Insurance (since 1988)	4,267	4,576
Servicemen's Insurance (since 1953)	7,598	
Employment Insurance (since 1999)	5,282	
Government Employee Insurance (since 1958) and Retired Employee Insurance (since 1965)	2,563	1,546
Pension and old-age benefits		
Government Employee Pension and Servicemen's Pension (revised in 1995)	274,625	
Labor Pension, old system (since 1985)	42,425	
Labor Pension, new system (since 2005)	1	
Pension for Private School Teachers (since 2005)	2,097	
Social welfare		
Old-age Farmers' Allowances (1995–2008)	33,199	
Old-age Citizen Allowance (2002–2008)	25,973	
Veteran Care	17,588	
Assistance for Low-Income Elderly (since 1993)	8,929	
Aborigine Allowance (ages 55–64, 2002–2008)	689	
Other welfare service and social assistance	11,781	54,224
Other	34,443	101,631

Source: DGBAS, 2006, p.10.

Taiwan (SEW new tables)

Table 2. Household types: Taiwan, 1998

Type	Percentage of households (1)	Percentage of total population (2)	Percentage of elderly households (3)	Percentage of elderly population (4)	Elderly heads among all elders (%) (5)
(A) Alone	9.63	2.37	3.64	11.29	100.00
(B) Couple	10.96	5.17	9.79	24.83	57.12
(C) Skipped generation	0.90	0.67	1.79	2.18	49.59
(D) Living with children	77.59	91.12	84.35	61.00	8.41
(D1) Young children	(57.80)	(72.50)	(59.25)	(34.55)	(4.92)
(D2) Adult children only	(19.80)	(18.62)	(24.79)	(26.44)	(12.98)
(E) Other	0.92	0.67	0.43	0.71	57.69
Subtotal	100	100	100	100	
Total no.	6,273,056	21,887,030	5,597,613	1,803,191	203,537

Sources: Total population is directly from the Council of Economic Planning and Development; the percentage shares are calculated from the FIES, 1998.



Figure 1. Mean consumption and labor income: Taiwan, 1998

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Taiwan figures (SEW edit 1)

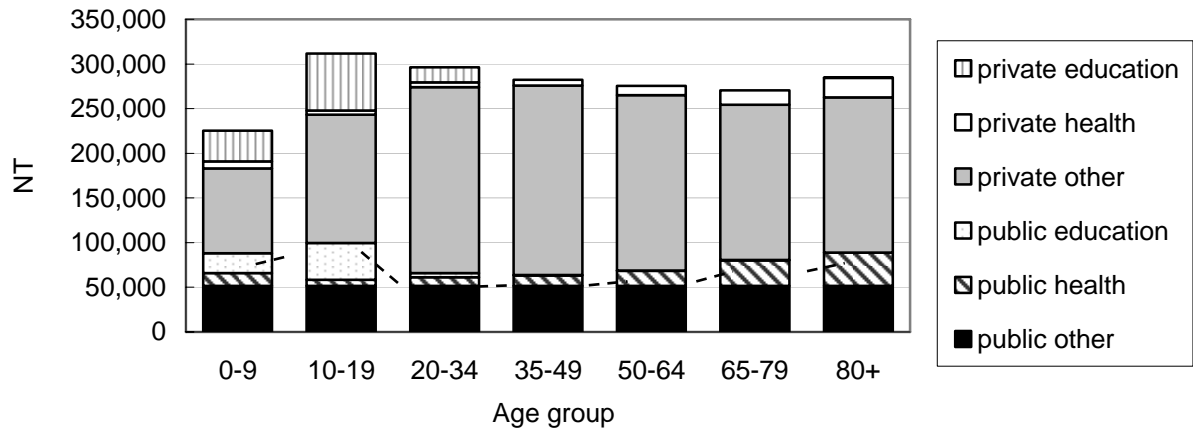


Figure 2. Mean consumption by function and broad age group: Taiwan, 1998

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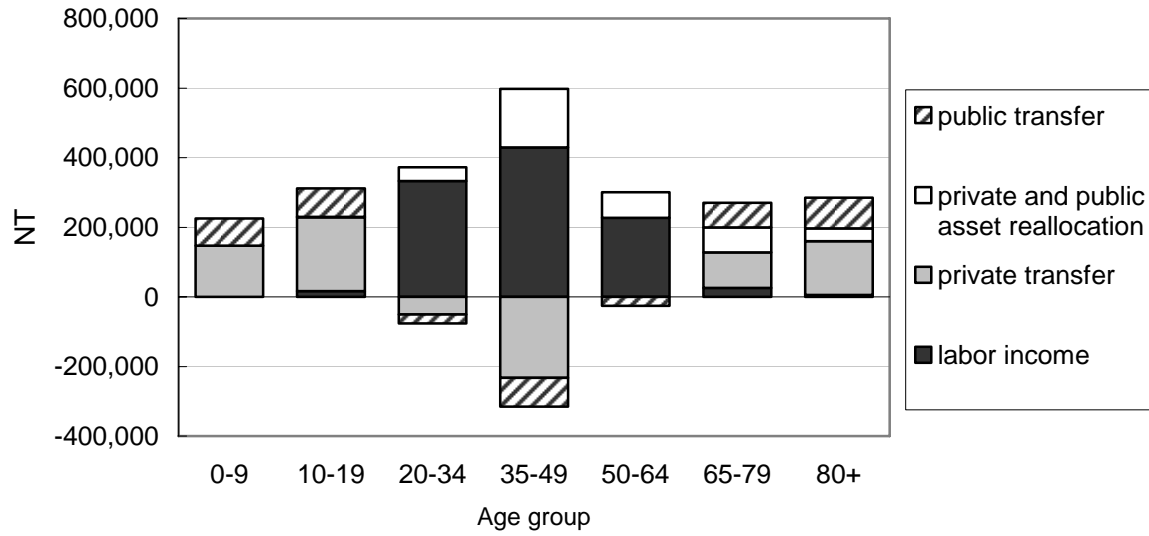


Figure 3. Financing per capita consumption by broad age group: Taiwan, 1998
Note: Public asset reallocation is trivial, and here is combined with private asset reallocation for completeness.

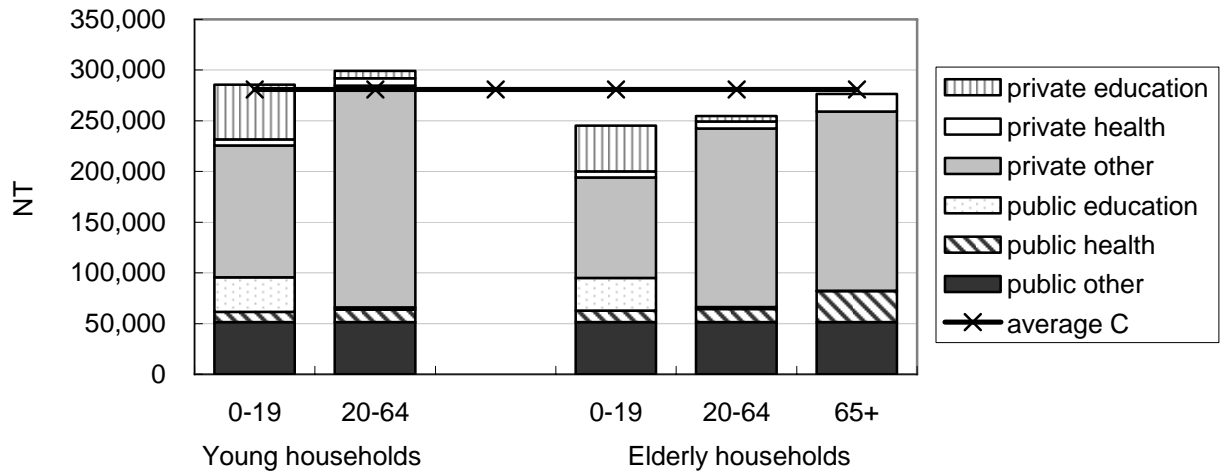


Figure 4. Mean consumption by young and elderly households: Taiwan, 1998

Note: Young households are those households that do not have elderly members, and elderly household are those that do.

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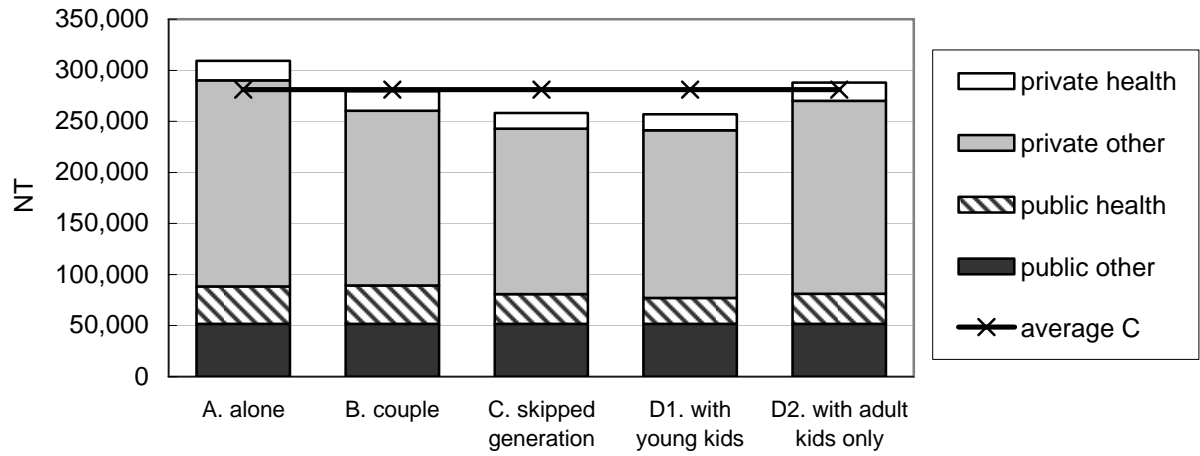


Figure 5. Mean consumption level of the elderly by household type: Taiwan, 1998

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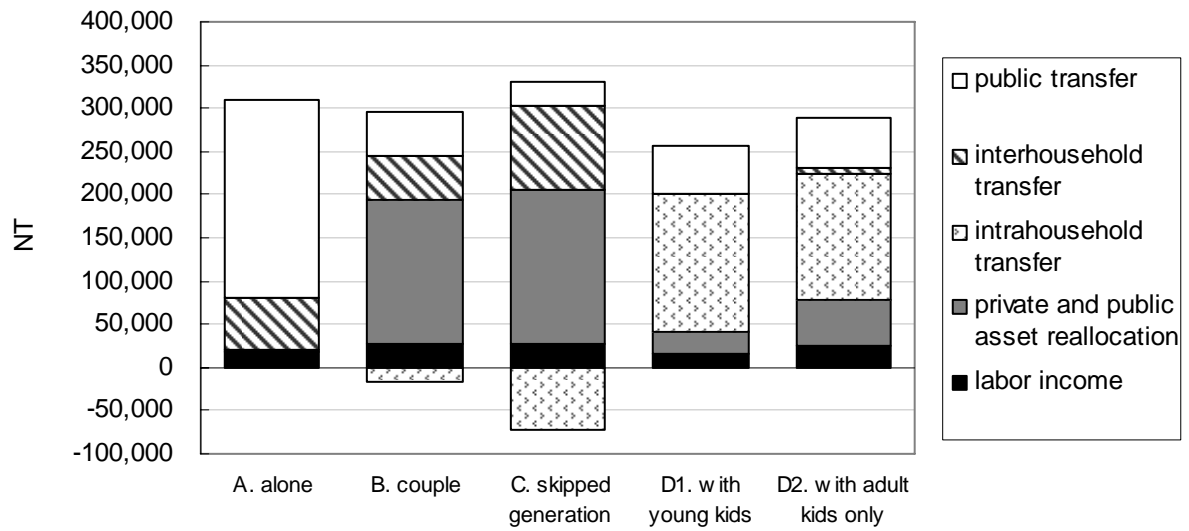


Figure 6. Financing elderly consumption under usual NTA assumptions: Taiwan, 1998

Note: Public asset reallocation is trivial, and here is combined with private asset reallocation for completeness.

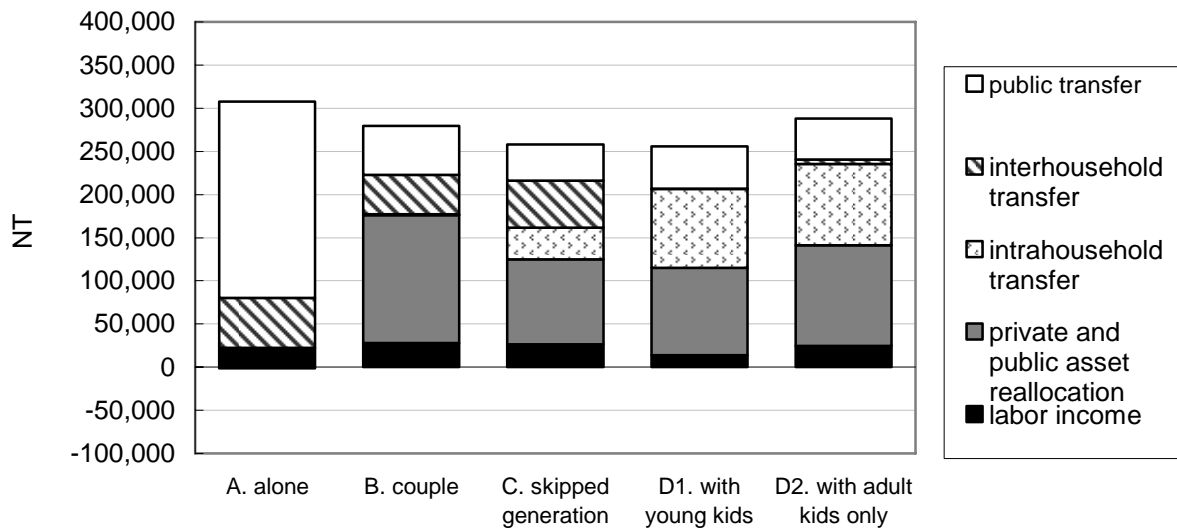


Figure 7. Financing elderly consumption under alternative assumptions: Taiwan, 1998

Note: Public asset reallocation is trivial, and here is combined with private asset reallocation for completeness.