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Thailand's Older Population: Social and Economic Support as Assessed in 2002

PSC Research Report

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Abstract

This study examines various aspects of social and economic support of Thai elderly as assessed by the 2nd Survey of Elderly in Thailand (aged 60 and over) conducted by the National Statistical Office in 2002. Where possible, comparisons are provided with results from the 1st Survey of Elderly in Thailand conducted in 1994. The analysis covers characteristics of Thai elderly, trends and differentials in their living arrangements, the impact of living arrangements on their well-being, sources of material support, caregiving and social support. An extensive discussion of data problems associated with the 2002 survey is also provided. Co-residence between older parents and adult children (including children-in-law) declined from 74 to 66 percent between 1994 and 2002. Nevertheless, in 2002, 79 percent of Thai elderly still either lived with or had frequent contact with a child or child in-law and 77 percent received income or material support from children. Thus the family, and in particular adult children, still play a major role in providing support and care for the elderly in Thailand.

Adult children followed by work are the two most common sources of support for Thai elders. One third of elderly reported their income to be insufficient, a share that has remained constant between 1994 and 2002. Between 3-5 percent of elderly in 2002 reported receiving a government welfare allowance. The poorest elderly are most likely to receive the allowance but the inverse association between the percentage who ever received an allowance and socioeconomic status is weak. Improvements in the selection process for government allowances would help ensure that the elderly most in need are covered by the program.

Introduction

Concern about population aging and the need for policies and programs specifically targeted towards older age groups is a relatively recent development in Thailand as elsewhere in Asia. Nevertheless, it is now widely recognized among Thai academics and government officials alike that, given the fertility and mortality trends of past decades, the size of the elderly population is growing rapidly and a shift towards a much older age structure is inevitable. According to United Nations medium variant population estimates and projections, between 1990 and 2010, persons 60 and older in Thailand will more than double in number and increase their share of the total population from 6 to 11 percent (United Nations 2003). By 2030, the projections anticipate almost 15 million persons in these ages representing 20 percent of all Thais. Thus is not surprising that issues related to the health and social and economic welfare of older age groups are gaining the attention of governmental agencies.

Evidence of such increased interest is the cabinet adoption of The Second National Plan for Older Persons (2002-2021) in June 2002. The plan calls for the support of the elderly at all levels and strategies to ensure the social security and well-being of elderly (National Commission on the Elderly 2001). The 2003 Elderly Act became effective on January 1, 2004 and was enacted as part of the strategy stated in the plan. This is another indication of strong political and government interest in issues related to aging. Under the Act, the National Commission on the Elderly, chaired by the Prime Minister, was established as a permanent body for the first time. The Act protects rights of Elderly and establishes a specific Elderly Fund to cover expenses related to the promotion and support of activities related to elderly. It also establishes that the monthly allowance scheme for destitute elderly is to be implemented evenly and fairly throughout the country. Tax deductions for children who care for an elderly parent were also passed. As part of a reorganization of the government bureaucracy, an Office of Empowerment for Older Persons under the Bureau of Welfare Promotion and Protection of Children, Youth, the Disadvantaged, Persons with Disabilities and Older Persons was established at the Ministry of Social Development and Human Security (the organization which oversees and coordinates programs and activities related to elderly). This office is currently revising elderly programs and activities stated in the second National Plan to make them correspond to the Elderly Act.

In recognition that the formulation of appropriate policies and programs to insure the social, economic, and emotional well-being of Thailand's future elderly require comprehensive and representative data on the situation of older Thais, the National Statistical Office (NSO) conducted its first Survey of Elderly in Thailand in 1994. In order to continue to monitor the situation of the Thai older population, NSO conducted a second Survey of Elderly in Thailand in 2002. Both surveys were nationally representative and included extensive sections related to social and economic support, intergenerational exchanges, living arrangements, and health.

In this report we focus on the results of the 2002 survey (which we refer to as SET2) to examine general characteristics of the Thai elderly population, their living arrangements, their sources of income, and informal support arrangements. We anticipate focusing on health in a future report. When possible we make comparisons with results from the 1994 survey which we refer to as SET1. We note that several other national surveys of the older age Thai population have been conducted outside the jurisdiction of NSO (Chayovan, Wongsith, and Saengtienchai, 1988; Chayovan & Knodel, 1997). In this report, however, we limit comparisons to the two NSO surveys. Both SET1 and SET2 covered the population 50 and over. However, we limit our analyses to persons aged 60 and older since most official policies and programs as well as most research related to the older age population in Thailand are directed towards persons in these ages. Likewise, in this report, we use the term elderly to refer to persons age 60 and older.

Data Sources

Both the 1994 and 2002 Surveys of Elderly in Thailand (SET1 and SET2) covered representative samples of persons aged 50 and older in private households and were conducted in conjunction with the second rounds of the Labor Force Survey which took place during the three months of April through June in the respective years. SET1 targeted all household visited in May of 1994 and successfully completed interviews, either directly or by proxy, for a sub-sample of 14,139 persons of whom 7,878 were aged 60 and over. SET2 targeted all persons aged 50 and over in households enumerated by the Labor Force Survey during all three months of the survey (not just May) for interview, either directly or by proxy, yielding 43,447 completed interviews of whom 22,835 were aged 60 and above. Main results of the survey as well as details of the sample design have been published in the official reports issued for each survey (NSO, undated; NSO 2003). As described in those reports, sample weights need to be applied to make the sample nationally representative. All results shown in the tables of this report are appropriately weighted.

Among persons 60 and over in the samples, 21 percent of the interviews in SET1 and 26 percent in SET2 involved a proxy respondent. In both surveys, the percentage of interviews involving a proxy increases with age reaching 42 percent of those 80 and over in SET1 and 41 percent in SET2. Among cases involving a proxy, the reasons were: respondent not home (55 percent in SET1 and 72 percent in SET2); respondent unable to give interview because of a hearing, speaking or mental problem or some illness (44 percent in SET1 and 25 percent in SET2); non-cooperation (1 percent in both SET1 and SET2) and unknown reason (3 percent in SET2). For convenience, in this report, all elderly for whom information has been collected are referred to as respondents regardless of whether they answered the questions themselves or whether a proxy was involved.

A comparison between the basic demographic characteristics of persons aged 60 and over in the SET2 sample and overall population of persons at these ages as enumerated in the 2000 census is provided in Appendix A. In general the correspondence between the survey and the census is close. A slightly higher percentage of the SET2 sample is in Bangkok and the Central region and slightly less in the other three regions compared to persons 60 and older in the census. The only large difference between the SET2 sample and the census among the characteristics shown is the higher percent currently married among women aged 80 and older as indicated by the census.

Examination of the data set generated by the SET2 questionnaire, however, revealed a number of problems that have implications for measuring living arrangements based on the survey alone. These are discussed at some length in Appendix B. As indicated in Appendix B, we have made a number of adjustments when calculating living arrangements measures to correct for these problems. All results in the main body of this report reflect these adjustments.

Characteristics of Thai Elders

Table 1 compares basic demographic characteristics of Thai elders as well as several general indicators of well-being as determined by the 1994 and 2002 surveys. Sex, age and marital status distributions are quite similar in both surveys. A modest majority of Thais aged 60 and over are women, more than 60% are under age 70 and just under 10% are aged 80 and above. In both years, however, there are higher concentrations of elderly women than men at the oldest ages, reflecting higher male mortality among those reaching age 60. Over 60% of Thai elders are currently married with most of the remainder being formerly married (largely widowed). Only 2% were never married. At the same time, sharp gender differences are apparent with over 80% of the men compared to just under half of the women being currently married. This reflects a combination of higher male mortality, the fact that men tend to marry women who are younger than themselves, and higher remarriage rates among men than women in case of marital dissolution (Sobieszczyk, Knodel and Chayovan 2003).

Table 1: Characteristics of Thai elders (age 60 and over), 1994 and 2002

Characteristics	All		Men		Women	
	1994	2002	1994	2002	1994	2002
% Female	55.1	54.3	n.a.	n.a.	n.a.	n.a.
Age (% distribution)						
60-69	64.3	62.7	66.0	64.1	62.8	61.5
70-79	26.7	28.3	26.7	28.3	26.8	28.3
80+	9.0	9.1	7.3	7.6	10.3	10.2
Marital status (% distribution)						
Single	2.2	2.4	1.1	1.3	3.0	3.4
Currently married	64.4	63.2	83.3	82.2	48.9	47.2
Formerly married	33.5	34.3	15.9	16.5	48.1	49.4
Education (% distribution)						
No education	32.5	20.7	20.3	13.5	42.4	26.8
Less than primary	10.0	8.3	9.6	7.2	10.3	9.3
Primary	50.5	61.9	59.4	65.7	43.1	58.6
Higher than primary	7.1	9.1	10.7	13.6	4.1	5.4
% living in rural areas (a)	70.1	69.0	70.8	69.6	69.6	68.4
Living children (% distribution)						
0	3.6	4.5	2.5	3.6	4.4	5.2
1	5.0	6.4	4.0	6.3	5.8	6.4
2	7.9	11.6	7.8	13.3	8.0	11.6
3	12.3	15.3	11.9	16.5	12.7	15.3
4+	71.2	62.3	73.8	60.3	69.1	62.3
Mean number of living children	5.1	4.4	5.2	4.4	4.9	4.5
% reporting good/very good health	38.3	45.7	43.3	52.6	34.3	39.9
% self or spouse owns the house	80.7	81.8	81.7	87.7	75.6	76.9
% who are household head or spouse	81.7	82.1	90.5	89.3	74.6	76.1
% reporting sufficient income(a)	64.6	64.2	63.0	63.6	65.9	64.8
% worked last year	40.0	37.7	51.2	48.9	30.8	28.2
% with an indoor toilet	n.a.	71.3	n.a.	71.0	n.a.	71.4
% with a bedroom on ground floor	n.a.	47.8	n.a.	47.8	n.a.	47.8
% sleeping in a bed	n.a.	43.3	n.a.	44.8	n.a.	42.1

Sources: SET1 and SET2
n.a.=not available.
(a) The figures for 1994 have been adjusted to include sanitary districts as urban areas to allow
for the reclassification of all sanitary districts as municipalities (and hence as urban areas) that
occurred between the two surveys.

The educational distribution of Thai elders has shifted substantially between the two surveys reflecting the expansion of the educational system and the concomitant secular trend towards at least some schooling at the time these elders were at school ages. The percent with no formal education declined from just under a third to just over a fifth. This was matched by an equivalent increase in the proportion who had completed primary school. Most elders who entered primary school completed it but only a small proportion continued beyond the primary level. Thus less than 10% in either survey indicated they had more than a primary education while those who had some schooling but did not complete the primary level declined modestly from 10 to 8%. Pronounced gender differences, however, are apparent. In both years, men have substantially more favorable educational distributions than women, being far less likely to have no schooling and more likely to have progressed beyond the primary level.

The majority of Thai elders live in rural areas and the proportion has decreased only slightly between the two surveys (after adjusting the 1994 figures for a reclassification of urban areas that occurred between the surveys).[1] In addition, gender differences are minimal in both years.

The average number of living children of the elderly population declined between the two surveys. This reflects the early stages of the relatively rapid transition from high to low fertility that gained momentum in Thailand starting in the late 1960s when those who reached age 60 between the two surveys were in the midst of their reproductive ages. The proportion having four or more children decreased considerably while the proportions with fewer children increased resulting in a drop in the mean number of living children per elder from 5.1 to 4.4.

Self-reported health increased modestly between the two surveys for both elderly men and women. In both surveys, however, men were considerably more likely than women to report their health as good or very good.

The percent of elders who owned or whose spouse owned the house in which they lived remained constant between the two surveys although in both years this was moderately more likely to be so for elderly men than women. Likewise, most Thai elders are either the official head of household or spouse of the head. Essentially no change occurred in this respect between the two surveys.

There was also little change in the percent of elders who reported that their income was sufficient. For both surveys just under two thirds of both men and women reported this to be the case. A slight decline in the percent of elders who worked last year holds for both men and women. In both years, however, elderly men were substantially more likely to have worked than women

Finally, several indicators of living conditions available only from SET2 are included in Table 1. Most Thai elders live in households with an indoor toilet and just under half have their bedroom on the ground floor, two situations are potentially relevant for frail or physically impaired elders. Fewer that half of Thai elders sleep in a bed (as opposed to on the floor). There are virtually no gender difference in any of these three matters. However indoor toilets and sleeping in beds are substantially more common among urban than rural elders (not shown).

Living Arrangements

Many aspects of well-being of older persons are influenced by their living arrangements. In the Asian context, and specifically in Thailand, living with or nearby children has been a predominant pattern. In the following tables, residence with children includes children-in-law in addition to the respondent's own biological, adopted and step children. Given that a child-in-law can fulfill the same functions within a household as can an elder's own adult children, incorporating a child-in-law is justified conceptually. In addition, because of measurement issues related to the data, doing so also has a methodological advantage.

While household composition is the most common and readily available indicator of living arrangements, and the main one available from SET1 and SET2, it is important to recognize that the meaning and implications of particular configurations defined by such information can be ambiguous. One serious limitation of measures defined simply in terms of the number and relationships of persons residing in the same household is that they do not encompass information about others who live nearby but may still play an important role in the lives of elderly members (Knodel and Saengtienchai 1999). Another difficulty arises because the function of living arrangements can not be inferred with any certainty simply from their form (Hermalin 1997). Thus although measures of the living arrangements in which elders are embedded based solely on household composition can be suggestive, they need to be interpreted cautiously.

With that said, it is still true that a central feature of family support in Thailand for elderly members is coresidence with one or more adult children (or a functionally equivalent arrangement). Such arrangements are considered the norm in Thailand and often meet the needs of both generations (Knodel, Saengtienchai, and Sittitrai 1995). Although coresidence is only possible for those who have living children (or children-in-law with respect to the measures used in this report), this is seldom a limitation for older persons in Thailand, representing only 5 percent of elders according to SET2. In contrast, living alone is usually viewed as a disadvantage for several reasons. Not only is it is likely to be associated with less frequent interpersonal interactions, and hence feelings of loneliness, but there is also a greater chance that urgent needs for assistance created by an acute health crisis or accident will go unnoticed longer than if others are present in the household. In some cases, living alone may even signify desertion by others although previous research indicates this is quite rare in Thailand. For example, a 1995 survey found that almost half of older Thais who live alone are likely to have an adult child live in an adjacent dwelling and two thirds are likely to have an adult child live in the same community (Knodel and Chayovan 1997). Although living only with a spouse also indicates that adult children or other younger generation kin are not present in the household, it is generally viewed as less serious than living alone since spouses can be a principal source of emotional and material support and personal care during illness or frailty.

Trends and differentials

Table 2 compares results from SET1 and SET2 with respect to several indicators of the living arrangements of Thai elderly. The share of Thai elders living alone increased between the two surveys although even the 2002 data indicate that living alone is still quite unusual. The percent of Thai elders living only with a spouse also increased. Taken together, the percent of Thai elders who live alone or only with a spouse increased by five percentage points between 1994 and 2002 according to the NSO Surveys.

In contrast, declines are evident in both the percentage of elders who live with an ever married child or child in law (regardless of the presence of single children) or who live with never married children without the presence of an ever married child or child in law. Overall the percentage who live with any children (regardless of marital status) or a child in law declined by 8 percentage points from almost three fourths (73.6%) to just under two thirds (65.7%). This represents a moderately accelerated continuation of a decline that is evident during the prior 8 years.[2] Despite the decline, however, a substantial majority of older persons in Thailand still co-resided with a child in 2002. The percent living with a spouse (regardless of the presence of others) also declined but only slightly.

Table 3 indicates the percent distribution of Thai elders according to the generational structure of their household for the years that both surveys were taken. Because of data problems characterizing SET2 as described in Appendix B, and to ensure comparability between the estimates for 1994 and 2002, we base our estimates on the household listings from the corresponding labor force surveys in those years.[3] Included in the classification is the case of 'skip generation' households, a term that we use to refer to situations in which the household includes grandchildren but no children or children-in-law of the head.[4]

Table 2: Percent distribution of Thai elders according to living arrangements,
1994 and 2002

Living with whom:	1994	2002
Alone	3.6	6.5
Spouse only	11.6	14.0
Ever married children/children-in-law (w/ or w/o spouse, single children or others))	23.4	21.0
Unmarried children (w/ or w/o spouse or others but w/o married children or children-in-law)	50.2	44.6
Other arrangement	11.2	13.8
Total percent	100	100
Percent with any children/children-in-law	73.6	65.7
Percent with spouse (regardless of others)	62.1	60.8

Sources: 1994 based on SET1; 2002 based on a combination of the 2002
Labor Force
Survey, round 2 and SET2 (see appendix A for explanation).

Table 3 : Percent distribution of Thai elders according to generational
structure, 1994 and 2002

Household generational structure	1994			2002		
	Total	Urban(a)	Rural	Total	Urban	Rural
One generation	17.4	16.1	18.0	23.7	23.1	24.0
Two generation (b)	27.3	36.0	23.7	25.6	33.1	22.2
Three or more generation	47.7	43.5	49.4	41.8	38.2	43.5
Skip generation	7.6	4.4	8.9	8.8	5.6	10.3
Total	100	100	100	100	100	100

Sources: Rounds 2 of Labor Force Surveys in 1994 and 2002. The presence of
other relatives and non-relatives is not taken into account.
(a) Includes municipal areas and sanitary districts.
(b) Excludes elders in skip generation households

Between 1994 and 2002, there was a moderate increase in proportion of Thai elders who lived in one generation households, consistent with the increase in the proportion who live alone or with a spouse only as discussed above, as well as a small increase in the proportion living in skip generation households. In contrast, there was a slight decrease in the proportion living in two generation households and a considerably larger decrease in the proportion living in three or more generation households. These basic patterns of change hold for both urban and rural areas. In both years, however, three generation and especially skip generation households were more common in rural than urban areas. The latter undoubtedly reflects the not unusual situation in which adult children who migrate to urban areas leave one or more of their own children to be cared for by the grandparents who remain in rural areas.

Table 4 presents several summary indicators of living arrangements according to selected characteristics of Thai elders. The first measure indicates the percent co-resident with a child or child in law. The second measure indicates what proportion of elders have contact with a non-coresident child or child in law either daily or several times a week. Such frequent contact indicates that the child or child in law lives

nearby and thus presumably could fulfill some of the same functions that a coresident child could serve. The third measure is a combination of the two measures and indicates what percent of elders who either live with or have frequent contact with a child or child in law.

Table 4 : Indicators of living arrangements of Thai elders by selected characteristics, 2002

Characteristics	Percentage who:		
	% who live with a child or child in-law (a)	% who had frequent contact with a non-coresident child or child in-law	% who live with or have frequent contact with a child or child in-law
Total	65.7	33.6	78.9
Sex			
Men	64.2	33.6	78.2
Women	67.0	33.6	79.5
Age			
60-69	64.1	31.7	76.7
70-79	66.8	36.6	81.4
80+	73.7	37.2	86.7
Area			
Urban	69.0	27.5	79.1
Rural	64.3	36.3	78.9
Marital status			
Currently married	64.0	33.9	78.6
Formerly married	73.8	35.5	85.3
Socio-economic status			
Lowest	65.2	38.3	79.2
Medium low	63.2	36.9	79.1
Middle	65.5	33.9	78.8
Medium high	68.3	30.2	79.7
Highest	67.6	25.7	77.8
Elders with at least one living child	68.6	35.2	82.3
Number of living children			
1	61.5	12.5	73.4
2	65.8	27.6	77.9
3	67.5	32.1	82.7
4	70.1	39.6	84.0

Source: SET2.

Note: Frequent contact includes daily and 2-3 times/week visits.

(a) based on combined results from sections B and E (see appendix A for explanation)

While almost two thirds of Thai elders directly coreside with a child or child in law, almost four-fifths (79%) either coreside with or live near enough to see one at least several times a week. Thus a substantial share of Thai elderly who do not coreside live near enough for frequent contact. There is little difference between elderly men and women in this respect. Both coresidence and the combined measure of coresidence and frequent contact increase with the age of the elderly person. Among Thai elders who are aged 80 or above, almost three fourths co-reside with a child or child in law and 87% either live with or near enough to see one frequently. Co-residence is somewhat higher among urban than rural elderly, a common situation in Asian countries (United Nations 1991; Knodel and Ofstedal 2002). At the same time, a greater percentage of rural elderly have frequent contact with a non-coresident child or child in law. Thus the combined measure of coresidence and frequent contact shows little difference between rural and urban elders. This pattern probably reflect differences in land availability and housing styles between urban and rural areas. Having separate dwelling units either within the same compound or nearby is undoubtedly more feasible in rural villages than in towns or cities where land and housing prices make such arrangements prohibitive for many.

Currently married elders are less likely to co-reside but about equally likely as formerly married elders to have frequent contact with a non-coresident child or child in law. Thus even among currently married elders, almost four-fifths live with or see a child or child in law frequently. There appears to be very little difference in the percent coresident according to the socioeconomic status of the elder although the percent who have frequent contact with a non-coresident child or child in law decreases with higher economic status.[5] At the same time, there is almost no difference among socioeconomic status categories with respect to the combined measure of coresidence and frequent contact. Having more living children increases the chance for elders to coreside with as well as have frequent contact with a non-coresident child or child in law. Nevertheless even among elders with only one living child or child in law, the majority co-reside and almost three fourths either co-reside or have frequent contact with one.

Table 5 indicates some measures of living arrangements among Thai elders who do not live with a child or child in law, a subset of particular interest given the long standing norm of coresidence. The most common situation among this subset (representing 45%) is that they live together with their spouse but with no other household members. Less than one-fifth (18%) live alone while the remainder live in some other arrangement (including living with a spouse and others). Elderly men are considerably more likely than elderly women to live only with their spouse and while a substantial share of elderly women live who do not live alone live in some other arrangement. The proportion living alone among those who do not live with children increases sharply with age while the percent who live with a spouse only decreases with age. Thus among elders aged 80 and above, almost as many live alone as live only with a spouse. There is little rural-urban difference in living arrangements under consideration for those who do not live with children, at least with respect to the measures under consideration. Having living children has little effect on the chances of living alone among those who do not live with children. However, childless elders are far less likely to live with a spouse only and substantially more likely to live in some other arrangement reflecting the fact that over half of this group never married (results not shown). Finally, socioeconomic status shows no consistent association with the living arrangements of those who do not live with a child or child in law.

Living arrangements and well-being

SET2 included a number of questions intended to indicate both satisfaction and problems experienced by elders associated with living arrangements. All respondents living alone were asked whether being an a solitary household was a problem. The question allowed the following responses: lack of care when sick, loneliness, financial problems, lack of assistance in daily life, or a residual category for any other problem. Only one choice was allowed so the distribution of responses with respect to these issues sum to 100%. Table -6 summarizes the results. Somewhat less than half of elderly who were living alone said that they experienced no problem. There was little difference between men and women in this respect but urban and younger were more likely than rural and older elderly to indicate that they experienced no problem.[6]

Table 5: Percent distribution of living arrangements of Thai elders who do not live with a child or child-in-law by selected characteristics, 2002

	Alone	With spouse only	Other	Total
Total	18.2	45.0	36.8	100
Sex				
Male	12.4	56.0	31.6	100
Female	23.4	34.9	41.7	100
Age				
60-69	14.7	48.3	37.1	100
70-79	23.8	40.8	35.4	100
80+	28.9	30.7	40.4	100
Area				
Urban	18.5	41.6	39.9	100
Rural	18.0	46.3	35.6	100
Marital status				
Single	21.3	x	78.7	100
Currently married	3.0	67.9	29.1	100
Formerly married	55.3	x	44.7	100
Parental status				
Has no living children	18.0	16.7	65.3	100
Has living children	18.4	49.0	32.6	100
Socio-economic status				
Lowest	18.2	41.9	40.0	100
Medium low	17.9	48.7	33.4	100
Medium	19.3	42.1	38.6	100
Medium high	20.4	44.0	35.6	100
Highest	15.7	48.3	35.9	

Source: SET2.

Table 6: Percent distribution of Thai elders who live alone according to associated problems by age and sex, 2002

Problems (b13)	All	Sex		Area		Age	
		Male	Female	Urban	Rural	60-69	70+
No problem	44.7	43.0	45.6	53.9	41.1	48.0	41.0
No one take care when sick	12.5	14.3	11.6	9.0	13.9	8.5	17.1
Lonely	25.3	26.0	24.9	26.4	24.8	26.7	23.6
Financial	6.7	5.8	7.1	3.3	8.0	8.5	4.6
No one care for daily living	10.7	10.8	10.7	7.1	12.2	8.1	13.7
Other	0.1	0.1	0.1	0.3	0.0	0.2	0.0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: SET2.

Loneliness was by far the most common problem mentioned, regardless of sex, area of residence, or age. Overall one fourth of elderly who lived alone said they were lonely. The least commonly mentioned problem was financial matters (if we ignore the very small residual 'other' category). There is very little difference in the distribution of problems mentioned between elderly men and women. Rural elders were more likely than urban elders to cite a lack of care when sick, financial matters, and a lack of assistance in daily living as a problem associated with living alone. Older elderly were more likely than their younger counterparts to cite a lack of care when sick and a lack of daily assistance as problems, likely reflecting a greater need for such help at older ages. In contrast, younger elderly were more likely than older elderly to cite to financial matters as a problem.

Respondents in multi-person households were asked a series of questions about issues potentially connected with living with other persons. Some items referred to negative aspects while others referred to positive ones. Negative aspects asked about included having limited living space, being considered fussy by others household members, feeling uneasy, feeling lonely or lacking peace. Positive aspects included feeling comfortable, being cared for by other household members, having a sense of warmth in the household, being respected, and having a sense of self worth. Respondents were asked to indicate whether they had each particular feeling a lot, sometimes, a little or not at all. The percent who indicated that they had the feeling either sometimes or a lot is shown in Table 7. In addition, two summary measures are included, one indicates the percent of respondents who did not feel any of the five negative aspects of living together sometimes or a lot while the other indicates the percent who said they felt all five of the positive aspects of living together sometimes or a lot.

Table 7: Negative and positive feelings of Thai elders who do not live alone about living with other household members, 2002

	All	Sex		Age		Area	
		Male	Female	60-69	70+	Urban	Rural
Negative feelings:							
% feeling space limit	12.2	11.4	13.0	12.9	11.0	10.8	12.9
% feeling that others in household consider them fussy	16.8	15.7	17.7	16.7	16.9	16.2	17.0
% feeling uneasy	6.0	5.6	6.3	5.5	6.8	5.4	6.2
% feeling lonely	11.2	10.2	12.1	10.1	13.2	9.2	12.1
% feeling a lack of peace	3.7	3.2	4.1	3.8	3.6	3.1	4.0
% having none of the 5 above negative feelings	67.6	69.4	66.0	67.9	67.1	70.1	66.4
Positive feelings:							
% feeling comfortable	86.1	86.3	85.8	86.2	85.8	87.6	85.3
% feeling they are cared for by other members	57.1	57.0	57.2	57.0	57.5	57.2	57.1
% feeling warm	62.8	63.0	62.6	62.8	62.7	63.3	62.5
% feeling being respected	57.6	57.6	57.7	57.7	57.5	56.5	58.2
% feeling self worthiness	80.0	80.5	73.6	80.7	78.8	79.0	80.4
% expressing all 5 of the above positive feelings	34.6	34.8	34.4	34.8	34.2	35.7	34.7

Source: SET2.

Note: Feeling ranges from moderate to a lot.

Only a small minority of respondents indicated that they had felt the various potential negative aspects of living together with others. Fully two-thirds denied feeling any of the five negative aspects sometimes or a lot. The most common negative aspect reported was a feeling that others in the household considered the respondent to be fussy. The least common negative aspect was feeling that they lacked peace in the household. Men were modestly more likely than women and urban elders modestly more likely than rural elders to indicate they had none of the five potential negative feelings about living with others. Almost no difference is evident between younger and older elders in this respect.

Most respondents indicated that they had each of the positive feelings sometimes or a lot. Feeling comfortable and feeling a sense of self-worth were particularly common. Just over a third of respondents agreed that they felt all five positive aspects of living together sometimes or a lot. There is almost no differences in extent of positive feelings according to gender, age or rural-urban residence. Overall these findings suggest that most Thai elders view living together with others in the same household quite positively and are presumably satisfied with their living arrangements.

Sources of Material Support

Both the 1994 and 2002 surveys asked respondents about whether they had received income or material support during the previous 12 months from a series of different sources. Results are summarized in Table 8. The pattern of income sources shows considerable stability. In both years children (including children in law) are by far the most common source of income. Nevertheless, the percentage of elders reporting children as a source of income declined modestly between the two surveys. The second most common source of income is the respondent's own work with the percent citing work remaining constant. Spouses are a source of income for just over a fifth of respondents in 1994 and somewhat under a fifth in 2002. Savings and interest also are reported by close to a fifth of respondents both years. The percentages reporting material assistance from siblings, relatives and from other sources, already low in 1994, are even lower in 2002. The only source of income that was reported by noticeably more respondents in 2002 than in 1994 is government allowances, reflecting the expansion of the program aimed at indigent elders. However, only 3% reported receiving such an allowance during the previous year even in 2002 (but see alternative estimates below).[7]

Based on the 2002 data, differences are evident in the percent of men and women reporting material support from some of the sources. Men are much more likely than women to report work as a source of income or material support. Men were also more likely to report pensions although even among men, only 7% reported any pension income. Women were somewhat more likely to receive income or material support from all other sources, with the biggest difference in terms of percentage points being with respect to support from children. Age is also associated with some differences in types of support received. The older elderly are far less likely than younger elderly to report work or spouse as sources of income or material support. In contrast they are more likely than younger elders to mention children as a source of support. Area of residence is also associated with differences in some types of income and material support. Urban elderly are far less likely than their rural counterparts to mention work as a source of support but considerably more likely to report receiving pensions. Rural elderly are also somewhat more likely than urban elderly to report income or material support from children.

Table 9 shows the percent of elderly in 2002 who reported the different sources of income according to socioeconomic status. Several patterns are evident. Socioeconomic status is inversely related to the percent of elderly who depend on work, on government allowances, and on children for income and material support. It is somewhat surprising, however, that government allowances do not show a stronger negative association with socioeconomic status given that they are intended for indigent elders. In contrast, socioeconomic status shows a clear positive association with the percentages who received pensions and income from savings and interest. Little difference between socioeconomic groupings is evident with respect to the other sources of income.

Table 8: Percentage of Thai elders who receive income or material support during the previous year from various sources, 1994 and 2002

Source of income	Total		2002 only					
			Sex		Age		Area	
	1994	2002	Male	Female	60-69	70+	Urban	Rural
Work	38.0	37.7	48.9	28.2	50.2	16.7	27.9	42.1
Pension	4.1	4.3	6.9	2.1	4.7	3.7	9.7	1.9
Government allowance	0.5	3.0	2.7	3.3	1.7	5.2	1.8	3.6
Savings/interest	17.1	18.0	19.7	16.5	18.9	16.5	27.9	13.5
Children	84.5	77.2	72.8	80.9	73.3	83.9	71.2	79.9
Spouse	21.4	17.4	16.5	18.1	22.9	8.2	15.8	18.1
Siblings	6.9	3.5	2.6	4.2	3.3	3.8	3.1	3.7
Relatives	8.0	5.3	3.9	6.5	4.0	7.5	5.2	5.4
Other	3.3	2.6	2.2	3.0	2.2	3.3	3.0	2.5

Source: SET1 and SET2.

Table 9: Percentage of Thai elders who receive income or material support during the previous year from various sources by socio-economic status, 2002

Source of income	Socio-economic status				
	Lowest	Medium low	Medium	Medium high	Highest
Work	40.8	38.6	38.1	35.9	33.4
Pension	0.3	0.9	3.2	5.5	14.8
Government allowance	5.0	3.1	2.5	1.9	2.0
Savings/interest	6.0	12.4	18.7	25.3	34.1
Children	82.3	82.8	78.8	76.0	62.6
Spouse	17.1	18.4	17.3	17.2	16.6
Siblings	4.1	4.2	3.6	2.5	2.5
Relatives	5.9	6.0	5.7	4.8	3.8
Other	2.7	2.8	2.3	2.2	3.2

Source: SET2

SET2 also included a series of questions about the need for different types of support and who was the major person providing such support if it was received. Four specific types of material support were included in the set of questions: financial, food, clothes and - other materials. Note that the questions do not refer to the most important *source* of support but only the most important *person* providing such support if indeed someone does. Thus, for example, even if the respondent cites a spouse or a child as the most important person providing financial support, some other *source* of support, such as a pension or savings, could be a more important. Table 10 shows the results. Most respondents indicated that they received each type of support from someone. Overall less then one-fifth of respondents said that they received no financial support from anyone and just under one-fourth reported that they did not receive food from anyone. Receipt of clothes and other material items was less common but still well over half reported receiving them.

Clearly children (including children in law) are the most important persons providing all four kinds of support to elderly Thais. Some differences, however, are apparent by gender and marital status. Men are more likely than women to report that no one assisted them with financial support or with food. Men are also far more likely to report that their spouse was the most important provider of food and somewhat more likely

to report that the spouse was the most important provider of clothing and other material items. Women are considerably more likely than men to report children as the main provider of each of the four types of support. To some extent these gender differences are a result of differences in marital status between elderly men and women. Since women are far more likely to be widowed, they are less likely to have a spouse available to provide support. Among elderly who are not currently married differences in the percent who report children as the main provider of each type of support are minimal.

Table 10: Percent distribution of Thai elders according to the main person who provides material support, by type of support, marital status and sex

Type of support and main provider	All marital statuses			Currently married		Not currently married	
	Total	Men	Women	Men	Women	Men	Women
Financial support							
no-one assists	17.7	24.6	11.9	26.2	11.5	16.7	12.2
Spouse	7.1	5.2	8.7	6.3	18.3	(a)	(a)
child/child-in-law	71.2	67.6	74.2	66.4	68.9	73.2	79.3
Others	4.0	2.7	5.1	1.1	1.3	10.1	8.5
Food							
no-one assists	23.2	18.2	27.4	17.9	33.2	19.5	22.1
Spouse	19.3	35.1	5.9	42.6	12.2	(a)	(a)
child/child-in-law	52.2	42.9	60.1	37.7	52.4	66.9	67.1
Others	5.3	3.8	6.6	1.8	2.2	13.7	10.7
Clothes							
no-one assists	41.8	42.7	41.1	43.0	45.2	41.1	37.3
Spouse	6.2	12.0	1.2	14.5	2.4	(a)	(a)
child/child-in-law	48.7	43.2	53.3	41.3	51.0	51.9	55.5
Others	3.3	2.1	4.4	1.1	1.3	7.0	7.2
Other material items							
no-one assists	44.0	43.1	44.7	43.3	48.9	41.9	40.8
Spouse	8.8	16.7	2.1	20.3	4.2	(a)	(a)
child/child-in-law	44.1	38.0	49.3	35.4	45.8	50.4	52.6
Others	3.1	2.1	4.0	1.0	1.1	7.7	6.6

Source: SET2.

Notes: (a) the small number of cases in which spouse is indicated are combined with others for the not currently married.

Additional information on government allowances for the elderly is available from a section of the questionnaire that asked about the need and opinions concerning government welfare. Respondents were first asked if they had ever heard of government allowances for elderly. If so they were further asked whether or not they had ever received such an allowance. As shown in Table 11, just half of persons aged 60 and above indicated they had heard of the government allowance program. Interestingly, awareness of the program is modestly higher in rural and urban areas likely reflecting the fact that program was primarily targeted towards rural areas from the start. Women are somewhat less likely to have heard of the programs then are men. The oldest elderly are also less likely to have heard of the program. Elders who have gone

beyond basic primary education are distinctly more likely to be aware of the program than those with less education. However, there is a negative association between socioeconomic status and awareness of the program, likely reflecting the fact that the program is targeted towards indigent elderly. Living arrangements not appear to be associated with awareness of the program.

Table 11. Percentage of Thai elders who ever heard of and who ever received government allowances for indigent elders

Characteristic	% who ever heard of government allowances			% who ever received a government allowance		
	Total	Urban	Rural	Total	Urban	Rural
All elders	**50.2**	**43.9**	**53.1**	**5.1**	**3.5**	**5.9**
Sex						
Men	52.7	46.6	55.36	4.7	3.8	5.1
Women	48.1	41.7	51.07	5.5	3.3	6.5
Age						
60-69	50.8	44.3	53.7	3.6	3.2	3.7
70-79	51.5	45.4	54.1	7.4	4.2	8.8
80+	42.3	36.3	45.1	9.2	4.4	11.4
Marital status						
Never married	46.9	46.1	47.4	4.4	1.8	6.5
Currently married	52.2	46.3	54.8	4.0	3.2	4.3
Formerly married	46.7	39.3	50.1	7.3	4.4	8.6
Education						
None or under 3 years	45.7	32.4	50.5	6.2	2.7	7.4
Basic primary	49.8	41.0	53.1	4.3	2.9	4.9
Beyond basic primary	68.7	67.3	71.7	7.6	6.7	9.4
Socio-economic status						
Lowest	54.9	48.4	55.7	7.3	4.3	7.7
Medium low	52.5	46.0	54.0	5.0	3.1	5.4
Medium	49.6	45.2	51.1	5.1	4.2	5.4
Medium high	46.2	39.9	51.0	4.1	4.2	4.0
Highest	45.5	43.9	49.3	3.6	2.8	5.3
Living arrangement						
Alone	49.1	45.0	53.1	8.7	6.3	9.6
Spouse only	53.8	46.8	50.8	4.3	2.9	4.8
With children (a)	49.2	42.3	56.3	5.0	3.4	5.7
Other(b)	52.1	50.0	52.5	5.5	3.8	6.2

Source: SET2.

Notes: a) includes persons who also live with spouse or others as long as children are present

b) includes cases who live with others excluding a spouse or children

Approximately 5% of respondents indicated that they had ever received a government allowance. This is noticeably higher than the 3% who indicated they were currently receiving an allowance (see Table 8). -In fact, since persons who start receiving an allowance rarely are removed from the program, the percent of elders who ever received and who currently received should be close. The difference in results from the two questions is therefore puzzling. One possible explanation is that the question on which current receipt of the allowance is based refers to the previous 12 months and delays in payment may mean that some who are currently enrolled (and thus would indicate they had ever received the allowance) did not report the allowance as a source of current income. We note however that this is simply speculation. Alternatively, the inconsistent results may simply reflect response error.

The results based on the question about ever receiving government allowances indicates that rural elders are more likely than their urban counterparts to have received the allowance. Gender differences are modest with women some what more likely than men in rural but not urban areas to have received the allowance. Age is positively associated with having received the allowance. Formerly married elders (mainly widows and widowers) are more likely than either currently or never married ones to have received the allowance. Interestingly both the lowest and highest educated elders are more likely to receive the allowance than those with a basic primary education. It is somewhat surprising that the better educated are particularly likely to receive the allowance given that it is intended for indigent elderly. The findings may reflect that the program did not reach the target group. Some elderly who were selected to receive the allowance may be related to the community leaders or members of the selection committee or the selection criteria may not be strictly followed. Socioeconomic status is negatively associated with receiving the allowance, although the relationship is perhaps weaker than might be expected given that the allowance is intended as welfare for the poorest elders. Finally, persons who are living alone are more likely than elders in other living arrangements to receive the allowance.

Caregiving and Social Support

Well-being among older persons depends not only on financial and material support but also on the assistance they receive in daily living as well as the care they are provided when they are frail or become ill. SET2 included questions addressing these issues. The series of questions that asked about who was the most important person providing the different kinds of material support reviewed above also included a question asking who the main person was who assisted in matters of daily living.

As Table 12 shows, overall, approximately one fourth of the respondents indicated that no one provided assistance in daily living activities during the past 12 months. This does not necessarily imply that those who receive no assistance are neglected since some or even most may be able to take care of their own needs. The percent who indicated that nobody assisted them in daily living activities shows only minor variation according to gender and marital status. Although overall women are slightly more likely to say that no one assisted them, this holds only for those who are currently married. Among elders who have no current spouse, men are modestly more likely to say no one assisted them. The biggest difference in the percent who had no one assisting them is with respect to age. Younger elders are considerably more likely to indicate this than are older elders, undoubtedly a reflection of increased need for assistance as elders reach older ages.

One group of older persons of particular concern are those who have some functional limitations that prevent them from attending to their daily needs themselves. In order to examine who provided assistance to such persons, we examine the subset of respondents who when asked if they had a need for help in daily living replied that they did and who also indicated in a different set of questions about functional limitations that they were unable by themselves to either eat, dress, bathe/go to toilet or some combination of these three essential daily functions. Results are shown in the last bank of figures in Table 12. Clearly most elders in this situation received assistance from somebody with regards to daily living activities. Only 4% of men and 2% of women indicated that no one helped them. However, men and women in this special subset who did receive assistance differed considerably in the distribution of who provided that assistance. For men, a

spouse was much more likely to be cited as the most common main person providing assistance in daily living than for women. Nevertheless, among this subset, a child or child in law was the most common persons cited as the main provider of assistance even for men. Compared to the general population of elders, both men and women in this subset with a special need for assistance in daily living were considerably more dependent on children and children in law as well as on others who were not their spouse for such assistance.

Table 12: Percent distribution of Thai elders according to the main person assisting with daily living activities, 2002

Characteristic	Main person assisting in daily living (percents add to 100 across)				
	No-one	Spouse	Child/ child in-law	Other	Total
All elders	**23.0**	**29.0**	**43.0**	**5.0**	**100**
Men	21.9	43.5	31.9	2.7	100
Women	23.9	16.7	52.4	7.0	100
Currently married	**21.9**	**45.6**	**31.1**	**1.4**	**100**
Men	20.8	52.7	25.7	0.9	100
Women	23.6	35.1	39.1	2.3	100
Not currently married	**24.8**	**(a)**	**63.4**	**11.8**	**100**
Men	27.1	(a)	60.4	12.5	100
Women	24.1	(a)	64.3	11.6	100
Age 60-69	**26.0**	**35.5**	**34.9**	**3.6**	**100**
Men	24.6	50.4	23.1	1.9	100
Women	27.2	22.4	45.3	5.1	100
Age 70+	**17.8**	**18.1**	**56.6**	**7.4**	**100**
Men	17.0	31.3	47.6	4.1	100
Women	18.5	7.7	63.8	10.0	100
Elders who stated a difficulty in essential personal activities and a need for assistance(b)	**2.9**	**22.3**	**61.8**	**13.1**	**100**
Men	4.2	42.5	46.3	7.0	100
Women	2.0	9.9	71.3	16.9	100

Source: SET2.
Notes: (a) the small number of cases in which spouse is indicated are combined with others for the not currently married.
(b) Defined as not being able to at least one of three activities by themselves (eating, dressing, bathing/going to toilet) and indicating they needed assistance in daily living.

Overall among those who receive assistance the most common person to be the main provider is a child or child in law. This is particularly true for older elders. In general, the main provider varies considerably with gender and marital status. Thus men overall and particularly men who are currently married or at the younger elderly ages, most frequently cite a spouse as the main person assisting in daily living. Women in contrast most commonly cite a child or child in law as the most common main provider of assistance, regardless of marital status or age. Persons other than a spouse or a child or child in law are only

infrequently cited as the main provider of daily living assistance. Only for those who were not currently married does this category exceed 10%; for elderly overall, only 5% cite someone other than a spouse or child or child in law as a main provider of such assistance.

A different set of questions concerned caregiving related to health issues. Respondents were asked who was the main provider of personal care as well as who they would prefer to be their caregiver in case they were ill. Results are shown in Table 13. The vast majority of respondents indicated that either a spouse or a child or child in law was their main caregiver as well as their desired caregiver if sick. Only a small minority of respondents cited someone other than a spouse or child or child in law in response to these questions. Moreover less than 1% of respondents indicated that no one provided personal care or that they did not need anyone to care for them when they were sick. Because of the infrequency of these responses they are grouped together with the residual 'other' category.

Table 13: Percent distribution of Thai elders according to main general personal provider and desired person to provide care when sick, 2002

Characteristic	Main personal care giver (percents add to 100 across)			Desired caregiver when sick (percents add to 100 across)		
	Spouse	Child/ child in-law	Other(a)	Spouse	Child/ child in-law	Other(b)
All elders	**39.6**	**50.4**	**10.1**	**35.3**	**57.4**	**7.3**
Men	58.6	34.7	6.7	53.7	41.5	4.8
Women	23.5	63.5	12.9	19.8	70.9	9.4
Currently married	**62.5**	**33.6**	**3.9**	**55.5**	**41.8**	**2.7**
Men	71.2	25.8	3.1	65.0	32.7	2.4
Women	49.7	45.1	5.1	41.6	55.3	3.1
Not currently married	(c)	**79.1**	**20.9**	(c)	**84.1**	**15.9**
Men	(c)	75.9	24.1	(c)	82.1	17.9
Women	(c)	80.0	20.0	(c)	84.7	15.3
Age 60-69	**48.0**	**42.7**	**9.3**	**42.8**	**50.5**	**6.7**
Men	67.4	26.3	6.3	62.1	33.3	4.6
Women	30.9	57.0	12.0	26.0	65.6	8.5
Age 70+	**25.4**	**63.3**	**11.3**	**22.6**	**69.1**	**8.3**
Men	42.8	49.7	7.4	38.8	56.0	5.2
Women	11.7	73.9	14.4	9.9	79.3	10.8

Source: SET2.
Notes: (a) includes 0.9% of respondents who said that no one provided personal care.
(b) includes 0.5% of respondents who said that they do not need anyone to care for them when sick.
(c) the small number of cases in which spouse is indicated are combined with others for the not currently married.

Overall the most common person cited as the main personal caregiver is a child or child in law. About half of all elders indicated this was the case. Even more indicated that they desired a child or child or child in law to be the caregiver in case of illness. Nevertheless a very substantial minority said that a spouse was the main provider of personal care or the desired caregiver when ill. This pattern is clearly associated with gender, marital status, and age. Men are far more likely than women to cite a spouse as the main personal caregiver and to indicate they desired a spouse to be the caregiver when ill. In part this reflects the fact that elderly Thai men are far more likely than elderly Thai women to be currently married. Still, the

same clear difference holds when results refer only to those who are currently married. This gender difference undoubtedly reflects normatively mandated expectations with regards to gender roles in caregiving. Nevertheless, among those who are currently married, half of women indicate that their spouse is their main personal caregiver. When married women are asked who they wish to be the caregiver when ill, the proportion of women citing a spouse falls below half and the majority cite a child or child in law instead. Among non-married men and women a very large majority indicate that a child or child in law is their main personal care provider and over four fifths wish to have a child or child in law provide care when they are ill. Dependence on a child or child in law for personal care increases with age for both men and women. The same association is evident in responses about the desired caregiver in case of illness.

Besides receiving assistance in daily living and health related care, social support in the form of contact with kin and others constitutes an important part of well-being. SET2 included a series of questions about visits between the respondent and various other persons who did not live in the household. We note that contact can also be through telephone calls although unfortunately no information about telephone contact was asked in the questionnaire. Respondents indicted both how frequently they visited or were visited by different persons. We have combined visits in either direction in order to measure the frequency of face-to-face social contact. The results are presented in -Table 14 and show the frequency of social contact conditioned on having at least one such person living outside the household. The results in Table 14 also show that the large majorities of elders have non-coresident children, grand children, siblings, relatives, and neighbors and friends. Given their age, few elders have parents who live outside the house.

Table 14: Percent distribution of Thai elders according to availability of and frequency of social contact with various types of non-coresident kin and others, by residence, 2002

Frequency of visits	Contact with					
	Children	Grand child	Siblings	Parents	Relatives	Neighbors & friends
% with at least one person of specified type outside household	85.6	71.1	79.6	4.5	90.6	94.1
Among those with at least one person of specified type outside household						
Total						
Daily or weekly	47.1	39.9	28.6	37.0	28.8	70.4
Monthly/every few months	25.7	24.6	15.6	21.4	13.7	2.8
Occasionally	26.4	33.9	50.0	35.2	51.9	24.7
Never	0.9	1.7	5.9	6.5	5.6	2.1
Urban						
Daily or weekly	47.1	38.6	18.9	22.3	18.4	58.0
Monthly/every few months	28.0	28.2	16.5	22.9	15.4	4.4
Occasionally	24.2	31.8	59.2	48.8	60.4	34.0
Never	0.7	1.4	5.3	6.0	5.8	3.6
Rural						
Daily or weekly	47.0	40.4	32.7	43.7	33.3	75.7
Monthly/every few months	24.8	23.3	15.2	20.7	13.0	2.1
Occasionally	27.2	34.6	46.0	28.9	48.2	20.7
Never	0.9	1.7	6.1	6.7	5.5	1.5

Source: SET2.
Note: Daily or weekly=every day, 2-3 times/week, once a week; Monthly=once a month, every 2-5 months; Occasionally=twice a year, once a year, irregular; Never=no contact

Not surprisingly, given their proximity, frequent contact is common with neighbors and friends. Among elders who have various kin living outside the household contact is also fairly frequent. Almost half of those with a child outside the household sees the child daily or weekly and 40% with a grandchild out of the household see a grandchild frequently. This differs little between urban and rural elders and undoubtedly reflects the fact that adult children often move into houses that are very close to their parents, often adjacent to them. Less than 1% with children living outside the household indicate that they never have contact with them and over half of this small minority coreside with another child. Thus confirms the rarity of complete desertion of parents by their children in Thailand. Frequent contact with siblings, parents, and other relatives, provided there are such persons living outside the household, is also not unusual, particularly in rural areas. This reflects the relative commonplace situation in rural areas of subsets of residents of a village being related to each other.

Discussion and Conclusions

This study explores changes in characteristics of Thai elderly (aged 60 and over) between 1994 and 2002, trends and differentials in their living arrangements, the impact of living arrangements on their well-being, and their economic and social supports based on two national surveys conducted by the National Statistical Office. By and large, the basic demographic characteristics (age, marital status, sex and urban-rural distributions) of the elderly show little change. However, through the process of cohort succession, their educational distribution is improving while at the same time their average number of living children is decreasing. In addition, a moderate increase in self reported health is evident.

Despite some data problems in the 2002 survey related particularly to the measurement of living arrangements (see Appendix B for details), the results make clear that co-residence between older parents and adult children is declining at an accelerated rate. Estimates adjusted for these data problems indicate that co-residence dropped from 73.6 percent in 1994 to 65.5 percent in 2002.[8] Moreover, the percentage of elderly who live alone increased from 3.6 percent to 6.5 percent while the prevalence of three or more generation households declined from 47.7 percent to 41.8 percent during the same period. However, many elderly who do not coreside with a child, including those who live alone, live very nearby an adult child. Thus 78.9 percent of Thai elderly either live with or have frequent contact with a child or child in-law. In addition, in 2002, 77.2 percent received income or material support from children, Although this is down from 84.5 percent in 1994, adult children still the most common source of material support for older Thais. Thus even though there is a trend toward independent living arrangements and some decline in the share receiving support from children, the 2002 survey confirms that the family, and in particular adult children, continue to play a major role in providing support and care for the elderly in Thailand.

Many Thai elders, especially those in their 60s, remain economically active. Thus our findings reveal that, after children, work is the second most important source of income for the elderly. Although the surveys did not determine if those elders who remain economically active do so out of choice or necessity, very likely a mixture of situations lead older Thais to continue to working past age 60. Provision of work suitable to elderly who want to continue working could not only reduce family and government economic burdens, but might also contribute to a sense of self-value and fulfillment among the elderly.

The share of the government allowance as a source of material support of elderly is relatively small. In 2002 about 3-5 percent of elderly reported receiving it. This represents a substantial increase from less than one percent in 1994, reflecting the expansion of the this social welfare program in the intervening period. We note that one third of elderly reported their income to be insufficient, a share that has remained constant between 1994 and 2002. Thus although government allowances are still modest in coverage, such public support can be very important for indigent elderly. Our results also show that the poorest elderly are more likely than other socioeconomic groups to receive the government allowance. Nevertheless, the inverse association between the percentage who ever received a government allowance and socioeconomic status is

weak. This suggests that this welfare program may not be as successfully targeting the most needy recipients as it should be. Improvements in the selection process for government allowance would help ensure that the elderly most in need are covered in the program.

A substantial majority (77 percent) of elderly in Thailand reported receiving daily living assistance in 2002. If only those who clearly indicated that they were in need of personal help in daily living are considered, fully 97 percent of this subset received some assistance. Nevertheless, the demand for personal care for elderly may increase in the future if gains in life expectancy outpace improvement in health in older ages. Programs to provide assistance to the minority of disabled elderly who have no one to care for them are needed and should be developed.

Finally we note that the recent Second National Plan for Older Persons in Thailand incorporates various strategies for ensuring quality aging and has laid out indicators to measure and monitor progress (National Commission on the Elderly 2001). Thus relevant data to construct these indicators are needed. The surveys on which the present analysis is based provide some information that can be of value in monitoring the extent to which the goals in the second national plan are met. Nevertheless, information for a number of the recommended measures are lacking. This needs to be taken into consideration when developing the questionnaire for the next round of national Survey of Elderly in Thailand so that a fuller range of relevant data will be collected. We also note that Thailand is experiencing rapid social, economic and technological changes that alter the setting in which families function and have important bearing on the interpretation of trends in measures of well-being of the elderly population. For example, revolutionary changes in communications and extensive improvements in transportation modify the implications of changing living and support arrangements of the older population. Future surveys need to collect appropriate information that will facilitate the interpretation of results so that a accurate understanding of the changing situation of Thailand's senior population can be better understood and their needs better addressed in government and private programs..

Endnotes

[1] In 1994, at the time of SET1, the 974 areas classified as sanitary districts were included with rural (i.e. non-municipal) areas. However according to a 1999 Act, all sanitary districts (which numbered 983 by that time) were upgraded to municipal areas and thus are categorized as urban in SET2. If sanitary districts are included the rural for SET1, the share of Thai elders who lived in rural areas at that time is 81.1 rather than 70.1 percent.

[2] Based on a comparison of a 1986 non-NSO national survey and the 1994 SET1, the share of persons aged 60 and above who lived with a child (not counting children in law) declined 4 percentage from 79.7 to 75.4 (Knodel et. al 2000).

[3] We include children-in-law together with children of the household head as members of the same generation. Thus a household that includes a household head and a child-in-law would be considered as at least two generational even if no child of the head was resident.

[4] A strict definition of 'skip generation' would include all situations in which grandparents live together with grandchildren without the parents of the grandchildren. Such a strict definition would include cases in which middle generation members were present as long as none were the parents of the grandchild of the head (i.e. aunts and/or uncles of the grandchild were present). The classification in Table 3, includes such situations instead in the 'three or more generation' category for two reasons. First, limitations in the information in the labor force survey household listings do not permit distinguishing parents from aunts and/or uncles of grandchildren of the head. Second, using a strict definition of skip generation would lead to an overlap between the 'skip generation' category and the category 'three or more generations' in cases in which a grandchild's parents are absent but other children or children-in-law of the head were present. Thus the estimates of 'skip generation' households in Table 3 slightly understate the share of actual skip generation households if a strict definition of the category had been implemented.

[5] The measure of socioeconomic status represents a composite index derived from questions asking about the sufficiency of income, the need for support regarding financial matters, food, clothes and groceries, and the quality of the respondent's dwelling unit as determined its type, construction material, and the type and location of the toilet. Percentile scores were first calculated separately for housing quality and all the remaining items and then combined giving equal weight to the two sets of percentile scores. Five categories were then formed corresponding roughly to quintiles.

[6] SET1 also asked persons who were living in solitary households if this created problems. Interestingly only one-fifth of the elders in that survey (compared to over half of those in SET2) indicated that they had a problem associated with solitary residence. Although the questions asked in both surveys were ostensibly identical, the explanation for the difference appears to be the different responses allowed and a likely difference in the way the question was asked. In SET1 only a yes or no response was permitted while in SET2 respondents were apparently provided with the specific choice of categories described in the text as part of the question. Thus when not given an explicit choice which mentions different types of problems, respondents were far more likely to say they had no problem than when specific choices were offered by the interviewer.

[7] In 1993 the Department of Public Welfare (DPW) started a program to provide monthly subsistence allowances for 20,000 indigent old persons in rural areas in sites where a village welfare center existed. The program was subsequently expanded to cover 400,000 elderly by 1999 and the allowance was increased from 200 to 300 Baht.

[8] Unadjusted results in the principal survey report issued by NSO (2003) indicates that coresidence with a child, not counting children-in-law, in 2002 was only 57.5 percent. As shown in Appendix B this clearly is an underestimate stemming from data problems.

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Appendix A

Table A1: Demographic characteristics of population aged 60+ according to the 2000 census and the 2002 survey of elderly

Characteristics	Percent distribution	
	2000 Census*	2002 Survey of elderly
Sex		
Men	45.1	45.7
Women	54.9	54.3
Age		
60-64	34.0	34.7
65-69	26.4	28.0
70-74	18.6	18.4
75-79	10.8	9.8
80+	10.1	9.1
Area		
Urban	29.0	31.0
Rural	71.0	69.0
Region		
Bangkok	8.7	10.4
Central	24.3	25.7
North	22.1	21.1
Northeast	31.6	30.6
South	13.3	12.3
Percent currently married –Men		
60-69	84.8	87.9
70-79	74.6	76.4
80+	58.9	57.6
All	79.6	82.2
Percent currently married –Women		
60-69	61.8	56.8
70-79	43.4	37.9
80+	25.8	15.2
All	52.3	47.2

Note: 2000 census results are based on 100%.

Appendix B. Data inconsistency regarding marital status and living arrangements from the 2002 Survey of Elderly in Thailand: Problems and solutions

Data problems and inconsistencies

As explained in the text, the 2002 Survey of Elderly in Thailand (or SET2) is the second such survey conducted by the National Statistical Office (NSO). The first Survey of Elderly in Thailand (or SET1) was conducted by NSO in 1994. Both SET1 and SET2 were conducted in conjunction with the second rounds of the Labor Force Survey in the respective years. For SET1, all persons aged 50 and over in households enumerated in the Labor Force Survey during the month of May were interviewed either directly or by proxy. In SET2 all persons aged 50 and over in households enumerated in the full three months of the Labor Force Survey (April though June instead of just May) were interviewed, either directly or by proxy. Thus the sample of older persons in SET2 is considerably larger in size (43,447) than the sample interviewed for SET1 (14,139).

Examination of the data set generated by the SET2 questionnaire revealed a number of problems that have serious implications for measuring living arrangements based on the survey alone. One problem is related to how marital status (A5) was recorded. For 11.1% of the unweighted cases in the SET2 data set, marital status is coded as unknown. This compares with only 0.1% of the unweighted cases in SET1 and the almost complete absence of unknown marital status in the 2002 second round of the Labor Force Survey. The cause of this unusually high percentage of unknown marital status in SET2 is not obvious. For example, examination of these cases indicates they are not associated with any particular province (and hence interview team) nor are they associated with proxy interviews. However, the large number of cases with unknown marital status affect the ability to determine living arrangements from the key series of items in the questionnaire intended for this purpose as described in the following paragraph.

In both SET1 and SET2, after first determining that the respondent does not live alone, a series of questions ask about the presence or absence of 11 different categories of persons in the same household as the respondent (e.g. spouse, single and married sons and daughters, etc.). These questions are found in section B of SET2 (B14 to B24) and are intended to provide the information for measuring living arrangements. However, all cases of unknown marital status in A5 are coded as having no spouse present in the household in B14, the item referring to the spouse. Note that, except for respondents who are living alone, there is no indication in SET2 to indicate the total number of household members. Note also that, as in SET1 (but not in the 2002 second round Labor Force Survey), the marital status question A5 divided currently married respondents into two separate categories according to whether they were living together or living apart.

It is possible to determine the marital status of those respondents in SET2 whose marital status is coded as unknown in A5 by taking advantage of information provided by a screening question in section E. The main intention of section E is not to measure living arrangements but to collect information about visits either by or to the respondent with persons who are related in different ways to the respondent and who are not living in the household. The 12 categories of persons asked about are largely the same as those asked about in section B and include spouses as one category. Before asking about visits with persons in each specific category, an initial set of screening questions determine whether or not there are any persons who are living outside the household for each category asked about. If there is no person of the particular category living outside the household, then the question about visits in relation to this category of person is skipped. Note that because more than one person may exist in any particular category (e.g. single sons), there can be some who reside in the household and others outside the household. Thus responses to the screening questions in section E are coded to indicate if persons in the category being asked about reside inside, outside, or both inside and outside the household.

In the case of the screening question regarding a spouse (E1), unlike in question B14, persons of unknown marital status are not automatically coded as having no spouse in the household. In fact, in response to question E1, 61.1% of respondents (unweighted) who are coded as unknown marital status in B14 are coded as having a spouse (59.1% having a spouse inside the household and an additional 2.0% having a spouse living outside the household). Based on the information in E1, we can adjust responses to question B14 for those cases of unknown marital status in A5 with respect to the whether a spouse is present or not in the household (which, as noted above, are originally coded as not having a spouse present). In addition, we constructed a corrected marital status variable by substituting the information provided in E1 for cases coded as unknown marital status in A5. For the very small number of cases for whom a determination of marital status could not be made based on either A5 or E1, we coded those who ever had children as being previously married and those who never had children as being single.

Common identifying information in the data sets for SET2 and the second round of the 2002 Labor Force Survey allow data for the same individuals in both data sets to be matched. In a minority of cases, however, the resulting match is obviously incorrect, presumably because of error in the identifying information from at least one of the two sources. For example, 3.1% of the matches link persons who are of opposite sexes and an additional 3.4% link persons whose age in the two sources disagree by more than 1 year. Thus while plausible matches between the labor force survey and SET2 can be made for the large majority of respondents, not all can be matched correctly. Nevertheless the ability to make a plausible match for the vast majority of cases provides a basis for determining consistency between the SET2 and the second round of the 2002 Labor Force Survey (on which the SET2 sample is based) with respect to marital status and a number of issues related to living arrangements.

For the purpose of evaluating the agreement between SET2 and the second round of the 2002 Labor Force Survey, we limit comparisons to cases where the two sources agree on the sex of the respondent and do not differ by more than one year with respect to age. This restricts comparisons presented in this appendix to either the 93.4% of matched cases among persons aged 50 or over in SET2 or the 92.8% of matched cases aged 60 or over in SET2 that meet these criteria (depending on the age range under consideration). Note that while these criteria are likely to eliminate the most obvious cases of incorrect match, some will still remain.   At the same time, some matches that are correct but for whom the ages reported differ by more than 1 year are excluded. Note that some household member other than the respondent in SET2 may have reported the SET2 respondent's age in the Labor Force Survey thus helping explain why ages might not match between the two sources even for a correct match.

A direct comparison based on the unweighted matched cases meeting the criteria stated above indicates 97.2% agreement between the Labor Force Survey and question E1 of SET2 as to whether or not a respondent in SET2 is currently married among cases coded as unknown marital status in A5. Thus using E1 to correct the marital status seems reasonable.

Table B1 compares the unweighted marital status distributions according the original coding of B14, the distribution after adjusting the unknown cases in B14 using information from E1, and the distribution according to Labor Force Survey. The results indicate that the adjusted marital status distribution in SET2 resembles closely the distribution of the matched cases in the Labor Force Survey. Moreover, when individual respondents in SET2 are compared directly with their matched cases in the Labor Force Survey, 98% are coded the same with respect to the marital status categories shown in Table B1 (after excluding the small number of cases of unknown marital status).

Table B1. Comparison of unadjusted and adjusted marital status distributions in SET2 and the 2nd round of the 2002 Labor Force Survey (restricted to matched individuals who are the same sex and have ages within one year of each other)

	From B14 (unadjusted)	From B14 but unknown marital status adjusted by E1)	From 2002 Labor Force Survey
single (never married)	3.5	3.6	3.8
currently married)	62.7	69.4	69.0
-- living with spouse	60.0	66.5	n.a.
-- living separately	2.7	3.0	n.a.
widowed, divorced or separated	22.8	26.8	27.2
unknown	11.0	0.2	0.0

Note: Results refer to persons aged 50 and above in the respective source and are unweighted.

Table B2 examines the consistency between sections B and E in terms of the presence of particular categories of persons in the household. Considerable inconsistency is evident. Putting aside the special case of spouses, for all other categories of individuals except non-relatives, there is a higher percentage indicated as present in the household in section E than in section B. Comparisons of the listing of household members in the Labor Force Survey with the presence of particular categories of persons indicated to be in the household in sections B and E in SET2 sheds light on the accuracy of the two sections. In general, when sections B and E are consistent with each other, SET2 and the Labor Force Survey also agree. However, even though section B was intended to measure living arrangements in SET2, it is not necessarily more accurate than section E when the two sections disagree.

Table B2. Percent distribution of persons aged 60 and over according to agreement between questionnaire sections B and E regarding the presence of others in their household, Survey of Elderly in Thailand, 2002

	In hh re both B&E	In hh re B only	In hh re E only	Not in hh re both B&E	Total percent	Percent disagree-ing (*)
Spouse – unadjusted (B14/E1)	52.3	0.0	5.7	42.0	100	9.8
Spouse – adjusted	58.0	0.0	0.0	42.0	100	0.0
Single son (B15/E4)	14.9	0.7	1.8	82.5	100	14.4
Single daughter (B16/E7)	14.6	0.8	1.9	82.6	100	15.6
Married son (B17/E10)	13.3	1.5	2.9	82.3	100	24.9
Married daughter (B18/E13)	20.7	1.9	6.8	70.6	100	29.6
Child-in-law (B19/E16)	24.4	2.3	5.8	67.6	100	24.9
Grandchild (B20/E19)	38.9	4.1	6.2	50.7	100	20.9
Parents (B21/E22+E25)	1.4	0.3	0.4	97.9	100	33.3
Siblings (B22/E28)	2.1	0.4	1.6	95.9	100	48.8
Relatives (B23/E31)	3.5	2.6	2.0	92.0	100	56.8
Non-relatives (B24/E34)	0.1	5.3	1.4	93.2	100	98.5

(*) The numerator is the percent in B only plus the percent in E only; the denominator is the percent in both B and E plus percent in B only plus the percent in E only.

Measures of coresidence and living arrangements

For the purpose of this study we define coresidence as a situation in which the (older-aged) respondent is living in the same household with a child or child-in-law. In the vast majority of cases when a child-in-law is present so is a child (typically the spouse of the child-in-law). However in 0.8% of all unweighted cases, a child-in-law is indicated as present in either section B or E even though no child is indicated as present in either section. We believe a definition of coresidence incorporating a child-in-law is justified conceptually because a child-in-law can fulfill the same functions within an elder's household as can a child. In addition, it has the methodological advantage of permitting direct comparisons between SET2 and the Labor Force Survey, since in the case of the latter, the information available does not always make it possible to definitely distinguish the presence of a child from a child-in-law (see below).

With respect to the important issue of coresidence with a child, information in section B appears to be less accurate than in section E. When coresidence is based only on section B, 6.4% of the matched cases in SET2 disagree with the household membership listings in the Labor Force Survey; when based only on information in section E, only 3.7% of the matched cases in SET2 disagree with the household membership listings in the Labor Force Survey. However, a more consistent assessment of coresidence results when information from both section B and E are combined. Based on a random selection of cases, examination of the household listings in the Labor Force Survey make clear that in the large majority of cases a child is present in the household when either section B or E indicates this to be the case (i.e. when B indicates a child is present regardless of what E indicates and vice versa). The same is not true, however, with respect to the presence of a child-in-law. In this case, section B is clearly more accurate. Comparisons between SET2 and the household listing in the Labor Force Survey show that when B indicates the presence of a child-in-law (regardless of whether or not E agrees) there is a almost always a child-in-law in the household listing. In contrast, in a substantial proportion of cases in which E indicates the presence of a child-in-law but B does not, no child-in-law is found in the household listing in the Labor Force Survey. Testing also revealed a small subset of cases in SET2 that are indicated as having a coresident child in section E but not B are coded as living alone in response to B12 . When these cases were matched with the Labor Force Survey, the large majority were indicated as being in solitary households in the Labor Force Survey and thus that B12 was much more likely to be accurate than section E in cases of disagreement.

Based on these considerations, the measure of coresidence in the present study considers a respondent to be coresident if either of the following conditions are met: 1) section B or section E indicates a child is in the household and item B12 does not indicate that the respondent is living alone or 2) a child-in-law is indicated to be in the household in section B. Based on this measure, only 1.7% of the matched cases in SET2 are inconsistent with the Labor Force Survey with respect to coresidence with a child and/or child-in-law.

For the purpose of examining the relationship of living arrangements with other variables measured in SET2, we constructed a four category measure: living alone, living with a spouse, living with a child and/or child-in-law (regardless of the presence of anyone else), and a residual category consisting of all other arrangements. Note that the responses to B12 agree well with the Labor Force Survey with respect to who lives alone. Among matched cases, 99.2% of those indicated as living alone according to B12 are in one person households in the Labor Force Survey. Moreover, 98.7% of those in one person households in the Labor Force Survey are indicated as living alone in B12 thus indicating excellent consistency in both directions.

To construct the 4 category living arrangement variable we relied primarily on information internal to the SET2 data set but supplemented it with information from the Labor Force Survey. Any respondent indicated as living alone in response to the direct question (B12) about living alone in SET2 is assigned to

the category "living alone" and any respondent who is indicated as coresident according to the measure described above is assigned to the category "living with a child and/or child-in-law". Among the remaining cases, if both sections B and E agreed that only a married couple lived in the household, the respondent was assigned to the category "living only with a spouse". If both sections B and E agreed that the respondent was not living only with a spouse, the respondent was assigned to the category "other arrangements". The remaining cases consisted of those in which sections B and E disagreed with respect to whether the respondent was living only with a spouse. For the majority of these cases for which a plausible match (according to the criteria described above) could be made with the Labor Force Survey, we used the household listing in the Labor Force Survey to determine if the respondent was living only with spouse or in some other arrangement. The small number of these cases for which a plausible match could not be made are categorized as "indeterminate" and treated as missing with respect to the 4 category living arrangements variable.

The living arrangements scheme presented in Table 2, which compares the distribution of living arrangements in 1994 and 2002, goes beyond the four categories described above by adding a distinction with regards to the marital status of coresident children. Inconsistencies within the SET2 data make it necessary to base such measurements in SET2 primarily on the Labor Force Survey household listings rather than the SET2 data set itself, although some adjustment is incorporated based on the SET2 data set. We note that for 1994, we relied solely on the SET1 data set. This should not affect comparability between the two years because the 1994 SET1 data set and the 1994 labor Force Survey yield almost identical results with respect to living arrangements as categorized in Table 2. Obviously SET1 is not characterized by the same problems of inconsistency as SET2.

The main basis for determining living arrangements of persons age 60 or over as portrayed in Table 2 from the 2002 second round of the Labor Force Survey is information on the relationship of each member to the head of the household in the household listing. The relationship to head is coded in nine categories: head, spouse of head, unmarried child, spouse of married child, grand child, parent or parents-in-law, other relatives, and non-relatives. Table B3 indicates the distribution of persons age 60 and over according to these categories.

Table B3. Persons age 60 and over by relation to head of household, 2002 Labor Force Survey, Round 2 (unweighted)

RELATION	Number of cases	Percent distribution
Head	15052	59.8
Spouse of head	5726	22.7
Unmarried child	69	0.3
Married child	55	0.2
Spouse of married child	40	0.2
Grand child	5	0.0
Parent or parents-in-law	3513	13.9
Other relative	700	2.8
Non-relative	29	0.1

Based on this information and in some cases additionally on the marital status of members, we assigned persons aged 60 or over to one of five categories of living arrangements (with each prior category taking precedence over all subsequent categories): living alone, living only with spouse, living with an ever married child or a child in-law (regardless of the presence of others including a spouse or unmarried children); living with an unmarried child (regardless of the presence of spouse or others but excluding

cases where an ever married child or a child in-law is present), and a residual category of other arrangements. Those who could not be reasonably assigned to one of these categories based on the information being used were left as indeterminate.

Assignment of elders living alone and with only a spouse is straightforward. All elders in 1 person households are assigned to 'living alone' and all who live in two-person households that include the spouse of the head are assigned to 'living with spouse only'. The rules determining assignment to the remaining elders to the other 3 categories, however, depend on the elder's relation to the household head. For the large majority of these remaining elders who are either head or spouse of head assignment is again straightforward. However, assignment for those who are related to the head in other ways is more complex. In some cases, assignments can be made using reasonable assumptions. In others the assignment is ambiguous and thus indeterminate. Table B4 indicates the criteria that were used to assign elderly (persons 60 above) to the remaining three categories.

Table B4. Criteria used to assign persons age 60 and over as enumerated by the 2002 Labor Force Survey who are not living alone or living with a spouse in a two person household to remaining living arrangement categories used in Table 2 according to their relation to the head of household

Relation of person 60 age and over to head of household	Living arrangements category		
	Living with an ever married child or child in-law	Living with an unmarried child (if not coded as living with an ever married child or child in-law)	Other arrangements (if not coded as living with an ever married child, a child in-law or an unmarried child)
Head or sSpouse of head	presence of a member coded as a married child or spouse of a married child	presence of a member coded as an unmarried child	all others
Unmarried child	none	none	all
Married child *	presence of a member coded as a married grand child	presence of a member coded as an unmarried grand child	all others
Spouse of married child*			
Grand child	indeterminate with respect to all three living arrangement categories		
Parent or parents-in-law	household head is married	household head is unmarried	
Other relative	indeterminate	indeterminate	presence of no other a member coded as relative or non-relative of head
Non-relative			

*Note that we assume that if the focal person age 60 and older is a child or spouse of a child of the head and grandchildren of the head are present that these grandchildren of the head are the children of the focal person.

Using these criteria, it is possible to assign all but 1.2% of persons age 60 and over to one of the five living arrangements shown in Table 2. In order to reduce the number of remaining indeterminate cases, we drew on information from the SET2 data set. For indeterminate cases for which a plausible match (according to the criteria described above) could be made with the Labor Force Survey, those for whom a married child or a child-in-law is indicated as present in the household in either sections B or E were assigned to the category 'living with an ever married child or a child in-law'. For the plausibly matched

cases still remaining indeterminate, those for whom an unmarried child is indicated as present in the household in either sections B or E were assigned to the category 'living with an unmarried child'. Finally, all other remaining plausibly matched cases were assigned to the category 'other living arangement'. This leaves only 0.2% of cases unassigned to one of the five living arrangement categories shown in Table 2.