Social and Economic Aspects of the Elderly in Thailand

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Abstract: Thailand has an elderly population of 10 per cent. This paper shows how the Thai elderly live, both socially and economically. A national survey found that 16 per cent of elderly households in the rural areas live in substandard conditions. The majority of the elderly (60%) rely on family support for their living while another 20 per cent work for a living and only 4 per cent have government pension. Thailand is now organising a National Saving Fund to promote savings for retirement. Another national survey found that 80 per cent of the population would like to save for retirement but only 48 per cent think that they can save regularly on a monthly basis. This is consistent with yet another survey which found that 50-60 per cent of the elderly actually prepared themselves physically and mentally for the ageing period. Though the survey found the elderly to be less happy than the young, they were quite healthy, that is, about 90 per cent of those in the 65-74 age group could take care of themselves. As it is quite usual in Thai culture for children to take care of their old parents, more than 80 per cent of the population expect that their children will take care of them physically, mentally, and financially when they become old. Daughters usually take care of their aged parents. About 45 per cent of the elderly who are older than 94 years are taken care of by a daughter or daughter-in-law, while another 38 per cent look after themselves. The United Nations (UN) projects Thailand to have an old-age dependency ratio of 38 in the next 30 years. Without income security and long term care schemes for the elderly, it would be very difficult for working children to take care of their parents in the future.

Keywords: Elderly's asset holding, elderly poverty incidence, income security, National Saving Fund

JEL classification: J14, J18, I30

1. Introduction

Like many countries in the region, Thailand has a declining birth rate and an increasing life expectancy resulting in an ageing society. The current total fertility is about 1.5 children per woman, just as in the case of Japan 20 years ago. The proportion of elderly is about 10 per cent implying an old-age dependency ratio of 14 (Table 1). The UN projects Thailand to have more elderly people than children by 2030 with the old-age dependency ratio being 38 in 2040, the rate Japan had in 2010.

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Age group	2000	2010	2020	2040	2060	2080
Total population (1,000)	63,155	69,122	72,091	72,994	68,262	62,547
Total fertility	1.68	1.53	1.44	1.65	1.83	1.94
Child dependency ratio	54.1	44.6	37.4	33.9	36.7	40.7
Old-age dependency ratio	11.4	14.1	19.3	38.1	50.8	56.3

Table 1. Thailand's population and dependency ratios

Source: United Nations(2011)

Note: The child dependency ratio is the ratio of the population aged 0-19 to the population aged 20-64. The old-age dependency ratio is the ratio of the population aged 65 years or over to the population aged 20-64.

The social and economic aspects of the Thai elderly have strong implications for public policy. Good public policies for the elderly as well as for the working age population will have a positive impact on their well-being during the ageing years. This paper is organised into five sections. Section 2 explores socio-economic aspects of the Thai elderly (aged 65 and above), followed by a discussion on social protection mechanisms for the elderly in Section 3. Section 4 discusses preparedness for old age while Section 5 concludes with policy implications.

2. Socio-Economics of the Thai Elderly

In 2010, about 5 million households or 27 per cent of households in Thailand had at least one elderly member. Households living in the North and Northeast of the country had a higher proportion of the elderly. The elderly proportion in both urban and rural areas has increased significantly with about 15 and 18 per cent of households in the urban and rural areas, respectively, having at least one elderly member in 1990. In 2010, the proportions had increased to 23 and 29 per cent, respectively.

Only 4 per cent of the elderly in Thailand receive public pensions while some continue working after retirement to meet daily needs. In 1990, about 40 per cent of the elderly remained in the labour force (Table 2), with the rate increasing to 43 per cent by 2010. Forty-nine per cent of the elderly cited 'earning an income to support their family' as the

	1990 (%)	2000 (%)	2010 (%)
Male	43	43	43
Single	1	2	3
Married	51	56	54
Widow/widower	47	41	41
Divorced / separated	1	2	2
Economically inactive	60	62	57
Labour force participation in agriculture and fishery sector	23	25	25
Trade sector	1	4	6
Other sectors	16	9	12

Table 2. Socio-economic profile of Thai elderly

Source: National Statistical Office, Socio-Economic Survey (1990; 2000; 2010).

main reason for continuing to work. Most of the working elderly are in the agriculture and fishery sectors.

Labour force participation of the elderly in Thailand is much lower than in the Republic of Korea where labour force participation among the male elderly in rural Korea was 70 per cent in 1995, increasing from 46 per cent in 1965. Lee (2010) explained that the out-migration of younger persons is the major reason for the sharp increase in older male labour force participation. This could also take place in Thailand in the future if the government does not have in place a public pension policy and the rural elderly do not have enough savings for old age.

Currently, the only group of workers who have access to a pension is civil servants. Figure 1 shows that only 4 per cent of the elderly depended on a pension in 2007 with another 4 per cent living on elderly social assistance. The majority of the elderly depend financially on family support, that is, children, spouse, and relatives.

A very small proportion of the elderly lives on savings income. This is no surprise as savings are known to be concentrated among the rich households. In 2011, about 87 per cent of saving accounts in commercial banks consisted of deposits below THB 50,000 while about 1 per cent of total commercial bank accounts consisted of deposits above THB 1 million. This one-percent accounted for 70 percent of the total deposits of the commercial banks (Bank of Thailand, 2012).

Another form of savings that can provide income security for the elderly is real assets. In 1990, over 94 per cent of households with elderly members had their own house while 90 per cent had their own land (Table 3). Only 6 per cent of households with elderly members in the Northeast region had a car, truck or tractor. This proportion increased to 47 per cent



Figure 1. *Major sources of income of the elderly Source*: National Statistical Office, Elderly Survey 2007.

	Central	North	Northeast	South	Country
			1990		
House (%)	89.2	94.8	97.9	95.6	94.1
Land (%)	77.7	92.6	97.6	93.2	89.6
Car, truck or tractor (%)	14.6	16.5	5.5	5.0	11.2
			2010		
House (%)	85.9	95.5	96.9	92.1	92.8
Land (%)	76.9	91.4	95.8	89.7	88.5
Car, truck or tractor (%)	41.2	36.4	46.7	29.3	39.4

Table 3. Assets owned by households with elderly members

Source: National Statistical Office, Socio-Economic Survey 1990 and 2010.

Table 4. Poverty incidence among households with elderly members (1990, 2000 & 2010)

Type of household	1990	2000	2010
Households with elderly members (%)	45	24	11
Householdswhere all members are elderly (%)	49	27	13
Household where all members are elderly or children(%)	47	42	19
Poverty line (THB per person per month)*	692	1,135	1,678

Source: National Statistical Office, Socio-Economic Survey (1990; 2000; 2010).

* National Economic and Social Development Board (2011).

in 2010. Given that Thailand has limited public transport in the Northeast region, having an automobile can improve the well-being of a household, particularly in the case of emergencies. Ownership of real property fell by a few percentage points in 2010.

Many Thai elderly do not earn enough to meet their needs. In 1990, about 45 per cent of the households which had at least one elderly person lived below the poverty line (Table 4). However, in 2010 only 11 per cent lived below the poverty line. Households which have only elderly and children as members (no working age member) are the most vulnerable to poverty. Children residing in the same household as the elderly are basically grandchildren of the elderly. About 19 percent of households where all members are elderly or children live below the poverty line. About 35,000 households fall into this category.

More of the Thai elderly live in the rural areas and tend not to socialise. As transportation is a major constraint, the elderly can only participate in activities in their own community that do not require transportation. The lack of transportation may account for the low social activity in the rural areas. However, it is known that about 70 per cent of the elderly do get an opportunity to participate in village or community activities in the past 12 months (Table 5) but it is likely that the activities involve their religion. Table 6 also shows that the elderly participate less in volunteer activities than the young. About 18 per cent of the elderly regularly participate in activities that benefit other people in the community and another 31 per cent participate occasionally. However, about 21 and 40 per cent of the young participate in such activities regularly and occasionally, respectively. Following

Social and Economic Aspects of the Elderly in Thailand

Table 5. Social activity among the elderly (2002 & 2007)

	2002	2007
A member of an elderly group (%)	23	28
Participation in an elderly group (%)	17	22
Involved in village/community activities in the past 12 months (%)	n.a	70

Source: National Statistical Office, Elderly Survey (2002; 2007). Note: n.a - not available

Table 6. Participation of the elderly in activities that benefit other people in the community, 2008

	Age 15-64	Age 65+
Regularly (%)	20.6	18.3
Some time (%)	39.8	31.4
Never (%)	30.8	43.1
No activity in the community (%)	5.2	5.1
Don't know that there is activity (%)	3.6	2.0

Source: National Statistical Office, Social and Cultural Survey (2008).

Table 7. Views of the elderly on satisfaction with life

		Age 15-64	Age 65+
Are you satisfied with your life? (%)	Never	1.1	2.1
	A little	17.6	19.3
	Yes	68.4	68.4
	Very much	12.9	10.2
Do you feel that your life is full of unhappiness? (%)	Never	64.1	62.3
	A little	31.8	30.5
	Yes	3.7	6.6
	Very much	0.4	0.6
Do you think that your family will take care of you	Never	1.0	2.3
when you're seriously sick? (%)	A little	4.9	7.1
	Yes	46.8	47.5
	Very much	47.3	43.1

Source: National Statistical Office, Social and Cultural Survey (2008).

Powdthavee (2008) who states that involvement in social interaction such as talking to friends, relatives or neighbours can improve satisfaction with life, the elderly appear to be less satisfied with their life than the young.

A survey in 2008 shows that about 2 per cent of the elderly were not satisfied with their life, compared with 1 per cent of the younger age group (Table 7). About 7 per cent of the elderly felt that life was full of unhappiness. Another 10 per cent were worried that they

would not receive family care when seriously ill. Their worries were higher than the younger population.

Borg *et al.* (2005) reported on the relationship between poor health and financial resources indicating that self-reporting of overall bad health and poor financial resources are strong factors explaining the level of life satisfaction among the elderly. Other important factors are loneliness, lack of self-care capacity and worry. The elderly survey in 2007 showed that 30 per cent of the elderly reported that they had poor health.

3. Social Protection for the Elderly

Social protection for the elderly includes public schemes and family support. Public social protection can be grouped into health care, income security, and social assistance.

3.1 Health Care

Thailand has three public health care schemes: Civil Servant Medical Benefit Scheme (CSMBS)¹, Social Security Scheme (SSS) and Universal Health Care Coverage (UC). CSMBS is a non-contributory scheme for civil servants, their parents and dependent children and pensioners. It covers about 5 million Thais. SSS is for private employees who contribute money to the Social Security Fund² and covers about 10 million people. The UC, implemented in 2001, is a free health care scheme for everyone who is not covered by the first two schemes. The UC is financed using general tax revenues. The three health care schemes are not harmonised. Most Thais would prefer to have health care coverage under the CSMBS, the most expensive scheme among the three.

Figure 2 shows that 79 per cent of Thai elderly are covered by UC and another 20 per cent are covered by CSMBS or state enterprise schemes. Health coverage has improved since Thailand introduced the UC. In 2010, the elderly who did not have health insurance tended to be those who had voluntarily opted out from the public schemes.

3.2 Income Security

As mentioned earlier, only elderly civil servants are covered by income security in the form of pensions. The retirement age for civil servants is 60. However, one can ask for early retirement at the age of 50 or after having worked for the government for 25 years. The civil servant's pension is a non-contributory pay-as-you-go system.

Private employees who are 55 years old and have contributed 3 per cent of their wages to the Social Security Fund (SSF)³ for 15 years will be able to collect old age benefits. The SSF commenced collection of contribution for old age benefits from 31 December 1998. The first pension payments from the SSF will be on 1December 2013. The minimum replacement

¹ This scheme does not include state enterprise employees. Each state enterprise has its own healthcare coverage for employees using its own budget.

² Private employees, employers and the government each contribute 1.5 per cent of insured wage for sickness, maternity, death and disability benefits to the Social Security Fund (SSF). Insured private employees who change their work status to self-employed or other work status can maintain their membership with the SSF and receive the benefits by voluntarily paying 3 per cent of insured earning (announced by SSF) as monthly contribution to the SSF. The government contributes 1.5 per cent.

³ Their employers additionally contribute 3 per cent of insured wages.

Social and Economic Aspects of the Elderly in Thailand



Figure 2. *Health care coverage for the elderly Source*: National Statistical Office, Socio-Economic Survey (2002; 2010).

Age of saver	% of individual saving	Maximum contribution to each individual account (THB per year)	
< 30 years old	50	3,000	
30-50 years old	80	4,800	
> 50 years old	100	6,000	

Table 8. Government contribution to the National Saving Fund

Source: The National Saving Fund Act 2011.

rate is 20 per cent. An insured employee will be entitled for an additional 1.5 percentage point replacement rate for each additional year of contribution beyond 15 years.

To promote savings for retirement, the government enacted the National Savings Fund (NSF) Law in 2011. Under this new law, any individual who is not an employee under private enterprise, the government or a private school is allowed to save in the NSF and the government contributes to each individual account according to their age. The contribution from the government will be 50, 80 and 100 per cent of individual savings (Table 8) with the minimum saving per month being THB 50.

The major problem with the current income security system for the elderly is the fragmented state of the three schemes. The three schemes treat eligible members as if no change in work status will occur during their working life. A private employee who turns into a self-employed person is not allowed to transfer savings from SSF to NSF. The person has to start saving with the NSF and might end up with a very low annuity income at the end of retirement. Civil servants who leave the government service to work as private employees or decide to be self-employed before the age of 50 are not entitled to receive a pension,

unless they have worked for 25 years or more. They will have to start saving for retirement with SSF or NSF. Moreover, a self-employed person saving with NSF cannot transfer the savings to SSF on becoming a private employee. The three schemes also receive unequal subsidies from the government.

3.3 Social Assistance

Social assistance for the elderly includes cash benefits and benefits in-kind. The cash benefits are payable to Thai people who reach 60 years of age with no means-test being required since 2009. The cash benefit for the elderly was designed in 1993 and had targeted the poor. Poor targeting results in many non-poor elderly receiving the benefits with many eligible poor elderly not receiving the benefits. In 2002, about 400,000 elderly received the benefits which cost the government about THB 2.4 billion per year. In 2009, the benefit increased from THB 300 per month to THB 500 with the coverage too being expanded to every person aged 60 and above. The coverage increased from 25 per cent of the elderly in 2008 to 76 per cent in 2009 (Figure 3).

In 2011, the new government⁴ increased the benefit rate according to the age of elderly. The benefits became THB 600, THB 700, THB 800, and THB 1,000 for the elderly in age groups 60-69, 70-79, 80-89, and 90 and above, respectively. Thai voters are aging, and this is a sure strategy to win voter support.



Figure 3. Number of elderly receiving elderly subsistence cash benefits

Note: Number of elderly receiving the benefit is derived from the data of the National Economic and Social Development Board (2013). Data on the elderly used to calculate "percentage of population aged 60+" are drawn from the Bureau of Registration Administration, Department of Provincial Administration (2011).

⁴ The Pheu Thai Party formed the new government after winning a general election on 3 July 2011. The party promoted a higher cash benefit while the former government of the Democrat Party promoted subsidised savings for retirement. Implementation of the NSF Act is, therefore delayed.



Figure 4. *Expectation from children Source*: National Statistical Office, Demand for Social Welfare Survey (2010).

Benefits in-kind include food, clothes, groceries, or accommodation. However, as the budget allocated for these benefits is small, the monetary value of these benefits is consequently low as well. The elderly who ask for these benefits are really poor or abandoned by their families or communities as the general feeling is that asking for these benefits could make one feel inferior.

Family support is still an important aspect of Thai society. A survey by the National Statistical Office in 2010 showed that about 90 per cent of Thai people expect their children to provide financial support and help with daily activities when they become old (Figure 4). About 96 per cent of Thai people expect their children to help them when they have to visit a doctor or to take care of them when they are sick. However, despite this high expectation from children, the birth rate is still low.

However, in Japan, the expectation that children will look after them in old age seems to comply with the low birth rate. Ogawa *et al.* (2010) showed that almost two-thirds of Japanese women depended on their children for old-age security in 1950. But, in 2007 the expectation was reduced to 9 per cent.

About 60 per cent of the elderly's main income is from children who may live or may not live in the same household. Less than 20 per cent of the elderly do not receive financial support from their children. More of the children who live far away support their elderly parents financially than children who live in the same household (Figure 5). However, the amount of remittance from children is mainly between THB 1,000 and THB 10,000 a year. Compared with the cash benefit extended to the elderly, the remittance is not substantial. It is not known whether public support had reduced the extent of family support.

In developed countries like Korea, the main source of income for the elderly has shifted from private transfer to public transfer and labour income. Wage and income from business accounted for 16 per cent while public transfer accounted for 2 per cent of income for the





Figure 5. Annual financialsupport for the elderlyfrom children (2007) Source: National Statistical Office, Elderly Survey (2007).



Figure 6. Elderly contact with children living separately (2007) Source: National Statistical Office, Elderly Survey (2007).

elderly in 1980. Both increased to 30 per cent and 26 per cent, respectively, in 2003. Transfer from children declined from 72 per cent to 31 per cent during the same period (Kim, 2010).

Non-financial support such as love and care are important for the elderly. Feeling lonely can adversely affect life satisfaction and happiness (Borg *et al.* 2005). Children who do not live in the same household as the elderly can provide love and care by visiting or

Age group	Self	Daughter	Son-in-law or daughter-in-law*	Others
65-74 yrs.	90%	3%	1%	6%
75-84 yrs.	79%	9%	1%	11%
85-94 yrs.	58%	21%	5%	16%
95+ yrs.	38%	35%	10%	17%

Table 9. Who takes care of theelderly?(2007)

Source: National Statistical Office, Elderly Survey, 2007.

*Note: It is very less likely that this category will be son-in-law. However, the survey grouped the two in-laws together.

calling their parents. Thai children do visit their parents but the frequency of visits depends on the distance of their houses. About 23 per cent visit their parents at least once a year and the same proportion visit their parent almost every day (Figure 6). Children also have telephone contact with their parents. About 70 per cent of children who live in a separate household have telephone contact with their elderly parents. Only 6 per cent of children who live in a separate household do not visit and do not have telephone contact with their elderly parents.

Taking care of very old parents seems to be the responsibility of women in Thailand. But inVietnam, the elderly are more likely to live with a married or unmarried son than with a daughter (Knodel and Anh 2002). Table 9 shows that about 45 per cent of older people in the age group 95 and over are taken care of by daughters or daughters-in-law. The young elderly mostly take care of themselves.

4. Preparedness for Old Age

Old age comes together with deteriorating physical health which affects the daily wellbeing and ability to work. In 2007, more than 50 per cent of the elderly had prepared themselves in terms of financial, physical and mental health, accommodation and care givers (Table 10). Almost 16 per cent of the elderly had never thought about caregivers. This could be due to family support being an important aspect of Thai culture. The elderly expect their children to take care of them.

The Socio-Economic Survey of 2010 found that about 4 per cent of elderly cannot undertake their daily activities without the assistance of another person and about 18 per

Type of preparation	Never thought about it (%)	Thought about it and prepared (%)	Thought about it, but not prepared (%)
Financial	6	53	41
Physical Health	8	64	28
Mental health	9	56	30
Accommodation	14	67	24
Care giver	16	53	31

Table 10. Preparation for old-age living (2007)

Source: National Statistical Office, Elderly Survey (2007).

	Bangkok (%)	Central (%)	North (%)	Northeast (%)	South (%)	Country (%)
Want to save			. ,			
and capable of saving	55	49	43	47	51	48
but not sure of regular saving	14	22	24	27	20	23
but may not have money for saving	10	12	14	13	18	13
Do not want to save						
because I can manage my own saving	7	4	5	2	1	3
because I do not need saving	3	3	2	2	1	2
because I do not trust the government	1	3	2	2	1	2
Don't know, not sure	11	8	11	8	8	9

Table 11. Desire to save for retirement

Source: National Statistical Office, Demand for Social Welfare Survey (2010).

cent cannot travel outside their residential area without assistance from another person. With the elderly population increasing, the Thai people must seriously consider developing a long-term care system for the elderly.

A high percentage of the elderly never prepared finances for their old age. This is not easy because savings need regular earnings and discipline. However, many of the Thai elderly are self-employed without regular earnings. The government has been playing an increasing role in the care of the elderly since the 1990s.

According to a Social Welfare survey in 2010, about 48 per cent of Thais state that they want to save for retirement and are capableof doing so (Table 11). People in Bangkok who have higher incomes are more capable of saving regularly than people in other regions. About 23 per cent want to save but they are not sure that they can save regularly. It is difficult for low income people to save regularly, particularly those living in poor regions as in the North and Northeast of Thailand. Having good social security systems such as a universal health care coverage might be able to assist younger Thais spend less on unexpected expenditure and facilitate regular savings for their retirement.

5. Policy Challenges

Thailand's population is ageing faster than in many developed countries. Compared to developed countries, Thailand's measures for social protection of the elderly are weak and fragmented. With further industrialisation and urbanisation and a changing socio-economic structure, relying on family support for the well-being of the elderly may not be a good idea.

Preparedness is therefore, very important to protect the well-being of the elderly in the future.

In the next 20 years, Thailand will have more elderly than children. Public spending on education may be reduced proportionately if the birth rate does not rebound and the number of children declines. Public spending on health care for the elderly will inevitably increase cumulatively overtime when longevity increases. As people live longer, there will be increasing demand for long-term care and care givers. Plans to train care givers should be drawn up and for long-term care facilities, public-private partnerships should be a serious consideration.

Given the projected demographic structure, the Thai elderly cannot expect to rely on family support for long-term care. A smaller family size and changes in the socio-economic structure are threats to family support for the elderly. With a large family size, children can take turns to care for their elderly. But, children in a one- or two-child family may find it stressful to take care of two elderly parents. Public schemes should therefore be strengthened to support the elderly so that they are able to live independently and happily. As public social protection cannot replace family love and care, policies to promote family support should be initiated urgently.

One of the initiatives that should be considered is the granting of brief leave from work for the care of ailing parents. Thai workers currently are not granted leave to take care of ill parents as sick leave is granted only for the individual. It is known that working age people are less likely to fall ill than elderly people. It is therefore suggested that workers who do not take sick leave for themselves be allowed to take paid leave to look after their parents when they need care or hospital visits. This might strengthen family ties and improve the mental health of the elderly.

Living a financially independent life can improve elderly satisfaction with life. Savings for retirement should be encouraged and promoted from the time individuals start work so as to ensure they are free from financial worries when old. There is much room for improvement in the retirement savings scheme in Thailand. The fragmented administration and unequal subsidies from the government should be resolved to improve efficiency and equity of income security for retirement systems. Migration of savings accounts between the three retirement funds should be allowed when necessary. Government subsidies to promote savings for retirement should be more balanced regardless of occupation.

References

- Bank of Thailand. 2012. Deposits in commercial banks classified by size and term of deposit.From http://www.bot.or.th/Thai/Statistics/FinancialInstitu tions/CommercialBank/Pages/index.aspx Table FI_CB_018_S2_TH_ALL [Retrieved 20 June 2012].
- Borg, Christel, I. R. Hallberg and K. Blomqvist. 2005. Life satisfaction among older people (65+) with reduced self-care capacity: the relationship to social, health and financial aspects. *Journal of Clinical Nursing* **15** (5): 607-618.
- Bureau of Registration Administration, Department of Provincial Administration. 2011. Population by age and sex. From *http://stat.bora.dopa.go.th/hpstat9/people2.htm* [Retrieved 16 May 2012].
- Kim, Hisam. 2010. Intergenerational transfers and old-age security in Korea. In *The Economic Consequences of Demographic Change in East Asia*, ed. Takatoshi Ito and Andrew K. Rose. Chicago: University of Chicago Press.

- Knodel, John and Truong Si Anh. 2002. Vietnam's Older Population: The View from the Census. PSC Research Report No. 02-523, Institute for Social Research, University of Michigan, August.
- Lee, Chulhee. 2010. Labour force participation of older males in Korea: 1955 to 2005. In *The Economic Consequences of Demographic Change in East Asia*, ed. Takatoshi Ito and Andrew K. Rose. Chicago: University of Chicago Press.
- National Economic and Social Development Board. 2011. Thailand's poverty line by region and area in 1989-2010. From *http://social.nesdb. go.th/social/Default.aspx?tabid=131* [Retrieved 20 June 2012].
- National Economic and Social Development Board. 2013. Number of elderly, disable, and HIV infected patients receiving cash benefits. from http://social.nesdb.go.th/social/ Default.aspx?tabid=131 [Retrieved14 February 2013].
- National Statistical Office. 2010. *Demand for Social Welfare Survey 2010*. National Statistical Office: Bangkok.
 - _____. Various issues. *Elderly Survey*. National Statistical Office: Bangkok.
 - _____. Various issues. *Socio-Economic Survey*. National Statistical Office: Bangkok.
- Ogawa, Naohiro, A. Mason, A. Chawla and R. Matsukura. 2010. Japan's unprecedented ageing and changing inter-generational transfers. In *The Economic Consequences of Demographic Change in East Asia*, ed. Takatoshi Ito and Andrew K. Rose. Chicago: University of Chicago Press.
- National Saving Fund Act 2011. 2011. The Royal Gazette. Vol. 128 Section 34A, pp. 47-63.
- Powdthavee, Nattavudh. 2008. Putting a price tag on friends, relatives, and neighbours: using surveys of life satisfaction to value social relationships. *The Journal of Socio-Economics* **37** (**4**): 1459-1480.
- United Nations. 2011. *World Population Prospects: The 2010 Revision*. New York: Department of Economic and Social Affairs, Population Division, United Nations.