Familial Support, Social Security and the Changing Economic Status of the Elderly in Taiwan: 1976-1996

Thesis submitted to the University of London for the degree of Doctor of Philosophy

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DEDICATION

Dedicated to

My mother, Bi-Yun Chen

and

The memory of my father Wen-Te Chuang

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ABSTRACT

This thesis deals with the economic status of the elderly in Taiwan, with specific reference to familial support and social security. The aims of this thesis are threefold. First, we shall provide a broad analysis of the economic status of the elderly in Taiwan during the period 1976-1996 using three economic indicators (income, assets and consumer durables). Second, we shall examine the impact of familial support (in terms of intra-household transfers and inter-household transfers) on the elderly's economic status. Third, we assess the effectiveness and efficiency of four major types of social security on the reduction of poverty rates and poverty gaps. These aims are achieved by using the dataset from the Survey of Family Income and Expenditure in Taiwan.

The research findings demonstrate that economic well-being of elderly individuals is unequally distributed across different living arrangements. It supports the view that familial transfers were still substantial up to 1996 but were steadily decreasing over time. For some households, although social security has proved to be very effective in reducing overall poverty, there was a low efficiency associated with social security distribution. The study addresses the importance of family support of the elderly, and the fairness and efficiency of social security provision. Moreover, the research suggests that the proposed National Pension Scheme would be an ideal tool for improving the economic status of the elderly in the long term.

CONTENTS

LIST OF ABBREVISATIONS

CEPD	Council for Economic Planning and Development
CRD	Council for Research and Development
DGBAS	Directorate-General of Budget, Accounting and Statistics
DOH	Department of Health
DPP	Democratic Progressive Party
EU	European Union
GDP	Gross Domestic Product
GEI	Government Employees' Insurance
GNP	Gross National Product
ILO	International Labour Organisation
ISSA	International Social Security Association
ITASPS	Insurance for Teaching and Administration Staffs of Private Schools
KMT	Kuomintang
LI	Labour Insurance
LIS	Luxembourg Income Study
LSA	Labour Standards Act
MLIELA	Middle-to-Low Income Elderly Living Aid
MOI	Ministry of Interior
MSI	Military Servicemen's Insurance
NHI	National Health Insurance
NPS	National Pension Scheme
NT$	New Taiwan Dollars

OECD	Organisation for Economic Co-operation and Development
OSS	Old Status Survey
PROC	People's Republic of China
ROC	Republic of China
SEHLS	Survey of the Elderly’s Health and Living Status
SFIE	Survey of Family Income and Expenditure
USSSA	United States Social Security Administration

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INTRODUCTION

Family[1] is one of the most universal and long-standing institutions in human history. It provides the basis for strong and long-term commitments which bind people together at different stages of life. For the vast stretch of recorded history, the welfare of the elderly[2], whose numbers were small compared to the present day, was the responsibility of their families. Within the family there is a degree of trust and a level of information that alleviates problems faced by "external" support mechanisms – for example in private insurance markets the problems of moral hazard[3], adverse selection[4], and deception (Kotlikoff and Spivak, 1981). As observed by the Gerontological Society of America, "the reciprocity of giving and receiving that goes on over time among individuals, and between generations, becomes a commanding principle. It is a bond of interdependence that ties societies together" (Kingson et al., 1986: 3).

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[1] The terms "family" and "household" are used interchangeably in this study.

[2] Throughout this study the terms "elderly" and "aged" are used synonymously; both refer to people who are age 65 or over.

[3] "Moral hazard" is a situation in which insured people do not protect themselves from risks as much as they would do if they were not insured.

[4] "Adverse selection" is a problem stemming from an insurer's inability to distinguish between high-and low-risk individuals. The price for insurance then reflects the average risk level, which leads low-risk individuals to opt out and drives up the price of insurance to the point where insurance markets break down.

Moreover, the family provides individuals with risk-sharing opportunities which may not otherwise be available. Especially, the extended family has taken care of insurance and redistribution, as well as saving for and investing in children, and in land or housing for the whole family. Thus, familial support is often viewed in juxtaposition to state support, within a general division between informal and formal support systems (Hashimoto and Kendig, 1992). Sussman (1985) points out that that whatever the desired social ends and material goods may be in a particular society, families usually are central avenues for maintaining social ties and distributing resources.

Only relatively recently, primarily during the 20th century, have governments assumed any specific responsibility toward their older citizens by developing programmes and laws focusing on the economic security of the older age group. State intervention in this form has been justified in terms of "the failure of private insurance markets to provide adequate cover for the relevant risks as a result of adverse selection and moral hazard problems" (Atkinson and Hills, 1989: 4). However, it is the informal support system for income security, with no governmental and little market involvement, that is still the mainstay in most developing countries. For example, more than half of the world's old people are estimated to rely exclusively on informal and traditional arrangements for income security (World Bank, 1994).

In Taiwan, the significant increase in the number of the elderly as well as the rate of ageing in the past decades have made elderly welfare become the focus of academics and policy makers alike. Although both Chan (1989) and DGBAS (1994) indicate that the most important welfare priority for Taiwanese elderly people has always been health care and economic security, since the National Health Insurance (NHI) scheme was established in 1995 the elderly have been assured of basic medical care, and the current welfare priority has undoubtedly shifted to the issue of economic security. Moreover, Hsieh (1994) suggests that the priority of economic security should be given more importance since it is the basic means to guarantee a satisfactory level of health care in Taiwan.

Although the Chinese culture has traditionally upheld the importance of familial support for the elderly, Taiwan is rapidly changing as the society becomes more developed economically. Modernisation, urbanisation, and the breakdown of traditional social norms lower the prestige of the old, reduce their control over resources, and diminish the effectiveness of the extended family in pooling income and risk. This is generating enormous impact upon the economic status of the elderly in Taiwan.

Motivation

This study is motivated by three factors. First, Taiwan's economic developments after the World War II have been described as a miracle in that they have provided high economic growth with relatively low income inequality. It would be a surprise if any age group in Taiwanese society had not benefited from this growth. It is clear, to borrow a Chinese metaphor, that "the rising tide has lifted all boats". However, few researchers have examined how the growth of income levels has affected the *changing economic status of the elderly* over time. Without looking at such social aspects, an understanding of the

Taiwanese development experience remains inadequate. The analysis of the Taiwanese elderly's economic status undertaken in this thesis represents an attempt to reduce this research gap.

Second, to meet its rapidly changing needs Taiwan has developed a social security system over the past five decades. However, studies of social security systems in relation to the economic status of aged people have focused largely on developed countries, and the current theories about social security systems are primarily based on those studies[5]. The experiences of the developing or newly developed countries, which comprise the majority of the world's nations, have not been adequately assessed. Therefore, it is hoped that, through a case study of Taiwan's experiences, this research will shed some light on the study of social security systems in newly developed countries.

Lastly, the family still remains the principal source of old age security in Taiwan, even after the introduction of a systematic approach to old age security. It is essential to understand the impact of *family support* on the economic status of the elderly over time before an appropriate policy is decided. In addition, the effectiveness and efficiency of *social security transfers* on the economic well-being of the elderly must also be examined. Since the literature regarding these two aspects is still meagre in Taiwan, this thesis seeks to fill these gaps by analysing the changing economic status of the elderly in Taiwan over the past decades in relation to familial support and social security.

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[5] For detailed discussions, see Goodman and Peng (1996).

Aims

In this thesis, our first aim is to examine the changing economic status of Taiwanese elderly over the recent decades. Secondly, our analysis takes into account Taiwan's unique cultural heritage of strong family ties. We shall assess the elderly's changing dependency on the familial support that the elderly can receive internally (via *intra-household transfers*) and externally (via *inter-household transfers*). Finally, the effectiveness and efficiency of the social security system in Taiwan will be investigated. As a result, we hope this thesis can outline a policy agenda for the forthcoming National Pension Scheme (NPS) in the early years of the twenty-first century.

Questions

In addition to providing a cross-sectional analysis of the economic status of the elderly over time, this thesis seeks to answer the following research questions:

- How well have the elderly fared in Taiwan's rapidly changing society compared with the non-elderly population over time?
- How have the changes of modernisation, urbanisation, and the breakdown of traditional social norms affected familial support of the elderly over time?
- What are the trade-offs of familial support for the elderly living in different living arrangements?
- How effective and efficient has the social security system been in helping the elderly to avoid poverty?

Overview of the thesis

Chapter 1 introduces Taiwan's past history, the recent trends in population ageing and the changes in the elderly's characteristics. Then it discusses familial obligations with respect to the elderly's major income sources, living arrangement and future challenges. **Chapter 2** reviews the many aspects of social security on a worldwide basis regarding its definitions, origins, characteristics, expansions, challenges and the developments in East Asia. It then attempts to explore certain aspects of the Taiwanese developments regarding their origin, ideologies, policy debates and welfare expenditure over the period 1950-1996. Finally, four types of social security schemes (social insurance, occupational retirement scheme, social assistance and social allowances) are discussed in detail.

Chapter 3 is concerned with the previous studies of the economic status of the elderly in Taiwan, and the impact of familial support and social security on the elderly's economic well-being. In particular, we shall identify a current research gap in the literature on these three issues. Although some of the methodological issues are integrated into Chapter 6 and 7, **Chapter 4** specifically deals with the research questions, data and methodology. Concerning the selection of data, it considers the choice of a suitable dataset and its limitations. It then defines economic status (in terms of three indicators - income, assets and consumer durables) and poverty indicators (based on these three economic indicators) and how to measure them.

The findings and analysis of the main results are presented in Chapters 5 to 7. **Chapter 5** presents the first main results of the research, showing the economic status of the elderly compared to the non-elderly over the period 1976-1996. It also compares the economic status of the elderly across three living arrangements. We begin with a discussion of the trends in income in relation to its levels, ratios, inequality, sources and poverty. We then examine assets and consumer durables in a similar way over time. Finally the combined effect on poverty of the elderly over time is evaluated in terms of income, assets and consumer durables.

Chapter 6 analyses the effects of familial support for the elderly living with children, as well as living separately from their children. The first section presents some "concepts and methods" for estimating elderly persons' own individual income, intra-household transfers and inter-household transfers within a household. It also introduces a concept for measuring the effectiveness on poverty rate reduction through a transfer. In the following sections, it presents the distribution of individual income, intra-household transfers and inter-household transfers. We also discuss the poverty alleviation achieved through these transfers. Finally, a tentative analysis evaluates the overall effects of total familial support (the sum of both intra-household and inter-household transfers) for elderly households.

Chapter 7 also presents a "concepts and methods" section to define social security and poverty gap and to explain the method of measuring the effectiveness and efficiency of social security transfers in closing poverty gap. It then explores social security's distribution, coverage, and its effectiveness and efficiency for targeting the poor elderly. The combined and individual effects of four types of social security schemes on the elderly's economic status are examined here.

Finally, **Chapter 8** draws all the research findings together. It also discusses the limitations of this research, recommendations for future research, and some of the policy implications of this study.

CHAPTER 1: THE ELDERLY AND THE AGEING SOCIETY IN TAIWAN

Introduction

This chapter is divided into four sections. First, Section A sets out a brief history of Taiwan over the past four hundred years. Section B analyses the demographic transition of the ageing population in Taiwan during the period 1950-1996. The changing characteristics of the elderly population are reviewed in Section C. Finally, Section D examines the familial obligations in Taiwan with respect to the elderly's income sources, living arrangement and future challenges.

Section A: An overview of the history of Taiwan[6]

When the West met the East

Geographically, Taiwan is an island situated in South-East Asia, with an area of 13,892 square miles, slightly smaller than that of the Netherlands. Taiwan island itself is accompanied by several islands and island groups: the Pescadores, Orchid Island, and Green Island. The earliest inhabitants of Taiwan left no records as to their origin, though anthropological evidence suggests that Taiwan's indigenous peoples were of Malay or Polynesian origin, who initially inhabited the low-lying coastal plains. Since the Sue Dynasty (581-618), Taiwan was recorded as part of Chinese territory and Chinese settlement dates back as far as the 12th century A.D. But it was barely noticed by the political regimes on the Mainland until the Ming Dynasty (1368-1644).

The modern history of Taiwan goes back about 400 years, to the point when the first Western ship passed by the island, and Jan Huygen van Linschoten, a Dutch navigator on a Portuguese ship, exclaimed "Ilha Formosa" (Beautiful

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[6] The reference of this section is drawn primarily from the following five website sources:

1. http://www.gio.gov.tw
2. http://www.geocities.com/apapad
3. http://www.taiwandc.org/history.htm
4. http://www.state.gov/r/pa/ei/bgn/2813.htm
5. http://www.geocities.com/apapadimos/Taiwan_Colonisation.htm

Island); under this name Taiwan was introduced to the Western world. Portuguese interest in the island was only moderate, however, since they soon left after establishing a settlement in the north. The next European power to occupy Taiwan was the Dutch, when The Dutch East India Company established a military base on the Pescadores in 1622. The next year they were forced out by the Chinese and moved to a new base on Taiwan. The news of the Dutch success in Taiwan so alarmed the Spaniards in the Philippines that they hurried to send a fleet from Manila to the northern part of Taiwan, which in 1626 was still not occupied by the Dutch. The Spaniards soon took control of the northeastern cape of the island; however, the Dutch drove the Spaniards from there in 1642.

Chinese vs. Japanese administration

Large-scale Chinese immigration did not begin until the 17th century during the period of Dutch administration. While the Dutch were colonizing Taiwan, they brought in migrant Chinese workers for the sugar plantations and rice fields. However, these workers usually came for a few years only (without family) and then returned to the Mainland. At the same period, China was going through a period of strife in which the Manchu invaded and overthrew the Ming dynasty in the north in 1644. The struggle continued for many years in the south, affecting many people, while Japanese pirates constantly ravaged Chinese coastal towns. Consequently, several waves of immigrants came from the southern Chinese provinces of Fukien and Canton across the Taiwan Straits to Taiwan.

In 1662 Cheng Cheng-Kung (Koxinga), a loyalist of the Ming dynasty, ended the first colonial phase and made Taiwan a base of operations to re-conquer the Mainland for the Ming dynasty against the Manchu. This phase lasted only a short while, and in 1683 Taiwan was conquered by the troops of the new Ching dynasty (1644-1911) and it has since belonged, organisationally, to the Mainland as a prefecture of the province of Fukien. In 1885, the Ching dynasty made Taiwan its 22nd province. Despite their efforts to reinforce China's sovereignty over Taiwan, the Ching dynasty was forced to cede the island to Japan after losing the Sino-Japanese War in 1895. In the meantime, Dr. Sun Yat-sen (1866-1925), the father of modern China, led the revolutionary movement which succeeded in overthrowing the Ching dynasty and founded the Republic of China (ROC) in 1912.

Rising as a Little Dragon

The Cairo Declaration in 1943 stipulated that Taiwan - a Japanese colony since 1895 - should return to the ROC at the end of World War II. When the Communists defeated the Nationalists in the Chinese civil war of the late 1940s, for the Kuomintang (hereafter KMT), Taiwan represented the last refuge for the Nationalist forces and their followers. The troops of the KMT began to withdraw in early 1949 from the Mainland to Taiwan. Following the KMT retreat, there was an influx of around two million soldiers and civilians from the Chinese mainland. At the same time, the government-in-exile established Taipei as the “temporary capital” for the ROC and turned the island into a frontline of the Cold War.

In the context of international relations, the United States showed some signs of abandoning the KMT in the late 1940s because Americans considered it politically weak and rather corrupt. However, the Korean War (1950-53) triggered a change in US strategy in the Far East and it redoubled its military and economic ties with Taiwan. The KMT obtained massive foreign aid from the US and the government was able to enjoy a strong long-term relationship with the US.

The ensuing decade brought a period of relative stability to the ROC. President Chiang Kai-shek used the time to re-invigorate Taiwan's economy. Land reform and a series of four-year plans undertaken during the 1950s and 1960s drastically reduced the inflation of the wartime years and rapidly increased the island's productivity. When government leaders realized the economic bottleneck presented by the narrow base of Taiwan's domestic economy, they quickly opted for an export promotion strategy. As a resource-poor but labour-rich country, the ROC began with various light manufactured exports produced by labour-intensive industries. Intensive economic development has turned the island into one of the world's largest economies, and the rapid industrialization, urbanization, and modernization have dramatically transformed the lives of the island's residents[7].

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[7] Most of the island's infrastructure had been destroyed during World War II, and per capita GNP (Gross National Product) was below US$200. By 1995, technology-intensive products comprised 46.7% of all exports. In 1996, Taiwan's US$274.6 billion GDP ranked as the 20th largest in the world, and its US$12,838 per capita GNP was the 25th highest.

Setback in diplomacy

The 1970s were a period of continued economic growth but political and diplomatic challenge. Although the ROC economy managed to ride out global recessions sparked by two oil embargoes, the global political environment was changing quickly. At the end of 1970, the US signalled a sudden change in its relationship with the ROC by stating that the "status of Taiwan remained undecided." In 1971, Taiwan was driven out of the United Nations when many countries (including the US) gave their formal recognition to Communist China and began to sever diplomatic ties with the ROC. In December 1978, President Jimmy Carter announced that the United States would shift diplomatic recognition from the ROC to the PROC (People's Republic of China). As the turbulent 1970s drew to a close, few international observers would have predicted that the ROC would continue to prosper. Yet, President Chiang Ching-kuo, the son of President Chiang Kai-shek, was able to stabilize the situation by implementing major infrastructure projects, expanding trade ties with other countries and modernizing the ROC's defensive arsenal.

Political reforms

The KMT dominated Taiwanese politics from 1945 to 2000. Under martial law, the KMT effectively prohibited the formation of new political parties. Opposition leaders were heavily punished with long-term prison sentenappces and sometimes the death penalty. But in the light of growing international isolation, the ruling KMT finally gave in to the pressures coming from the opposition movement. Before his death in 1988, President Chiang Ching-kuo oversaw the lifting of Martial Law in Taiwan and since then the island has made major strides in the direction of a fully democratic political system; in particular, opposition parties were first allowed in the 1989 general election. All members of both the National Assembly and the Legislature have been chosen by direct popular election since 1991 and 1992, respectively. The first direct popular presidential election in Chinese history was held in 1996. In May 2000, fully-fledged democracy was achieved in Taiwan when Chen Shui-bian from the former opposition Democratic Progressing Party (DPP) became the new president of the ROC[8].

Political structure

The central government of the ROC is divided into five branches. Each branch is called a *yuan*. In addition to the Executive, Legislative, and Judicial Yuan, which function like their western counterparts, the ROC's central government has an Examination Yuan and a Control Yuan. The Examination Yuan is responsible for the selection, employment, and management of all civil servants. The Control Yuan is the highest supervisory organ of the state, exercising the powers of impeachment, censure, and audit.

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[8] One of the prominent changes that has been brought on since the deaths of President Chiang Kai-shek and his son is the liberty to address divisive questions concerning national identity. This results from a clash of visions of national destiny; the Chinese nationalism manifested by the KMT and its supporters, and the Taiwanese nationalism manifested by those who advocate that Taiwan be an independent state. This conflict expresses the ingrained hostilities and mistrust that exist between segments of the population. Uncertainty about the national identity of the island is tied to deep anxieties about the future of Taiwan.

Administration

Taiwan's two major cities, Taipei and Kaohsiung, are centrally administered municipalities. The rest of Taiwan and the Penghu Islands are administered together as the Province of Taiwan. There are 16 Hsiens and 5 cities in Taiwan province in 1996. Kinmen, Matsu, and smaller nearby islands are administered as counties of Fukien Province.

Population composition

In terms of population composition, Taiwan is a rather homogeneous society. With the exception of some 402,000 indigenous peoples (less than 2% of the entire population), the population of Taiwan is made up almost entirely of Han Chinese. Early Han Chinese immigrants were of two groups. One, the Hakka, came mostly from Canton near Hong Kong. The second, the Fukienese, came from China's Fukien Province directly across the Taiwan Strait. These two groups comprise about 85% of the population, with the Fukienese outnumbering the Hakka by about three to one. The last group of immigrants were Han Chinese from various parts of China who moved with the ROC government to Taiwan in 1949. They are generally referred to as "mainlanders," and comprise about 14% of the population.

Section B: Population ageing in Taiwan

The term "population ageing" refers to the phenomenon of an increasing proportion of old people within a population. This process is related to both fertility and mortality rates: on one hand overall mortality declines, resulting in longer life expectancy; on the other, declines in fertility result in a decreasing proportion of children and young adults in the population and, consequently, an increasing proportion of older adults. By and large, this results from the progress in human living conditions and the advancement of medical science. This dynamic process, usually referred to as the *demographic transition*, was first observed in post-industrial revolution European societies in the early part of the 20th century. Today it is a global trend, both for developed and developing countries, and is a significant challenge demanding societal responses on many fronts (World Bank, 1994).

Over the past few decades, Taiwan has experienced dramatic demographic changes including shifts in both mortality and fertility levels. Concerning mortality, life expectancy at birth for both sexes has increased significantly over time, for males by 19 years, from 53 in 1952 to 72 in 1995; and for females, by 21 years from 57 to 78 over the same period (DOH, 1995). Regarding the total fertility rate (i.e. the expected number of children born to a woman in her lifetime), while Taiwanese married women gave birth to an average of 7 children in 1951, this had decreased to 5.6 children in 1961 and further dropped to 3.7 children in 1971 (CEPD, 1996). Since 1984, this rate has been below replacement levels (less than 2), reaching 1.8 children in 1996[9].

The dynamics of these changes have already resulted in a significant ageing of the population, as is indicated by an increase in the proportion of the elderly from only 2.5% in 1951 – very low by international standards – to 7.1% in 1993 (CEPD, 1996). According to the definition established by the United Nations, this change has transformed Taiwan from a "young population" into an "aged population"[10]. At the same time, the numbers of Taiwanese elderly grew from 193,000 in 1951 to 1,486,000 in 1993, an increase of more than seven times while the increase for the whole population was less than three times (7.9 million to 20.9 million) over the same period (CEPD, 1996). The proportion of elderly is projected to rise further, to over 21% (or 5.6 million people) by 2036.

Figure 1.1 shows that the aggregate increase of the elderly in the population was less than 1% per decade before 1976, increasing to about 2% during the following two decades (1976-1996). The rate of increase is expected to remain similar at 2% for the next two decades (1996-2016). However, it is expected to peak at about 6% during 2016-26, and then 4.3% during 2026-36. Thus the ageing process in Taiwan is rather fast; in particular, the ageing pressure will occur in the 2010s and 2020s.

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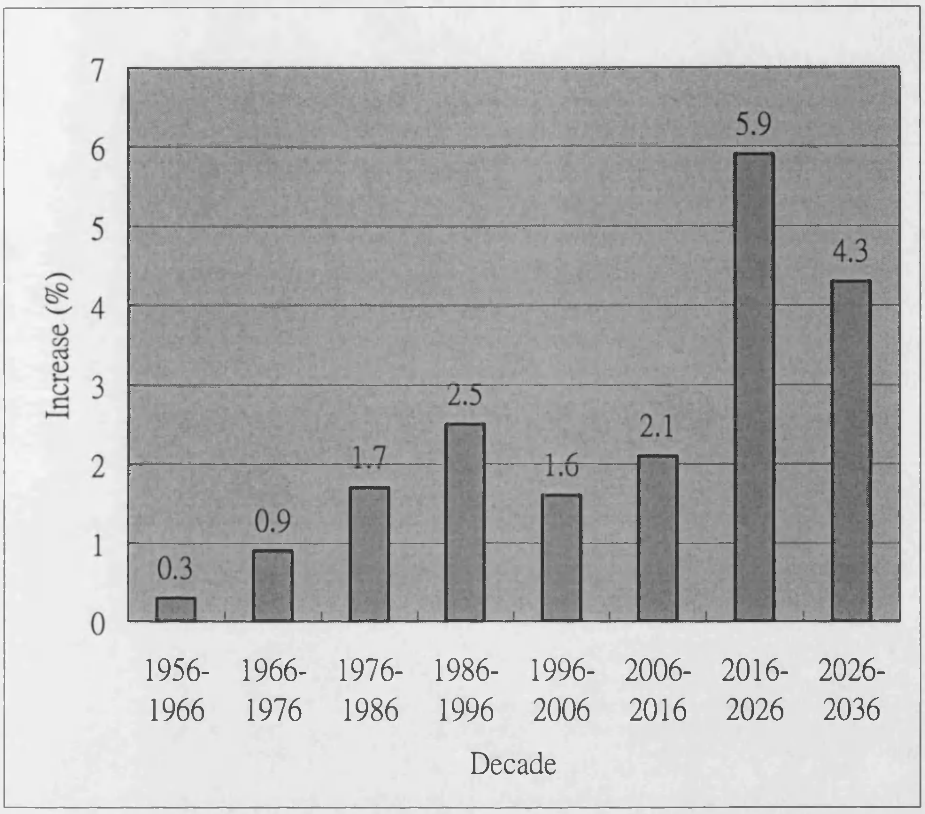
[9] The advocacy of the "Family Planning Practice" has accelerated the decline of fertility rates. This programme is based on a "two-child policy" which encourages newly married couples to give birth to only two children.

[10] A population in a society with more than 7% of citizens aged 65 or over is defined as "aged", 4-7% as "mature", and less than 4% as "young" (CEPD, 1996).

Figure 1.1: Aggregate increase of the elderly in the population each decade (%)



Source: Author's calculations based on Table 2-1, CEPD (1996)

Dependency ratios

The ageing trend leads to major concerns for policy makers: not least a relative decrease in the number of people of working age able to support greater numbers of elderly dependants. The economically inactive elderly can be a very costly segment of the population to support. "Dependency ratios" are often used as an indicator of economic potential; these are often disaggregated to calculate how dependency is distributed between non-working children (i.e. those aged 15 or under) and elderly people. The dependency ratio for Taiwanese elderly was less than 6% between 1951 and

1976 (CEPD, 1996) - that is, there were more than 16 working persons supporting one elderly person over this period. However, this ratio has decreased to about 8 working persons in 1996, and it is expected to further drop to about 3 working persons in 2036 (CEPD, 1996).

International comparison

For comparison, Table 1.1 presents the rate of ageing process in ten industrial countries.

Table 1.1: The rate of ageing process in ten industrial countries

Country	Year of reaching certain proportion of elderly population		Number of years for 10% to 20% increase
	10%	20%	
1. France	1935	2025	90
2. Belgium	1945	2025	80
3. Sweden	1950	2020	70
4. Former W. Germany	1955	2025	70
5. Denmark	1960	2020	60
6. Switzerland	1960	2020	60
7. Italy	1970	2020	50
8. Greece	1970	2015	45
9. Japan	1985	2010	25
10. Taiwan	2010	2031	21

Source: Table 3, MOI (1995)

Though population ageing takes place at different speeds in different nations, it is truly a world issue (World Bank, 1994). In Taiwan, the relatively fast ageing process is evident when we compare the time required to double the proportion of the elderly population from 10% to 20% in various industrial countries. Although France began to pass the 10% threshold as early as 1935, it will take 90 years for the percentage of the population to rise from 10% to 20%. In Belgium, this process took 80 years, and in Denmark and Switzerland, 60. For Taiwan this doubling is projected to take only 21 years. Although the problem of an ageing population has come to Taiwan later than it did to most Western nations, it is taking place in a much shorter period of time.

Section summary

- Over the past few decades, Taiwan has experienced dramatic demographic changes including shifts in both mortality and fertility levels.
- The proportion of the elderly has increased from only 2.5% in 1951 to 7.1% in 1993. This proportion is projected to rise further, to over 21% (or 5.6 million people) by 2036.
- The ageing process in Taiwan is rather fast; in particular, the ageing pressure will occur in the 2010s and 2020s.
- There were about 16 and 8 working persons supporting one elderly person in 1976 and 1996 respectively. However, the ratio is expected to further drop to about 3 working persons in 2036.
- Although an ageing population has come to Taiwan later than it did to most Western nations, it is taking place in a much shorter period of time.

Section C: Characteristics of the elderly

Another aspect of understanding the impact of the ageing process is to study the characteristics of the elderly over time. As can be expected, the significant economic and industrial developments in Taiwan have changed the profile of the elderly significantly. Owing to the limited data available, only a few characteristics will be reviewed here.

Older elderly

The elderly population can be broadly divided into two: "young elderly" (aged 65-69) and "older elderly" (aged 70+). During the process of ageing, the number of older elderly has increased greatly. According to *The Taiwan-Fukien Demographic Fact Book*, the proportion of young elderly (relative to the total population) started to decline slowly from 1952, but in 1959 the decrease stopped, then the trend moved upward (MOI, 1990). The proportion of older elderly people has steadily increased since 1950. Owing to the different growth rates of young and older elderly people, the proportion of young to older elderly has changed. In the early 1950s, there were fewer older elderly than young elderly (1.18% vs. 1.32%). Since 1954, the proportion of older elderly has exceeded that of young elderly and the difference is increasing, reaching 3.53% and 2.67% respectively in 1990 (MOI, 1990). Over the period 1950-1990, the proportion of young elderly doubled while that of the older elderly trebled.

The data seem to suggest that population ageing really appeared after 1960.

Before 1960, the decline of young elderly meant that the elderly advanced with years, but no large number of adults had become elderly yet. Only after 1960, there were a large number of adults starting to become elderly. The rapid increase of life expectancy in the post-war period is an important factor for the ageing process.

Sex composition

Another major characteristic of an ageing population is the relative imbalance of males and females, measured by the sex ratio (males per 100 females). In most countries females outlive males. Although differential mortality by sex favours females at all ages (particularly among the elderly aged 75 or over), this is not the case for Taiwan due to the influx of 600,000 predominantly young soldiers from Mainland China in 1949 (Yang, 1999). Concerning the sex ratio among the elderly, Wu and Chang (1997) report that it was about 53 between 1905 and 1930. In 1950, the sex ratio had increased to 67.2 and grew to a peak of 120.7 in 1994. Thus, there has been a changing imbalance of males and females among the elderly population over time. However, this imbalance situation will not last for long. The sex ratio is expected to decrease to 91.4 in 2010 and slightly reduce to 85.1 in 2036 (Wu and Chang, 1997).

Education

The elderly in Taiwan today were growing up before World War II, and therefore a great majority of them are either illiterate or received few years of formal education. Despite continuing low educational attainment among Taiwanese elderly, it has been improving gradually. For example, only 22% of the elderly had had formal schooling in 1975, but this had increased to 50% in 1990 (MOI, 1990). In terms of gender differences, less than one-third of elderly men were illiterate in 1990, while it was two-thirds for elderly women. Moreover, 42% of elderly men and 23% of elderly women had elementary education; 28% of men and 9% of women had secondary education or higher in 1990 (MOI, 1990). In 1994, the illiteracy rate among those aged 25-64 was only about 4%, while it was 34% for the elderly (Wu and Chang, 1997). The data suggest that the "coming elderly population" will continue to grow more educated over the next few decades.

Marital status

Table 1.2 shows that in 1990 among the population aged 50 and over, 6.3% were single, 74.7% married, 2.3% divorced and 16.7% widowed. It may appear that most of the elderly in Taiwan are married since only a quarter of them have other marital status. As women in most societies tended to live longer and to marry men older than themselves, they are much more likely to be living alone without a spouse in old age. However in the 1990 data there were high proportions of single amongst elderly men. This is partly due to the arrival of the KMT veterans[11] in 1949. In contrast to 1975, in the population aged 50 and over in 1990, the percentage of married and divorced had increased, while single and widowed had decreased.

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[11] In 1996, there were still about 400,000 veterans of age 65 or over and 21% of them have remained unmarried (Yang, 1999).

Table 1.2: Marital status of the population aged 50 and over (%)

Occupational	1975			1990		
	Men	Women	All	Men	Women	All
Single	13.8	3.0	9.0	9.1	3.0	6.3
Married	75.4	63.8	70.2	79.3	69.5	74.7
Divorced	1.9	1.4	1.6	2.7	1.8	2.3
Widowed	8.9	31.8	19.2	8.9	25.7	16.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Adapted from Table 6, Hsieh (1993).

Employment

According to Hsieh (1993), the number of elderly continuing to work without retirement has increased from 26% in 1975 to 31% in 1990. Hsieh (1993) also points out that the employment of the elderly varies with sex. In 1990, the proportion of the male elderly population with employment was 40% and 16% for the female. Among the employed elderly, although there was a drop in agricultural-related jobs from 63.9% in 1976 to 58% in 1996, this figure is still very high (Table 1.3). The percentage of the female elderly in agricultural-related work remained unchanged at around 72% over the same period; however, for the male elderly it dropped from 62% to 54%. This change is reflected in the increase of unskilled work for the male elderly (5.5% in 1976 to 14.3% in 1996), rather than more higher paid jobs (e.g. as a business owner or professional). For the female employed elderly, they also had an increase in unskilled work from 3.4% in 1976 to 10.1% in 1996.

The rapid change from an agricultural-based economy to a newly industrialised society has made it difficult for the elderly to maintain earnings. However, the steady improvements in education and health services might increase their status in the job market in future.

Table 1.3: Types of occupation of the employed elderly (%)

Occupation	**1976**			**1996**		
	Men	**Women**	**All**	**Men**	**Women**	**All**
Agricultural-related	62.3	72.8	63.9	53.8	72.1	58.0
Non- agricultural-related						
Employer	2.8	0.0	2.2	3.3	0.0	2.7
Business owner	15.8	13.6	15.6	14.3	7.6	12.7
Professional/ manager	6.1	3.4	5.9	4.8	1.3	4.0
Service-provider/ sales person	7.5	6.8	7.0	9.5	8.9	9.3
Unskilled	5.5	3.4	5.4	14.3	10.1	13.3
Sub-total	**37.7**	**27.2**	**36.1**	**46.2**	**27.9**	**42.0**
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Author's calculations based on the SFIE.

Note: Agricultural-related work includes jobs as employers, employees, or farmers in the agricultural sector

Section summary

- Population ageing in Taiwan really appeared after 1960. Over the period 1950-1990, the proportion of young elderly doubled while that of the older elderly trebled.
- There has been a changing imbalance of males and females among the elderly population over time. However, this imbalance situation will soon even out.
- The coming elderly population will continue to grow more educated over the next few decades.
- In contrast to 1975, in the population aged 50 and over in 1990, the percentage of single and widowed had decreased.
- About one-third of the elderly were employed in a job, with more elderly men employed than elderly women. The rapid change from an agricultural-based economy to a newly industrialised society has made it difficult for the elderly to maintain earnings.

Section D: Families - obligations and future challenges

Familial obligations

Of all the values that shape Chinese people's concept of obligation, none is more important than the precept of *ciao* (filial piety). Ciao is a term that emphasises duty rather than satisfaction; it is connected usually with the protection, care, and financial support of the elderly. The elderly normally live with their children with the expectation that the children will look after them and give them financial support[12] in later life. It is not uncommon that Chinese parents often view children as assets. As a Chinese proverb puts it: "men rear sons to provide for old age; they store up grain to provide for years of famine'[13]. Yang (1957) suggests that raising children in Chinese society, sons especially, can be regarded as a form of "social investment" or "group insurance" principle.

Even in a strict business sense, a son or daughter should be filial since they are indebted to their parents' expenditure on their upbringing. Moreover, there is substantial reciprocity between generations – the flow of assistance is not

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[12] Of course, health and kinship are also salient considerations when the elderly choose to co-reside with children in later life (Mutchler and Burr, 1991).

[13] From a comparison of a number of empirical studies, Cigno (1992) also suggests that self-interested concern for one's old age, rather than any altruism for children, is or has been so far the dominant force driving the raising of families worldwide.

only one-way. Parents, in turn, will pass on a higher share of their inheritance to co-resident children as a reward for the children's duties[14]. In addition, the elderly (especially healthy and non-working women) give as much or even more help to their adult children as they receive. For example, they are invaluable in tasks such as childcare, cooking, and housekeeping, and providing guidance in family decisions[15].

Moreover, support for the elderly is not only an obligation required of children but it is also a legal responsibility. According to the ROC's Criminal Law, there is an obligation of mutual support between parents and children, especially sons. Article 295 – Offenses of Abandonment - prescribes that children are subject up to twelve years' prison in the case of abandoning or neglecting the due support of their parents. In the revisions to laws on social welfare benefits for the elderly, published in June 1997, it is stated that the care of the elderly is the duty of the family. This new law provides for the punishment of those who do not fulfil their duty with "fines of not less than NT$30,000 (US$1,000) and not more than NT$150,000 (US$5,000) and the publication of the offender's name."

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[14] Lo (1988) suggests that elderly parents' future decisions about transferring their assets to children are positively correlated with children's actions in supporting their parents.

[15] Based on the Survey of Health and Living Status of the Middle Aged and Elderly, Chang (1999) reports that 27% of the elderly helped in family business, childcare, cooking, and housekeeping.

Major income sources

Table 1.4 shows the percentages of elderly classified by major income sources from 1986 to 1996. For almost two-thirds (65.8%) of the Taiwanese elderly, the transfer from children was the major source of income in 1986, but this proportion dropped significantly to less than half (48.3%) of the elderly population in 1996. By contrast, the proportion of the elderly dependent on social security retirement income (a lump sum or pension) increased from 14.6% in 1989 to 21.9% in 1996. Similarly, the proportion of the elderly with major income from social assistance or social allowance jumped from 1.2% in 1986 to 6.4% in 1996. In addition, one in six elderly persons mainly depended on property income (i.e. savings and selling assets) in 1996. Although more than half of the elderly depended on filial responsibility before 1996, financial obligations between adult generations no longer figure so prominently in intergenerational relations, in part because social security programmes have become more important.

Moreover, Wang and Wang (1999) found that the percentage of elderly men depending on children was about one-third (39.3%) while it was two-thirds (68.4%) for elderly women. Tu et al (1993) and Lin (1993) point out that elderly women tend to have higher "affectionate" income sources from children. On the other hand, Lee and Wang (1998) found that elderly men had higher "institutional" income sources (i.e. retirement income) than elderly women. For single non-married elderly, they would be more likely to rely upon their personal savings, social security transfers and relatives (in particular siblings) (Tu et al, 1993).

Table 1.4: The elderly classified by major income source (%)

Year	Major income source							
	Transfers from Children	**Other relatives or friends**	**Property income**	**Earnings**	**Retirement income**	**Social assistance**	**Others**	**Total**
1986	65.8	2.0		29.8		1.2	1.2	100.0
1987	64.0	1.4		31.9		1.7	1.0	100.0
1988	61.8	1.3		34.9		1.1	1.0	100.0
1989	58.4	0.9	16.1	8.2	14.6	1.2	0.6	100.0
1991	52.4	1.1	17.4	8.1	18.8	1.6	0.7	100.0
1993	52.3	0.9	19.2	6.6	19.0	1.6	0.5	100.0
1996	48.3	0.4	15.2	7.3	21.9	6.4	0.5	100.0
Change (1986-96)	**-17.5**	**-1.6**	**-0.9**	**-0.9**	**+7.3**	**+5.2**	**-0.7**	

Source: Adapted from Table 21, (MOI, 1997)

Note:

1. "Transfers from children" include income from own children, and in-laws.
2. "Property income" is the income derived from savings (inc. spouse's), rents, interest payments, dividends from stocks, etc.
3. "Retirement income" refers to individuals' and couples' retirement lump sum or pension. It also includes the spouse's earnings.
4. "Social assistance" also includes transfer from social allowances.

Living arrangements

A major characteristic of Taiwan's family structure is the high proportion of the elderly who live with their children or other relatives, indicating the important role of the traditional extended family in securing a comfortable life for the elderly. As World Bank (1994) points out, the informal support system has worked because the extended family can pool the work opportunities, income, and risk of all its members. These risk-sharing arrangements provide powerful incentives for family formation and may be preferred to public market annuities. Nevertheless, the proportion of the Taiwanese elderly who live with their children declined significantly from about 84% in 1976 to 64% in 1996 (Lo, 1987b; MOI, 1997). At the same time, the percentage of the elderly living alone or with a spouse has grown, rising from about 9% to 33% over the same period[16] (Lo, 1987b; MOI, 1997).

According to Burch and Matthews (1987), some people regard separate living as a "superior good" in developed societies, which is desirable because of the associated privacy and independence. The literature typically has discussed this living arrangement in terms of chances for living alone: only those who can afford it will "purchase privacy" by living in a single-person household (Beresford and Rivlin, 1966). Improvements in the social security and welfare systems in Taiwan are likely to contribute to the capacity of the elderly living separately from children. However, the ageing of the elderly population and the

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[16] There were also some elderly living in institutional accommodation or with other relatives (e.g. siblings).

related deterioration in the health of the very old that often occurs with greater longevity, are likely to exert pressure in the direction of limiting the increase in living alone. As Chang (1997) points out, the proportion of elderly living alone was at the same level of about 8% between 1989 and 1995, with significant expansion in the number of elderly living with a spouse.

Moreover, the Taiwanese elderly in recent years have demonstrated a new kind of preference for a "modified extended family", a structure that involves living apart from but geographically proximate (normally living next door) to their children. It is estimated that 5% of the elderly were living in this arrangement in 1993 (DGBAS, 1994). Instead of the traditional type of extended family in which household members' incomes are pooled, the elderly live economically independent from their children while sharing the household, or they live alone in the same neighbourhood as their children. We can anticipate more such change in the living arrangements of elderly parents in the future due to the improvements in the social security.

Future challenges

In order to determine the trend of future familial support in Taiwan, we shall first focus on the future elderly's expectation of major economic support in old age. The study of attitudes, values and beliefs can be a valuable adjunct to other analysis and may produce insights not otherwise available. Thus, changes in attitudes over time may serve as leading indicators of future behavioural changes.

Views on major economic support from families

Due to widespread social changes of the last five decades, older generations in Taiwan possess a different array of attitudes and values than the young. In 1970, about three-quarters of women looked to their children as their primary support in old age; by 1973, this was reduced to a half (Coombs and Sun, 1981). In 1985, this proportion for women[17] had further dropped to less than one-fifth (Chang, 1991). Chang (1999) suggests that people aged 50 or over have noticed that dependency on children alone may not be realistic and have started to prepare their own savings and/or pensions. For example, although the majority (84.7%) of people surveyed by Chang (1991) agreed with the question "their children should provide some of their living costs when they get old"; in reality only 60.5% of them (in particular, women) have received money from either children or relatives in the past year.

Moreover, three-quarters of people aged 50 or over agreed that they should retain some savings in order to gain some respect from their children (Chang, 1999). In addition, two-thirds of this age group expressed a feeling that they should preserve some economic independence[18] from children (Chang, 1999). This suggests that families may gradually lose their function in supporting the

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[17] As might be anticipated, the expected source of support is highly dependent on the women's educational attainments. For example, in 1985, the percentage expecting to be supported primarily by sons in old age for women with no formal education was 44%, against zero for those with college or higher education attainment (Chang, 1991).

[18] In a survey by Chen (1994), the elderly who were economically independent expressed greater satisfaction with their lifestyle than those who relied on their children.

elderly since there is a trend toward elderly who have become more willing to rely on themselves or their spouses.

Views on living in extended families

Views on this aspect of traditional familial relationships have also undergone similar change. The proportion of women expecting to live with their sons when they are old dropped from 94% to 54% between 1965 and 1973 (Coombs and Sun, 1981). Chang (1987) indicated that there was a rapid increase in the proportion of married women aged 20-39 with "no expectation" of living with their sons in old age: from 15% to 32% between 1980 and 1985. While this is still not a sizeable group by Western standards, it represents a departure in attitudes from earlier years and from these women's own experience in living with parents. Moreover, there is an "expectation gap" regarding co-residence between the current elderly population and their children. For example, the expectations of the current elderly population indicate that 73% of the elderly regard living with children as an ideal living arrangement in Taiwan, but only 43% of their adult children expressed a willingness to live with their aged parents (DGBAS, 1990). Thus, the future elderly generation has shown a lower willingness[19] to live with their children.

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[19] However, it should be noted that this preference is not a choice that the elderly are always able to realise. Clearly, income is a factor of considerable importance in determining the living arrangements of the elderly. Just as low income may propel the elderly into a joint living arrangement, higher income gives them much greater choice. Wang (1995) even suggests that co-residence between the elderly and their children in Taiwan is an inevitable result of the lack of financial resources of such elderly parents.

Children availability

A basic demographic condition for the elderly to co-reside with children is whether they have their own living children and how many living children they have. If they have a smaller number of living children, they are less likely to live with their married children. The traditional forms of care, available to Taiwanese older generations until recently, have been under threat due to the sharp declines in fertility rates (as shown in Section B). As Wang and Liu (1997) point out, one-fifth of the elderly in Taiwan will have to live alone in future because of having no sons to depend upon. Although the current young generation might adhere to traditional values and think that carrying out filial obligations is appropriate behaviour, in reality the continuing decrease in fertility will make it difficult for future young generations to support their aged parents[20]. As Lin (1987) points out, the young generation in 2035 are likely to experience three-times' the financial burden compared with the present young generation.

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[20] Lo (1987a) argues that the rapid economic development greatly increases the earnings of younger workers and makes children more capable of providing for the aged parents. Moreover, it is possible that there are advantages in having fewer children because parents can accumulate more personal savings for their old age, and improve the quality of their children's education to improve their future earnings. However, these arguments are highly theoretical, and depend on a continued economic growth and high saving rates. In fact, the current trend in Taiwan seems to be opposite to Lo's scenario.

Section summary

- Familial support for the elderly has traditionally been expected in Taiwan, based on the traditional precept of ciao, financial obligation or legal requirement.
- Although more than half of the elderly depended on filial responsibility before 1996, financial obligations between adult generations no longer figure so prominently in intergenerational relations.
- More elderly women depend on children while elderly men tend to depend on institutional income sources.
- The proportion of the Taiwanese elderly who live with their children has declined significantly from 84% in 1976 to 64% in 1996. And this trend is likely to continue in the future.
- There is a trend toward elderly who have become more willing to rely on themselves or their spouses.
- The future elderly generation has shown a lower willingness to live with their children.
- The continuing decrease in fertility will make it difficult for future young generations to support their aged parents

Conclusion

Over the past few decades, Taiwan has experienced dramatic demographic changes including shifts in both mortality and fertility levels. As a result, Taiwan is now facing the transition of rapidly ageing population as most industrialised countries do. Although family used to provide a principal source of old age security at early stages of economic development, economic responsibility began to shift from the family to the more public spheres of the workplace and the state after the 1980s. At the same time, the Taiwanese government has a very short period to take measures to deal with population ageing compared with the Western nations.

Although the pattern of the extended family still prevailed in the relatively recent and rapid modernisation period in Taiwan, attitudes (towards the continuation of this pattern) and the availability of children suggest that in the next generation the extent of such living arrangements will diminish. In consequence, this trend will lead to a general weakening of filial bonds and, in particular, a weakening of familial economic supports in future. How far these changes in co-residence of the elderly result in a weakening of familial economic support is a question we shall examine in Chapter 3. Up to now, there has been little direct evidence on this relating to Taiwan.

CHAPTER 2: SOCIAL SECURITY IN TAIWAN

Introduction

This chapter is divided into four sections. Section A sets out the development of social security internationally, including its definitions, origins, characteristics, expansions, challenges and its development in East Asia. Section B discusses the development of social security in Taiwan concerning four major types of schemes for the elderly: social insurance, occupational retirement schemes, social assistance and social allowances. Certain aspects of this development regarding the origin, ideologies, and policy debates over the period 1950-1996 are also discussed. Social welfare expenditures in Taiwan over the period 1950-1996 are examined in Section C. Finally, Section D examines the current social security system regarding qualifications, benefits, coverage, and assesses its effect for the elderly.

Section A: International developments in social security

Definitions

According to the International Labour Organisation (ILO, 1942: 83), "social security" means "the security that the *society* furnishes through appropriate *organisation* against certain risks to which its members are exposed". This term was first officially used in the title of the *Social Security Act of 1935* in the United States, to refer specifically to income security programmes (ILO, 1984a). It appeared again in an Act passed in New Zealand in 1938 which brought together a number of existing and new social security benefits. It was used in 1941 in the wartime document known as the *Atlantic Charter*. The ILO was quick to adopt the term, impressed by its value as a simple and eye-catching expression of one of the deepest aspirations of people all over the world.

Today, social security programmes in one form or another exist in almost all countries though the meaning varies from one national context to another. "While many (countries) stress the role of social security in maintaining income during periods of financial need, others broaden its meaning to include the provision of medical care, housing, employment"[21] (Midgley, 1984: 79). As

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[21] For example, the provision of medical care is regarded as an integral part of social security in continental Europe and in Latin America; however, this is generally excluded in English-speaking countries (Midgley, 1984).

Midgley (1984) puts it, there is no universally accepted definition of the term social security. Following Midgley's (1984) classification, we shall mainly consider social security covering four major types of statutory provisions, namely social assistance, social insurance, employer liability schemes (or occupational retirement schemes) and social allowances. *Social security is primarily concerned with income support, and it is with reference to income programmes that the term is generally used in this thesis.*

Origins and characteristics

The origins and characteristics of these four types of social security schemes can be described as follows:

(1) Social assistance

Social assistance, which is the oldest form of social security, is often traced back to the "Poor Laws" that were enacted in Britain in the early 1600s. It is a means-tested approach whereby benefits are provided to residents or citizens in prescribed categories of need, as determined by a set of criteria. This scheme is usually seen as a means of combating income poverty and meeting emergencies (Atkinson and Hills, 1989). Social assistance also aims to satisfy a commitment to efficiency of targeting the truly poor and keeping expenditure to a minimum (Hill, 1996). Although these provisions can meet the needs of all people, their weakness is that they are likely to "confuse, deter and stigmatize those who need help" (Hill, 2002: 129).

(2) Social insurance

Most of the European countries with capitalist free-market system have a long tradition in the field of social insurance, established under the influence of the great industrial development of the second half of the 19th century. Industrialisation promoted the formation of a huge class of wage-earner workers with special needs to be protected against the risk of sickness, work injuries and the loss of working capacity as a consequence of ageing or invalidity. According to the International Social Security Association (ISSA, 1987), the first statutory old age pension scheme[22] was established in Germany by legislation in 1889, followed by France in 1910 and Italy in 1919. Later this system spread swiftly through other European and other industrial nations. Although the primary aim of social insurance has been the protection of the standard of living of an employed person, it can also be seen as a means of combating income poverty[23]. In addition, it is possible that there is a "markedly lower cost of administration in most forms of state Insurance" (Beveridge, 1942: 286). However, social insurance has its own problem with exclusion, both in contingencies and in coverage.

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[22] Before the first compulsory social insurance in the latter half of the 19th century, mutual professional associations had existed in many European countries. For example, the fund for retired mariners in France founded in the 17th century, and the "seamen's fund" and the "mining unions" in Germany, which were transformed into an autonomous compulsory insurance scheme for miners in the middle of the 19th century (ISSA, 1987).

[23] For Beveridge (1942), the key to the abolition of want in post-war Britain lay in the expansion of social insurance to replace the inadequate assistance schemes.

(3) Occupational retirement schemes

One of the first occupational pension plans was set up in the United States in 1776, providing half-pay for life for soldiers disabled during the Independence War with England (World Bank, 1994). Old age benefits for those in military service were added in 1780. By the early 19th century, civilian public employees in the United States, the United Kingdom, and other countries were receiving pensions from their government employers (World Bank, 1994). Nowadays, occupational retirement schemes (usually pensions) constitute an employment-based approach whereby employers are required by law to provide designated benefits to their employees, either directly or under an approved insurance policy. Moreover, these payments are also made by employers to retiring employees to reward them for long and faithful service.

Although non-statutory in nature, these private schemes serve the function, not only as a tool of personnel management for business consideration, but also as part of social policy being private sector substitutes for, and supplements to public pension schemes (Holzmann, 1991). Because the government must be the ultimate guarantor of the occupational retirement scheme, and increasing government intervention on employers in terms of regulation and favourable tax treatment has become commonplace (ILO, 1984b). Thus the distinction between public pension and private pension schemes becomes blurred (ISSA, 1984). Stevens (1986) further argues that employer-sponsored benefit programmes are successful alternatives to public sector programmes and they effectively set what can become *de facto* social policy.

(4) Social allowances

Social allowances aim to avoid all the weaknesses of both social insurance and social assistance. They provide flat-rate cash benefits to defined population groups from general government revenues without imposing an income test. These schemes are the least common form of social security. They were introduced in many European countries during the middle decades of the 20th century to provide benefits to families with children. The aim of the social allowance is redistribution between specific groups, separate from poverty alleviation (Atkinson and Hills, 1989). According to a widely known American government publication, *Social Security Programs throughout the World*, social allowances normally include old age benefits for persons over a certain age; benefits for disabled workers, widows, widowers, and orphans; and family allowance (USSSA, 1998: vi-vii). However, the weakness of social allowances is that benefit levels cannot be guaranteed to meet social needs if the pre-condition of a generally affluent economy is not met.

Worldwide expansion

A well-structured social security system not only can provide financial assistance for an individual "from cradle to grave", but also can maintain the proper functioning of families. In addition it can promote workers' conditions and stabilise social and industrial relations. Access to social security has become a fundamental human right[24] proclaimed in the 1948 *Universal*

[24] This "right" for social security, is, however, determined by each individual country's tradition, history, level of economic development and political system.

Declaration of Human rights adopted by the United Nations General Assembly and in numerous national constitutions (Dixon, 1999). Because of this status, a social security system has become part of the goals and ideology of most countries. Social security is central to governments' welfare efforts and the establishment and expansion of social security has become the symbol of a modern country.

The expansion of social security schemes has been summarised in *Social Security Programs throughout the World*[25], reproduced in Table 2.1. While less than 60 countries had introduced social security programmes by 1949, this number increased to 120 by 1967, and 172 countries in 1997. The most prevalent programme is the old age, disability and survivors programme, followed closely by the work injury programme. It would appear that the "sickness and maternity" programme is not widespread, but this is somewhat deceptive since for some countries these benefits fall under labour and employment programmes. Unemployment is the least common benefit provided today; only about one-third of the surveyed nations have adopted this benefit. As a general mechanism for meeting human needs, however, social security today has undoubtedly achieved universal acceptance (Dixon, 1999).

[25] It should be noted that *Social Security Programs throughout the World* ignores both social assistance and occupational retirement schemes as a form of social security.

Table 2.1: Number of countries adopting social security programmes

Type of Programme	1940	1949	1958	1967	1977	1987	1997
Social insurance							
Old-age, disability and survivors	33	44	58	92	114	130	166
Sickness and maternity	24	36	59	65	72	84	111
Work injury	57	57	77	117	129	136	164
Unemployment	21	22	26	34	38	40	68
Social allowance							
Family allowance	7	27	38	62	65	63	86
All programmes	**57**	**58**	**80**	**120**	**129**	**141**	**172**

Source: Adapted from Table 1,USSSA (1998).

Fiscal crisis in the Welfare State

During the late 1950s and 1960s, most industrialised countries developed generous public or statutory pension schemes and provided about 40% to 50% replacement of previous earnings for an average worker, at a time when the economy grew fast and the population structure was much younger than now. An additional 20% of replacement of earnings was also expected from occupational pension schemes. Thus, a 60% to 70% replacement rate from combined public-private provision was regarded as a suitable target for income maintenance for the elderly (Horlick, 1987). This trend has turned, however, since the mid-1970s when social security systems began to mature, economies experienced periods of stagnation and the number of elderly increased rapidly.

The World Bank's influential book (1994) *Averting the Old Age Crisis* suggests that ageing populations and productivity stagnation in developed countries means that these countries can no longer afford the programmes of old age security implemented in the past. Criticism of social security's side effects on the economy and its inequalities, plus fears for its long-term viability, has replaced the previous eager enthusiasm. While contributors are protesting against increases in payroll taxes, the insured wonder whether they will have a sufficient income when they retire. The difficulties in funding income support for an increasing older population have been at the heart of the "fiscal crisis of the Welfare State" in times of economic stringency and expanding expectations. In recent years, most countries have been forced to cut the benefit level in their public pension scheme while relying more on support from the private sector (OECD, 1988).

In Latin America, political patronage, wastage and corruption have exacerbated matters (Mesa-Lago, 1978). Moreover, social insurance may amplify the inequalities of many developing countries by transferring resources from lower-income to higher-income groups (Midgley, 1984). Thus, some policy-makers in developing countries have had negative and stereotypical views about the dilemma which the developed nations have faced since the mid-1970s. Nevertheless, the maintenance of social security remains an important goal of developed and developing countries today; East Asian countries are no exception to this. There has been, at least in principle, widespread acceptance of the role of East Asian governments in transferring income over the life cycle and providing social services.

Social welfare in East Asia

The gloomy picture of the Western welfare states may present a discouraging prospect to the developing countries that are now attempting to establish Western-type welfare systems. However, Jones (1993) argues that this may not be such a disappointing episode for "fiscal crisis" among the East Asian countries[26] since there have never been widespread calls for a Western model of social rights. Jones (1990; 1993) contends that the common pattern of social welfare system found among these countries as "Confucian welfare states" with the following characteristics:

"Conservative corporatism without (Western-style) worker participation; subsidiarity without the Church; solidarity without equality; laissez-faire without libertarianism: an alternative expression for all this might be "household economy" welfare states – run in the style of a would-be traditional, Confucian, extended family." (1993: 214)

In other words, the family in East Asian countries tends to play a more important role in social welfare provision than in Western countries in two ways: by providing income security for individuals in the household, and the individuals providing a large range of services to each other (Jacobs, 1998).

Midgley (1986) points out that these East Asian countries' political elites have

[26] Here the East Asian countries refer to Japan and the four "Little Tigers", namely South Korea, Taiwan, Hong Kong, and Singapore (Jones, 1993).

been reluctant to expand social welfare programmes. Indeed, economic success is by some seen to lie in the lower emphasis on social welfare programmes. This is because the concept of the welfare state in these countries has been considered to discourage foreign investment, work incentives and profit making (Jacobs, 1998). The state in the East Asian countries has been, to varying degrees, a regulator for enforcing welfare programmes rather than providing direct finance (White and Goodman, 1998). The government acts like a householder watching, instructing, reproving, protecting, encouraging, and rewarding his family (the ordinary people).

Despite these common characteristics among the East Asian countries, their welfare systems are not homogeneous and one should be cautious about over-simplification. Kwon (1998: 67) points out “each of these welfare states has had its own distinctive history of development and still has its own distinctive features”. In broad terms, systemic similarities between South Korea and Taiwan are more pronounced, partly because they have emulated Japan in constructing their welfare systems (Goodman and Peng, 1996). In addition, Jacobs (1998) suggests a difference between Japan, Korea and Taiwan on the one hand, and Hong Kong and Singapore on the other. The former group has adopted a social welfare system similar to those of most European countries, and they are progressively developing these into a fully-fledged welfare state. For Korea and Taiwan, there is a “welfare state dynamic at work” while the governments of Hong Kong and Singapore are tending to oppose a Western-like welfare state (Jacobs, 1998).

Section B: The development of social security in Taiwan

Chinese classical tradition and ideology

In ancient China, the principle of caring and support for the needy, similar to the modern notion of welfare state, was mentioned in the classical tradition and ideology. The Chapter *Da-Tun*[27] (Harmonious Society) of the *Li-Yun* (Book of Rites), advocates for a harmonious society where each individual should not only care for his or her close relatives, but those who are in need in society. Families, kin and local gentries, rather than the state, have taken welfare responsibility throughout Chinese history (Lin, 1990). There was no specific government department in charge of welfare policy until the founding of the ROC where the Ministry of Social Affairs was established in 1930 (Liu, 1982a). In fact, the most important contribution made by this Ministry was the establishment of a centralised structure of social administration with Departments of Social Affairs under provincial governments and Bureaus of Social Affairs under municipal governments (Liu, 1982a).

Among the many social security policies the KMT outlined, the most complete was *the Post-War Social Security Guideline*[28], produced in 1945 while it was

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[27] The society is expected to help the elderly with good life-endings, children with good upbringing, and care for widows, widowers and disabled persons. When the needs of all people are met, the society can be said to be in a state of *Da-Tun*.

[28] It is part of *the Four Social Policy Guidelines*, which comprise guidelines for National

still ruling in the Mainland (Kuo, 1994). This Guideline mapped out the blueprint of social security programmes that were to be implemented after the Sino-Japanese war, and later became an article in the Constitution in 1947. Section 4 of Chapter 13, under the heading of "social security" (Article 155) regulates that the government shall "establish a social insurance system and social relief for those who are old, weak, disabled, or victims of disasters" (Ku, 1997: 33).

After the promulgation of the Constitution, a preliminary Central Bureau of Social Insurance was immediately established in order to prepare a draft of the social insurance law required by the Constitution. But due to the outbreak of civil war with the Chinese Communist Party, very few social security schemes[29] were put into practice by the KMT before 1949 (Kuo, 1994). Nevertheless, the KMT's experiences in Mainland China influenced them to establish an elementary level of social security system in the early period of Taiwan. Moreover, the 1947 Constitution remains the highest legal basis for the implementation of social security in Taiwan.

Nursery Policy, Labour Policy, Farming Policy and Post-War Social Security Policy. The National Nursery Policy Guideline acts for children, families and population; the Labour Policy Guideline acts for trade unions and working conditions; the Farming Policy Guideline acts for land reform and rural recovery.

[29] These were Salt Workers' Insurance in Sichuan Province in 1943; Civil Servants' Non-Contributory Schemes, legislated in 1927, protected retired or handicapped government employees and their surviving dependents; Poor Relief Law passed in 1943 (Kuo, 1994).

Social security in Taiwan (1949-1996)

Beginning with the ideology of social welfare in pre-Communist China, we shall then examine the formation of Taiwanese social security programmes and the government's stand over the period 1950-1996.

(1) Social insurance: political and economic aims

There were some welfare measures which had already developed in Taiwan during the period of Japanese occupation (Lin, 1990). However, the KMT soon implemented various social insurance schemes when it moved to Taiwan. Since then, the social insurance scheme has developed in three directions: Military Servicemen's Insurance (MSI), Labour Insurance (LI), and Government Employees' Insurance (GEI). In 1950s, the elderly made up a small part of the population in Taiwan – and had long been cared for by extended families. At this time, there was no political pressure for the government to support the elderly. Goodman and Peng (1996: 205) argue that the quick implementation of major social insurance schemes by the KMT was a response to its failure in labour policy in the Chinese mainland. They comment that it was no more than "an appeasement measure to avoid potential worker revolt".

The KMT government has faced an archrival Communist China over the past five decades, and Tang (2000) argues that this has pushed Taiwan towards a priority of survival with social security policy playing a subsidiary role to this overarching objective. For example, to support high military spending, the ruling party had to develop its economy to support the military bill. As Ku (1995) argues, the emphasis on economic development reflects the political aim to cultivate strength against Chinese communism. Goodman and Peng (1996: 210) suggest, "the developments in social welfare observed in these countries (including Taiwan, Japan and Korea) may be explained by what we describe as peripatetic learning and development strategies with the prime goal of nation-building".

The government implemented LI with limited voluntary coverage on a small scale between 1950 and 1958. It was only with the passage of the Labour Insurance Act in 1958 that the state's direct involvement in the administration shifted from a provincial level to a national level. Fu (1990) argues that the development of LI programme covered only the economically active population (and excluded farmers), in order to stimulate economic development. In addition, LI placed emphasis on health insurance rather than pensions - serving to promote a healthy workforce for economic development rather than income maintenance after retirement (Fu, 1990). These all suggest that the government did not want to endanger economic development and thus put a priority on political and economic objective in the 1950s.

(2) Occupational retirement schemes: increasing demand for better retirement protection

The development of occupational schemes in industrialised countries shows the increasing importance of occupational retirement schemes acting as a second-tier supplement to public retirement schemes. In the 1980s, as Taiwan emerged as a fledgling industrialised country, the demand for better retirement protection from occupational schemes increased. For private sector employees, the government thus issued the Labour Standard Act (LSA) in 1984 to legislate for retirement payments (Kuo, 1994). The LSA has been called "the main indicator of Taiwan's social security policy in the eighties" (Kuo, 1994: 345).

(3) Social assistance: external influences

Even before the establishment of the ROC in 1911, the founding father of the ROC and the KMT, Dr. Sun Yat-Sen, had already been impressed by the social security policy implemented by some European countries in adjusting the negative impacts of capitalism (Lin, 1990). His thoughts were later collected in a book titled *Three Principles of the People*[30]. According to Kuo (1986), this book has been a large influence on the ROC's ideological foundation, constitution and social policy.

Due to political and economic dependency on the USA and the UN, social policy reforms before 1970 were always in response to external influences. As a reaction to the "War on Poverty" welfare programs of the 1960s in the United States, the Taiwanese government implemented two major social relief programmes in association with community development in the early 1970s (Chan, 1984). The Shao-Kang ("Little Well-off") project in the Province of Taiwan and the An-Kang ("Healthy and little wealth") project in Taipei

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[30] It is also so-called San-Min-Chu-I. Basically the three principles are *the Principle of People's Democracy*, *the Principle of People's Nationalism*, and *the Principle of People's Well-Being* (sometimes called *the Principle of People's Livelihood*).

Municipality were designed to eradicate poverty[31]. But with the severance of diplomatic ties with the US in 1978, these programmes did not last long.

Other key external influences, according to Hsieh Cheng-Fu (a drafter of *the Post-War Social Security Guideline*), were *the Atlantic Charter, the United Nations Charter* and *the Declaration of Philadelphia* (Kuo, 1994). The contributory social insurance schemes instituted in the 1950s were also inspired by the "success of social insurance programmes developed in post-war Europe, particular in Britain and West Germany" (Chan, 1985: 326).

(4) Social assistance and social allowances: party competition

Since 1987, when the political system was liberalised, the emergence of new political parties has posed a continuing challenge to the KMT's social security policy. For example, since the qualifications for social assistance were subject to strict means testing before 1993 (see Section D), this was criticised by the then opposition party – the DPP, which proposed an Old Age Allowance scheme in their manifesto for the 1993 county commissioner and city mayor elections (Ku, 1997). In response to these criticisms, the KMT government introduced a policy draft for the NPS, and introducing the Middle-to-Low Income Elderly Living Aid in 1993 to enlarge the poverty thresholds.

In the 1994 general election, the major debate for the candidates from the opposition party and the ruling party had shifted from the long-standing issue

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[31] These two projects provide vocational training, short-term loans for the self-employed, and residential care for unattended chronically ill and disabled people.

of national identity to old age pensions. Later, in 1995, the DPP also proposed a scheme of social allowances for elderly farmers. As Ku (1997) points out, this significant shift not only shows a change from a foreign issue to a domestic one, but it also signals the perceived needs for more social security protection for farmers and poor elderly.

The state and welfare attitudes

Sun's *Principle of People's Livelihood* embodied a strategy for building a society of "equity and wealth" in which all people would be guaranteed sufficient food, clothing, housing, and transportation, as well as the right to develop their own enterprises. As Lin (1990) puts it, the Taiwanese government thus viewed social welfare as a strategy to achieve the goal of an equal and wealthy society.

Since the arrival in Taiwan in 1949, however, the Ministry of Social Affairs was reduced to a department answerable to the Ministry of the Interior (Ku, 1997). In addition, the *Hsien* (county) or *Shih* (city) authorities under the Taiwan Provincial Government established a Section of Social Welfare Affairs as a primary division in 1961. Ku (1997) suggests that this change marked an avoidance of welfare responsibility by the state, especially on the part of central government. Moreover, for some of the ideas of social welfare that were presented in *the Principle of People's Livelihood*, the state did not take any concrete action to carry out these statements. Rather, these principles mainly served as an ideological weapon (Ku, 1997).

Next, we shall review three attitudes concerning social security developments in Taiwan: lack of proper assessment about welfare demand, hostilities towards social welfare and reliance on families.

(1) Lack of proper assessment about welfare demand

Prior to the launching of comprehensive social assistance programmes (the Shao-Kang and the An-Kang) in the early 1970s, the limited social reliefs were only provided on a piecemeal basis (Chan, 1985). In studying social welfare planning in Taiwan, Lin (1981) suggests that social welfare plans in Taiwan were mostly based on the instructions of the President or Premier, instead of the proper assessment for welfare demand. Also, as noted above, democratisation spurred social security (as well as personal welfare programmes) and led to expanded social security. Thus, it is no surprise to observe that there has been a large gap between the constitutional statement concerning the state's obligation to provide social welfare and the reality of the existing social welfare system (Goodman and Peng, 1996).

(2) Hostilities towards social welfare

Among the academic circles, intellectual debates on social welfare started to emerge in the late 1980s. The debate mainly focused on whether the government should start to establish a comprehensive welfare system or whether it should remain as a residual one. Some liberal economists and government economic technocrats suggested that the state should not expand the welfare provisions unless economic growth could sustain them. Professor Kao Chi-Chun, a well-known liberal economist, insisted that state-provided welfare was responsible for fiscal crisis and economic recession (Kao, 1987:

208-9). On the other hand, welfare scholars and the opposition party argued that the government must expand the welfare provisions for all citizens; however, their opinion was often neglected (Ku, 1997).

In 1985, Premier Hua said that there would be no welfare state in Taiwan, and appealed for sustained family assistance to members in need. Since the state under KMT rule was so powerful, it could afford to neglect social needs and problems and use the media to influence public opinion (Ku, 1997). In a 1996 survey, about 60% of people (especially women) aged 50-64 in Taiwan believed that the government provided a good role in welfare provision (Chang, 1999). Although Taiwan has adopted various social security programmes to address the financial demands of the elderly, the Taiwanese government has remained, in large part, anti-social welfare.

(3) Reliance on families

As mentioned in Section A, strong family ties have been used as an argument in East Asian countries in favour of developing a hybrid system combining social security and familial support, in which less responsibility is given to the state than in Western countries. Chow (1987) suggests that the most significant difference between Western and Chinese ideas of social welfare is the importance given to family and kin networks in Chinese society. The government encouraged its people to seek help from their families under the guise of self-responsibility, an echo of Confucian values of mutual aid and family support.

In the post-war period, traditional Confucian ethics deeply influenced Taiwan's social welfare development, and the family was expected to match and supplement the state's responsibility for social protection. *The Social Construction Guidelines at the Current Stage of 1969* emphasised the family as the primary foundation of society (Chan, 1984). As Chan (1985: 324) puts it, "the evolution of the welfare system of Taiwan has been proceeding through a process of compromise between traditional ideas of social welfare and the existing constraints derived from modernisation". And this family-oriented view of Chinese culture was again stressed by the KMT's *Guiding Principles of Social Welfare Policy* in 1994, which made clear that the family should be the centre of social welfare policy[32] (Ku, 1997: 248).

Li Kwoh-Ting, one of the most influential officials in the Taiwan government, suggested four guiding principles for Taiwan's welfare policy at an international conference on welfare state development in Taipei in 1987 (Ku, 1997: 186):

- The degree to which somebody receives welfare must equal the responsibility he or she has in society.
- Social welfare should not be a replacement for the function of the family.
- Social welfare should not damage the operation of the free market.

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[32] According to Ku (1997), this Guidance could be regarded as the most comprehensive statement about social policy since the KMT rule of Taiwan began. In essence, it has four major characteristics: 1) the emphasis of economic growth in supporting social welfare; 2) sharing welfare responsibilities with family and private sectors; 3) harmonising industrial relations; and 4) financing independent social insurance without increasing government expenditure.

- Social welfare should be a system contributed to by families, enterprise and the state together.

In other words, Li expressed the view that welfare responsibilities should not be left to the government alone. He points out that both families and employers also needed to share the responsibility. Moreover, the free market should be a higher priority than social welfare.

Another reason for hesitation over welfare provision is that policy-makers fear that Western-style social security institutions can erode the traditional Taiwanese support systems for the aged, and therefore erode Chinese social values in general. The state also views that taking care of vulnerable members is intrinsic to proper family and community conduct (Jones, 1993) and to foster a sense of solidarity. Thus, the resulting social security system in Taiwan is traditional, conservative, residual and selective (Lin, 1995).

Interim summary

A dramatic growth of social security programmes has been observed worldwide during the second half of the 20th century. Today, social security programmes in one form or another exist in almost all countries though the meaning varies from one national context to another. In this study, we shall mainly consider social security covering four major types of statutory provisions, namely social assistance, social insurance, occupational retirement schemes and social allowances. Despite the fiscal crisis which has occurred in many welfare states since the mid-1970s, a strong welfare infrastructure has been firmly accepted in East Asian countries.

The 1947 Constitution of the ROC regulates that the government shall establish a social insurance system and social relief for those who are old, weak, disabled, or victims of disasters. It remains the highest legal basis for the implementation of social security in Taiwan. However, the KMT government showed an avoidance of responsibility and did not take any concrete action to carry out these statements. In the name of strengthening the capacity to defend the country against Communist China, and to develop the economy, the KMT government placed defence and economic development at the top of its agenda. Furthermore, the government has been hostile toward the substantial development of social welfare and often encouraged the reliance on family in times of need.

Section C: Social welfare expenditures in Taiwan

Definition of social welfare

In order to study the welfare efforts from social security programmes in Taiwan, we inevitably have to examine the expenditure from social welfare programmes over time. This is because of the major official publication of social statistics in Taiwan, *Social Indicators in the Republic of China*, shows only "social welfare" expenditure data rather than "social security" expenditure (DGBAS, 1998).

Before 1990, the social welfare expenditure data in this publication covered social insurance, social assistance, social relief, social welfare services (including vocational training, public health, social education), veterans' programmes (such as veterans' subsidies and survivors' benefits), community development, environmental protection, and public housing[33] (DGBAS, 1998). Since 1990, it has excluded expenditure for veterans' programmes, community development, environmental protection and public housing. However, we shall treat veterans' programmes as part of social welfare expenditure after 1990 since veterans' allowance and survivors' benefits can be regarded as social security provisions.

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[33] Note that Taiwan does not regard education as part of social welfare programmes though it is often included in other industrial countries' welfare definitions (Ku, 1997).

Growth of social welfare expenditure

The breakdown of the government's general net expenditure is shown in Table 2.2.

Table 2.2: Breakdown of the government's general net expenditure (%)

Fiscal Year	Type of expenditure						
	General admin.	Defence	Economic develop.	Social welfare	Community develop.	Other	Total
1966	18.8	42.5	28.7	4.7		5.3	100.0
1971	12.6	35.1	33.1	10.4		8.8	100.0
1976	11.9	24.7	47.6	11.3		4.5	100.0
1981	9.8	24.2	50.9	9.7	2.1	3.3	100.0
1986	11.1	24.2	44.8	13.2	2.5	4.2	100.0
1991	10.8	16.0	43.2	14.5	2.3	13.2	100.0
1996	12.2	14.2	35.1	21.3	3.4	13.8	100.0

Source: Author's calculations and amendments based on Tables 11 and 85, DGBAS (1998).

Note:

1. Economic development includes education, science and cultural development.
2. Social welfare includes social security (social insurance, social assistance, social relief and veterans' programmes), vocational training, public health, and social education.
3. Community development includes environmental protection and public housing.
4. The net expenditure is compiled on a basis of fiscal year and it is net of any double counting arising from intra-governmental transfers.

Due to the constant military threat from Communist China and the KMT's pledge to reclaim China, military spending was exceptionally high even in the early 1960s. Table 2.2 shows that defence received nearly half (42.5%) of central government's net expenditures in 1966 while the broader social welfare expenditure (including social welfare and community development) accounted for only 4.7%. This high proportion of defence expenditure might have obstructed Taiwan's social welfare development in the post-war period (Lin, 1990). However, social welfare's share as a fraction of general government's net expenditures has doubled over the period 1981-1996 (from 9.7% to 21.3%), in particular, it increased by 6.8% between 1991 and 1996.

In terms of net expenditure for social welfare, this has increased over seven times in real terms from NT$ (New Taiwan Dollars) 606 million to NT$ 4,260 million over the period 1981-1996 (see Table 2.3). In particular, there is a striking increase of total social welfare expenditure (by NT$ 1,798 million) from NT$ 2,462 million in 1991 to NT$ 4,260 million in 1996. This partly reflects the implementation of many social allowances since 1993 (see Section D) and the introduction of the NHI in 1994. The net expenditure for social welfare per capita has also experienced a six time increase in real terms from NT$ 3,401 to NT$ 19,947 over the same period. Also social welfare expenditure relative to GNP grew from 2.6% in 1981 to 4.4% in 1991 and 5.9% in 1996. This demonstrates the massive growth in social welfare expenditure that has taken place in Taiwan over a short period 1981-1996, and in particular during 1991-1996.

Table 2.3: Expenditures on social welfare

Fiscal year	Social welfare expenditure		Social welfare
	Total amount, NT$'00 million (in 1996 dollars)	Amount per capita, NT$	expenditure as % of GNP
1981	606	3,401	2.6
1986	1,149	5,947	3.1
1991	2,462	12,064	4.4
1996	4,260	19,947	5.9

Source: Author's calculations based on Tables 11 and 85, DGBAS (1998).

Inequality in welfare distribution

Although social welfare expenditure shows a significant growth over the post-war period, this welfare resource has been channelled predominately to a small group of beneficiaries. Until the abolishing of Martial Law in 1987, the Taiwanese social security system – with the exception of the LI scheme to private sector employees and social assistance to the very poor – focused heavily on those occupational groups which are closely related with the stability of the state, i.e. the ruling KMT regime. These were retired MPs (Members of Parliament), veterans, military servicemen, and government employees (Ku, 1997). According to Ku (1997), retired MPs received the highest benefit per capita at around NT$ 3.7 million in 1991, followed by veterans who received about NT$ 148,000. Government employees and military servicemen received around NT$ 28,000 and NT$ 26,000 respectively. By contrast, the rest of the elderly population only received an average benefit of NT$ 3,060.

International comparison

In order to make a comparison of welfare expenditures between Taiwan and other industrial countries, we also included education expenditure as part of "broader social welfare" expenditure in Table 2.4.

Table 2.4: Broader social welfare expenditures in Taiwan and other industrial countries (as % of GDP) in 1993

	Taiwan (1996)	Japan	France	Germany	Sweden	United Kingdom	United States
Education	5.0	3.7	5.6	4.7	6.7	5.2	5.2
Health	-	5.3	7.3	6.4	6.2	5.8	5.9
Social welfare	5.7	7.2	20.5	21.6	30.6	15.8	9.8
Housing & community	0.4	-	0.9	0.2	1.2	1.8	-
Total	**11.1**	**16.1**	**34.3**	**33.0**	**44.7**	**28.6**	**20.8**

Source: Author's calculations and amendments based on Tables 15 and 16, Jacobs (1998).

Note: For Taiwan, the national accounts give a functional breakdown of general government expenditure without the category "health", which is included in the sector "social welfare".

Including education nearly doubles Taiwan's social welfare expenditure as a percentage of the GDP (Gross Domestic Product) from 5.7% to 11.1% in 1996. Yet this percentage still lags behind that of many European countries' 1993 levels at around one-third of GDP[34]. It should be noted that Taiwan does not

[34] For comparison of welfare expenditure, one needs to take into account the socio-economic

spend less percentage of GDP than many Western countries on education, so most of the difference comes from health and social welfare expenditure. Health care covered by social welfare, constitutes about 6% of the GDP for Taiwan. By contrast, the figure was about 13% and 16% for Japan and the US respectively, and over 27% for some European countries such as France, Germany and Sweden. Similarly, Li (1997) has found that Taiwan spends more on education and less on health care and income maintenance than do the U.S. and West Germany.

Section summary

Due to the constant military threat from Communist China and the KMT's pledge to reclaim China, social welfare's share of the general government's net expenditures was only a tiny proportion in the 1950s. Despite the KMT government's hostility towards social welfare, there was significant growth in social welfare expenditure over the period 1981-1996, and in particular over the period 1991-1996. However, Taiwan's social welfare spending still remained lower than other industrial countries. Moreover, it should be noted that welfare resource has been channelled predominately to a small group of beneficiaries such as veterans, military servicemen, and government employees.

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and demographic conditions in each country as well as the functioning of their social security systems.

Section D: The current social security system in Taiwan

The current social security system in Taiwan provides four types of programmes with cash benefits for old age: social insurance, occupational retirement schemes, social assistance and social allowances. In this section, we shall examine the qualifications, coverage, and benefits of each of these programmes. In addition, there is an assessment of the Taiwanese social security system.

Social insurance

In Taiwan, social insurance is the main tool of social security provisions. There used to be 14 kinds of social insurance scheme, however, this has been reduced to 7 since the establishment of NHI[35] in 1995 (MOI, 1995). In order to assess the economic status of the elderly, we shall only focus on four major schemes with old age benefits coming from social insurance schemes[36]: MSI, LI, GEI and ITASPS[37]. This is because they represent the major financial

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[35] NHI covers nearly every citizen in Taiwan regardless of employment status. By 1996, 94.9% of the population had been insured by NHI (Ku, 1998a).

[36] The other two social insurance schemes are Retired Government Employees' Insurance since 1965 and Farmers' Health Insurance since 1985.

[37] GEI and ITASPS (Insurance for Teaching and Administration Staffs of Private Schools) were implemented in 1958 and 1980 respectively. These two schemes have been merged as Government Employees' and School Staffs' Insurance since 2000 (Chen and Sun, 2001).

source for the elderly in their retirement.

From Table 2.5, it can be seen that, in 1995, these four schemes covered risks such as old age, injury, sickness, disability, maternity, death and funeral allowance. Only injury and sickness benefits are paid in kind; the rest are payable in cash (Tang, 2000).

Table 2.5: Four major social insurance programmes in 1995

Programme	Type of social insurance scheme			
	LI	**MSI**	**GEI**	**ITASPS**
Date of implementation	March, 1950	June, 1950	Sep., 1958	Oct, 1980
Institution of supervision	Bureau of Labour Insurance, Executive Yuan	Ministry of Defence, Executive Yuan	Ministry of Qualification, Examination Yuan	Qualification Assessment Ministry, Examination Yuan
Insured group	Workers above age 15 and under 60	Current military officers and soldiers	Government employees	Private school teachers and staff
Benefits	Old age, disability, maternity, injury, sickness, and death.	Disability, retirement and death	Old age, disability, death and funeral allowance	Old age, disability, death and funeral allowance

Source: Adapted from Table 9, (MOI, 1995).

Qualifications

The present Labour Insurance Act stipulates that all workers in Taiwan between the ages of 14 and 60 are to be covered by insurance programs. Any worker employed by a public or private factory, mine, salt field, farm, ranch, forestry reserve, sugar-cane or tea plantation, corporation, the press, cultural or public utility, or professional association, with a work force of five or more is covered (Chan, 1984). However, there has been no further extension to include the insured units employing less than five workers due to the difficulty in the collection of contributions and the cost of administration. GEI gives protection to all persons who get regular pay from government, i.e. they are employed in government administrative organisations, public educational institutions, judiciary organisations, health institutions, government owned enterprises and public representative organisations.

Prior to ITASPS, the private schools' teaching and administration staffs were covered by LI and their benefits were far less than those of GEI. ITASPS allowed these employees to enjoy the same protection as government employees. MSI covers only military servicemen and their families. This insurance is considered as a special insurance program since all soldiers can receive free medical services in military hospitals and this program only provides lump sum cash benefits in the event of death, disability and retirement. Since the data for MSI is inaccessible, we shall mainly concentrate on the other three schemes in this thesis.

Coverage

The coverage of the labour force by social insurance has grown very rapidly from a mere 12.7% in 1966 to about 50% in 1996 (Table 2.6). In particular, over the period 1976-1996, the coverage has increased by 30%, that is about 6 million workers. By 1996, about 8 million Taiwanese employees were entitled to old age benefits. Concerning the individual social insurance schemes, LI was the largest and the number insured as a proportion of total labour force has grown from 9% of labour force in 1966 to 46.7% (or 7.4 million workers) in 1996. As far as GEI and ITASPS are concerned, 644,000 government employees or private school teaching and administration staff (4% of total labour force in total) were covered by these schemes in 1996.

Table 2.6: Number of persons insured in social insurance with old age benefits ('000 persons)

Year	Type of social insurance scheme				Total labour force	Insured people as % of labour force
	LI	GEI	ITASPS	Total		
1966	634	247	0	883	6,948	12.7
1971	1,000	307	0	1,309	8,444	15.5
1876	1,710	370	0	2,081	10,043	20.7
1981	2,782	432	22	3,237	11,698	27.7
1986	4,712	483	27	5,224	13,161	39.7
1991	7,281	550	34	7,867	14,496	54.3
1996	7,434	598	46	8,080	15,932	50.7

Source: Author's calculations, adapted from Tables 16, 86 and 90, DGBAS (1998).

Note: Labour force is defined as the part of the population aged 15 years and over who have the ability and willingness to work (including those unemployed) (DGBAS, 1998: 300).

Cheng and Wu (1997) have claimed that the existing social insurance for public and private sector employees covers 92.5% of total "employed workers"[38] and these workers are entitled to old age benefits. However, Table 2.6 shows that there is still about half of the "labour force" (see the note of Table 2.6) without any provisions for old age in 1996. This is because the social insurance programmes with old age benefits are employment-based, and exclude those working for companies employing less than five persons, the self-employed, and work in the rural sector.

Benefits

The old-age benefits of social insurance schemes are earnings-related in terms of "final year's basic salary" or "average insured salary in last 3 years" (see Table 2.8). During the period 1966-1996, employees have experienced significant improvements in coverage in social insurance as well as in the level of benefits (see Table 2.7). While the average amount of old age benefit from LI per recipient was only NT$ 9,100 in 1966, this had increased four times (NT$ 384,100) by 1996. Nevertheless, the average amount of old age benefit from LI in 1996 was significantly lower than the figure for GEI and ITASPS (NT$ 1,192,235 and NT$ 553,750 respectively). Since social insurance programs are low-contribution and low-benefit, as well as earnings-related, and because low-income groups often do not participate in these programs, these programs do not help equalize income distribution (Wang, 1994).

[38] In 1995, the total number of employed workers was 8,939,000 persons (Cheng and Wu, 1997: 24).

Table 2.7: Mean old age benefit per recipient by type of social insurance scheme (NT$' 000)

Year	Type of social insurance scheme		
	LI	GEI	ITASPS
1966	9.1	8.7	-
1976	42.7	80.5	-
1981	106.6	263.3	-
1986	178.4	416.5	52.6
1991	348.8	788.7	188.7
1996	384.1	1192.2	553.8

Source: Adapted from Table 86, 88 and 90, DGBAS (1998).

Moreover, it can hardly be expected that the lump sum payment from LI, GEI and ITASPS (see Table 2.8) can provide long-term income security for the elderly. Although the old age benefits' "nominal" replacement rates (see the notes of Table 2.8) for private and public sector employees were estimated to be 32.63% and 30.89% respectively, the actual rates of the lump sums for an average employee were only 9.79% and 18.53% respectively in 1991. The low actual replacement rates among private sector employees were due to under-reported insured salary and unfavourable requirements for the number of years of insurance coverage (Cheng and Wu, 1997). All four major social insurance schemes do not allow the "insured years" to be accumulated for an insured person when he/she changes from one type of insurance scheme another (e.g. from MSI to LI) (MOI, 1995). Thus, old age benefits from social insurance alone can hardly protect the income security of the elderly.

Table 2.8: Old-age benefits from social insurance and occupational retirement schemes

Item	Government employees		Private sector workers	
	Social insurance	**Occupational retirement schemes**	**Social insurance**	**Occupational retirement schemes**
a. Qualification	Age 65; at least 5 years of contribution	Age 65; at least 5 years of service	Age 60 (55, women); 15 years of contribution	At least 15 years in same entity
b. Form and formula of Payment	Lump sum: By final basic salary and years of coverage; the maximum is 36 months of insured salary	Lump sum: By final basic salary and years of coverage; at most 61 months (106 months since 1995) of payment; or Annuity: 90% of final basic salary (140% since 1995)	Lump sum: By average insured salary in last 3 years and years of coverage; the maximum is 45 months of insured salary	Lump sum: By average normal salary in last 6 months, and years of service in same entity; at most 45 months of payment
c. Replacement Rate*				
Nominal	30.89%	52.34%; 90% (90.95%; 140% since 1995)	32.63%	32.63%
Actual	18.53%	31.40%; 54% (53.57%; 84% since 1995)	9.79%	25.23%
d. Financial Mechanism	Pay-as-you-go; deficit subsidised by government	Annual budget appropriation (Funding since 1995)	Partial funding	2-15% appropriation to reserved fund

Source: Adapted from Table 2, Cheng and Wu (1997).

Note:

1. Replacement rates: The percentage of lump-sum payment which is converted into

annuities according to the assumptions on the expected living years, interest rates and inflation rate.

2. Nominal replacement rates are estimated on two assumptions: (1) the basic salary (for government employees) or insured salary (for labourers) equals to their total compensation which in fact is 40-50% under-estimated; (2) the retiring workers are qualified for the maximum payment. The other reason for actual replacement rate being much lower than nominal rate was due to the shorter years of coverage.

An assessment of administration systems

Taiwan's social security system relies on social insurance and can be described as a "social insurance-based" system with limited corporate welfare. Although the social insurance system was the most remarkable social welfare effort of the post-war period, there has been no centralised administration to run it. In fact, there are three administrations in charge of the various social insurances: the Ministry of Defence manages insurance for military staff; the Bureau of Central Trust, under the supervision of the Examination Yuan, manages insurance for government employees; and the Ministry of the Interior with the Bureau of Labour Insurance runs LI and all the insurance for other population groups (see Table 2.5). Since a number of administrative units are responsible for different programmes, this inevitably creates some confusion.

Occupational retirement schemes

For private sector employees, the government legislated the LSA to act as a second-tier supplement to LI's old-age benefit. The LSA is a defined-benefit scheme[39] in that the benefit depends on a formula fixed in advance, based on years of service and average final salary. The LSA requires a private sector employer to appropriate between 2% and 15% of payroll as a reserve for retirement payment; both contributions and benefits are earnings-related and only employers pay the contributions (see Table 2.8). The contributions must be fully funded and paid in lump sum for only one contingency - retirement. An employee can retire voluntarily at 55 years old if they have worked for 15 years or at any age if they have worked for 25 years. But if they are 60 years old or they are disabled, either from mental or physical aspects, they may be forced to retire by their employers (Cheng and Wu, 1997).

For government employees, an insurance scheme with a considerable welfare element was introduced in 1958, as a non-contributory retirement pension plan (Cheng and Wu, 1997). After 5 years' service, an employee may retire voluntarily at 60 years old or at any age if he has served for 25 years; or he must retire compulsorily at 65 or at any age if he is disabled, either mentally or physically unfitted. The qualified employee has the option of either a lump sum payment, monthly pension or combination of both.

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[39] The other major type of occupational pension scheme is called the defined-contribution scheme. This provides benefit that depends solely on returns from assets invested, usually on a regular contribution of a fixed proportion of salary.

Coverage

Regarding the occupational retirement payment, although about 40% of total employed workers should have been covered by the LSA, it is estimated that only about 16% of total employed workers in the private sector were covered by a full retirement scheme in 1993 (Cheng and Wu, 1997). Moreover, Lu (1998) estimated that only 2% of retired workers actually received these occupational retirement benefits. This is because there is a high ceiling of eligibility[40] and low implementation by employers. Since private occupational schemes are funded by employers, the amount of benefits are subject to the ability and willingness of employers to finance them. An employee may be likely to lose pension rights in the case of switching jobs before retirement or because of enterprise bankruptcy[41]: there is a high proportion of enterprises in Taiwan of small to medium size and their average life-spans are only 11-12 years (Cheng, 1994). In the case of dismissal, the employer is obliged to pay the employee severance compensation unless the dismissed employee is found at fault – in which case he/she gains no compensation at all.

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[40] In order to fulfil the requirement for retirement benefits, the LSA stipulates that employees must stay at least 15 years in the same firm. However, the average working period for an employee in the same firm was only 5.58 years over the period 1987-1991 (Cheng and Wu, 1997).

[41] In contrast, government employees' occupational retirement scheme was financed by appropriation from the annual government budget, and thus the scheme was essentially guaranteed.

Benefits

Even for those jobs covered by the LSA, the combined nominal rate of both social insurance's benefits and occupational retirement payments was about 65% (32.63%+32.63%). The actual replacement rate for an average worker was only 35% (9.79%+25.23%) in 1991, still hardly adequate to maintain a decent living (see Table 2.8). By contrast, the actual combined replacement rate for a government employee was 50% (lump sum payment) and 73% (annuity payment) in 1991. According to Kuo (1994), the revision of the pension scheme in 1992 bettered the social protection of retirement for government employees. Kuo (1994) suggests that government employees, under the protection of GEI and the occupational retirement scheme, were allowed to retire on 85% - 90% of the pre-retirement income after 25 years of service. Based on the revision, a retired government employee, with 35 years of service on average, may receive a pension of over 100% of his/her pre-retirement salary[42].

As a result, benefits for government employees under the current social security net are even higher than most industrialised countries. In contrast, most workers are still subject to substantial old age risks and have not seen their pension benefit substantially improved. For those without the coverage of the LSA, it is quite possible that they can only receive 9.79% of replacement rate which is well below the minimum standard of living.

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[42] The actual combined replacement rate for a government employee was 72% (lump sum payment) and 102% (annuity payment) in 1995 (see Table 2.8).

Social assistance

The current social assistance in Taiwan provides three types of schemes with cash benefits for old age: Low-Income Household Aids, Veterans' Subsidies and Middle-to-Low Income Elderly Living Aid (MLIELA). We shall examine in turn the qualifications, coverage, and benefits of each of these programmes.

Low-Income Household Aids

The first act to benefit the poor derived from the Social Relief Law which was passed in 1943 - when the KMT still ruled Mainland China (Liu, 1982b). After retreating to Taiwan, the 1943 provisions for social assistance were only made available again in the early 1960s in the form of limited social relief through *Hsien* (county) authorities and this Act was the legal basis for social assistance in post-war Taiwan. In 1980, the Social Assistance Law was promulgated to replace the Social Relief Law with more comprehensive benefits. The Social Assistance Law provides four kinds of programmes: living assistance, medical subsidy, disaster relief, and emergency relief. While the Social Relief Law aimed to help those in poverty because of age, youth, pregnancy, disability or disaster (Liu, 1982b), this new act mainly applies an income indicator as the major criterion to define those in need (Ku, 1997). In order to remodel Taiwan's image in the world, the recipients of social assistance became known after 1980 as "low-income households" rather than "poor households".

In Taiwan, social assistance has been and is generally regarded as the responsibility of local government rather than central government. The central government only provides the supervision of the scheme and does not prescribe the poverty line. Thus, the criteria for a low-income household are set by the provincial (or) municipal government every year based on the minimal living expenses required for each locality. For Taiwan Province and Kaohsiung Municipality, the minimal living expenses are fixed at a level no more than one-third of monthly average income per capita for the previous year. In Taipei Municipality, the cut point is set at a level no more than 40% of the current expenditure derived from the Survey of Family Income and Expenditure for the previous year (CRD, 1995). For low-income elderly, the government further provides them with benefits such as medical fee assistance, financial assistance (for treatment of serious disease at the hospital only), institutional accommodation, institutional care (for long-term chronic disease or paralysis only) and free access to day-care centres[43] (Bai, 1996). *Although the benefits for these elderly could be substantial in terms of equivalent cash levels, we shall not consider this in our analysis since there is no actual cash transfer involved.*

The government also divides low-income households into three classes under stringent means test in terms of household income, real assets[44] and working

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[43] The government also provides free medical examination and half-price tickets for transportation (Bai, 1996).

[44] The argument for a combined measure of income and assets is a commonplace in some Western countries. This assessment is always based on the idea that those who have saved ought to use some proportion of their assets before receiving social assistance and only those who have not saved deserve to receive assistance because they are truly in need and have no assets to draw on (Projector and Weiss, 1969).

capability (i.e. the capacity to work). For example, "first class low-income households"[45] are those whose members have no income, real assets and working capability. However, Hill (1996) points out that the "savings trap" of social assistance may operate as a disincentive to self-protection. That is, all or part of one's savings have to be spent before help can be received.

Coverage and benefits

In contrast to the significant growth of social insurance, social assistance has been left underdeveloped. According to *Social Indicators in the Republic of China*, less than 1% of the total population was covered by Low-Income Household Aid over the period 1982-1996 (DGBAS, 1998). In terms of relative poverty line (at 50% of average net income), Chen (1996a) estimated that between 16% and 20% of the total population was living in poverty during 1983-1994. This implies the existence of at least 15% "hidden poverty" in Taiwan - those who qualify as poor in principle but do not receive Low-Income Household Aid. Due to Taiwan's strong emphasis on work ethics, Tang (2000) points out that social assistance is neither generous nor all-embracing. Furthermore, the distribution of social assistance programmes is essentially dependent on the financial strength of local governments and the actual

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[45] "Second class low-income households" are those whose employable persons are less than one third of the total family members and their gross income is less than two thirds of the poverty line. "Third class low-income households" are those whose employable persons are not more than one third of the total family members and their gross income is not more than the poverty line.

assistance levels are frequently lower than these official poverty lines[46]. Given this limited coverage and low benefit levels, it can hardly be said to produce the intended income redistribution for low-income families.

MLIELA and Veterans' Subsidies

Apart from the Low-Income Household Aid, the Taiwanese government also introduced two social assistance schemes: Veterans' Subsidies and MLIELA. For Veterans' Subsidies, poor veterans (those with income below a prescribed level) can get NT$ 13,100 per person per month (Chen and Sun, 2001). Significant political commitments have been given to old age since 1993, culminating in the introduction of new social assistance schemes such as MLIELA and other social allowance schemes (see the next paragraph). Under MLIELA, in households with per capita income no more than one and half times on poverty line, each elderly person can receive NT$6,000 per month. In addition, for elderly who have less than two and a half times of poverty line, each elderly person can receive NT$3,000 per month (since July 1, 1994).

Social allowances

By 1996, there were two types of social allowances in effect: Old Age Allowance and Old Age Farmer Allowance. The former scheme was first put

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[46] Chen (1986) points out that the *actual* formulas of poverty line were based either on the bottom decile households' (rather than all households) one-third of household income, or on 40% of the current expenditure by the local government. Also, the latter case often adopted only 30% of current expenditure.

into practice by DPP-controlled counties in 1994, aimed at elderly residents without any form of pension or subsidy from the government. The qualified elderly were entitled to an allowance ranging from NT$ 2,500 to NT$ 6,000 (per month, per season or four months a year)(Chen and Sun, 2001). By contrast, Old Age Farmer Allowance (since 1995) is the first *nationwide* social allowance scheme. It provides benefits for aged farmers who have enrolled in Farmer Insurance for at least six months, without employment in any other non-farming job, and not receiving any form of retirement payments or benefits from the government (Sun, 2000). The qualified farmers' personal total assets (from the sum of land and housing value) must be less than NT$ 5 million and their personal total income must be less than the current annual basic income prescribed by the government (Sun, 2000). A qualified elderly farmer could receive an allowance of NT$3,000 per month.

Old Age Farmer Allowance has been implemented continuously since 1995 whilst the Old Age Allowance has been more sporadic and short-lived. As a result, the actual amount of transfers received under the Old Age Allowance may not have been sufficient to support the elderly's living costs. In addition, the allowances provided from Old Age Allowance were much smaller than those provided under Old Age Farmer Allowance. The maximum annual amount under the former was NT$ 20,000 in 1995 compared to NT$ 36,000 of the Old Age Farmer Allowance (Biddlecom et al., 2001). Moreover, Sun (2000) points out that Old Age Allowance is means-tested in eligibility, segregated in entitlement, and diluted in benefit. These schemes have deviated from the original rationale of social allowance (Chen and Sun, 2001).

A summary of social assistance and social allowance programmes in 1995 is shown in Table 2.9.

Table 2.9: Social assistance and social allowance programmes in 1995

	Administration	Coverage	Eligibility	Benefits
Social assistance				
Low-Income Household Aid	Ministry of Interior, Executive Yuan	Low-income people	The applicants whose income is below official poverty lines	(1) Payment varies among different categories (2) Taipei: NT$7,730 for the head of household and NT$3,730 for each subsequent member
MLIELA	Ministry of Interior, Executive Yuan	Middle-to-low income elderly	The elderly whose household income is below 2.5 times of official poverty line	(1) NT$6,000 per month for elderly whose household income is below 1.5 times of official poverty lines (2) NT$3,000 per month for elderly whose household income is between 1.5 and 2.5 times of official poverty lines
Veterans' Subsidy	Veterans' Affairs Commission, Executive Yuan	Veterans who have living difficulties	Veterans whose income is below the prescribed level	(1) NT$13,100 per person per month (2000) (2) NT$ 350- 600 for each dependant per month (2000)

Social allowance				
Old Age Allowance	County governments	DPP-controlled counties	Varies among counties	Varies in different counties
Old Age Farmer Allowance	Council of Agriculture, Executive Yuan	Farmers and fishermen	Elderly and enrolled for more than six months in the scheme	NT$ 3000 per month per person

Source: Tables 4 and 5, Chen and Sun (2001) and Table 2-3, Bai (1996).

An assessment of social security coverage

The coverage of Taiwan's social security in 1993 is presented in Table 2.10. It can be seen that only one-third of the elderly were actually protected by the government in 1993. Those protected were mainly retired public sector employees, retired military personnel, and veterans. The majority of the elderly, including farmers and housewives, were without any social security protection unless they were in or near poverty (i.e. in middle-to-low Income households) by 1993.

The implementations and expansion of new social allowances since 1993 have increased the coverage of social security provisions significantly. For example, the number of elderly recipients of the MLIELA has grown from 88,000 in 1993 to 273,000 in 1996 (DGBAS, 1998: 155). In addition, there were 366,000 farmers receiving Old Age Farmer Allowance in 1996 (DGBAS, 1998: 155). Thus, the total number of the elderly receiving MLIELA or Old Age Farmer Allowance increased from 88,000 in 1993 to about 639,000. In other words, the elderly population receiving any form of social allowances increased from 5.9 % in 1993 to 37.7% in 1996 (the total elderly population in 1996 was 1,692,000 (DGBAS, 1998: 2)). Since there were no major changes to the benefit provisions of other social security schemes, the coverage of social security provision among the elderly has increased from one-third to two-thirds over the period 1993-1996. Thus, the majority of the elderly did receive some form of social security benefit in 1996.

Table 2.10: Elderly groups with social security transfers in 1993

Elderly group	**No of elderly, '000 persons**	**% of all elderly***
Retired public sector employees	70	4.7
Retired military personnel	149	10.0
In middle-to-low Income households	88	5.9
Veterans	137	9.2
Institutionalised elderly	11	0.7
Aged employees currently in public sector work	6	0.4
Total	461	30.9

Source: Author's calculations and amendments based on Table 2-13 of CEPD (1995).

***Note:** The total number of elderly population is 1,491,000 in 1993 (DGBAS, 1998: 2).

Conclusion

A dramatic growth of social security programmes has been observed worldwide during the second half of the 20th century. A strong welfare infrastructure already exists in East Asian countries, though it is less extensive compared to Western countries. Although Taiwan established the foundations of social security in the 1950s, the Taiwanese government has been reluctant to become a welfare state. In the name of strengthening the capacity to defend the country against Communist China, and to develop the economy, the KMT government placed defence and economic development at the top of its agenda. Thus, for social welfare, it has encouraged a reliance on family throughout the post-war period.

Even before 1993, Taiwan had already implemented various social security schemes for old age benefits including social insurance, occupational retirement payment schemes, Low-Income Household Aids and the Veterans' Subsidies. However, both social insurance and occupational retirement schemes have serious problems of low coverage, low benefits and strict criteria (among occupational retirement schemes) such that only a minority of workers in the public sector or large private firms can receive decent retirement payments. For the majority of the elderly population, the government basically did not intervene and those who do not participate in the labour market can only seek resource from children or social assistance.

In the 1990s, a process of democratisation took place in Taiwan, and party politics have played an important role to establish a more secure safety net for the elderly people. Most social assistance schemes such as MLIELA and various social allowance programmes have developed a basis of age entitlement (i.e. individuals become eligible for some assistance or participation in a programme on the basis of age). The significant development is supposed to have had a substantial impact on the economic status of the elderly, in particular, for those without retirement benefits. However, the effect of the current social security programmes in Taiwan is still not being properly assessed. Thus, we shall examine the effectiveness and efficiency of the current social security schemes in relation to the elderly's economic status in Chapter 7.

CHAPTER 3: ECONOMIC STATUS, FAMILIAL SUPPORT AND SOCIAL SECURITY

Introduction

This chapter is divided into three sections. First, Section A reviews the previous studies of the economic status of the elderly in Taiwan. Section B examines familial support (in terms of intra-household transfers and inter-household transfers) for the income security of the elderly. Finally, the impact of social security transfers is analysed in Section C.

Section A: The Economic status of the elderly

Economic status of the elderly in the West

The economic status of the elderly has been the object of considerable study, probably because it is a universal problem and because poverty is especially troubling for the elderly. They have few ways to recover from a loss of income, so a fall into poverty probably tends to be more permanent than for the non-elderly. Thus the common image of old age has been one of low-income groups in a society. Most of the early studies regarding aspects of the economic situation showed that old age was strongly associated with poverty. In his classic study of poverty in York at the turn of the 20th century, Rowntree (1901) found a much higher level of poverty among the elderly than in the rest of the population[47].

Since Rowntree's time, many of the factors underlying the poverty cycle have changed. Changes in family size and composition, the increased labour force participation of women, and above all, the development of social security programmes may have affected the general level of economic well-being of families. Nevertheless, Abel-Smith and Townsend's *The Poor and the Poorest* (1965) still found that over two-thirds of the British households with low

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[47] The major feature of Rowntree's study was the discovery of "life-cycle" variations in the risk of poverty. He identified three periods in the life-cycle when there is an increase of poverty: childhood, parenthood and old age.

expenditure in a 1953-1954 survey had retired heads. Townsend (1979) claimed that the percentages of elderly people living alone and in couples who were in poverty are extremely high in the United Kingdom.

More recently, Tsakloglou (1996) showed that the living standards (in terms of consumption expenditure, income and non-monetary indicators of welfare) of the elderly were lower than those of the non-elderly in EU (European Union) countries in the late 1980s. In some countries (especially Northern EU countries) the difference in living standards of the two groups was marginal, whereas in others (mostly Southern EU countries) they were substantial. In the US, numerous studies have shown that the economic well-being of the elderly has improved over the past three decades (Hurd, 1990; Smeeding, 1985). Hurd (1990), for example, indicates that the poverty rates of the American elderly have declined sharply (28% to 12%) over the period 1967-1984. By 1984, they were lower than the poverty rates of the non-elderly, and they remained lower through 1987. Smeeding (1985) claims that in 1979, the mean living standard of the American elderly was 10 to 15% higher than that of the non-elderly. Thus, economic insecurity in old age is a worldwide problem, but its manifestations differ in different parts of the world.

Economic status of the elderly in Taiwan

Income or consumption

Some studies in Taiwan suggest that the Taiwanese elderly's economic status has not become worse off than the non-elderly's. For example, Lo (1985) shows that the elderly-headed household's per capita disposable income was equivalent to 103% of non-elderly households (107% for per capita consumption) in 1983. In addition, Wang and Chan (1996) show that the elderly living alone or with a spouse have a higher per capita consumption than that of households with non-elderly heads (or extended families) over the period 1984-1992. Based on the Low Income Household Survey, Wang and Liu (1997) show that the official poverty rate among the elderly has reduced (1.5% to 0.6%) over the period 1981-1993.

However, the majority of studies show an opposing view, with the financial position of many Taiwanese elderly being precarious at best. For example, the General Household Survey indicates that the elderly have a higher poverty rate than the non-elderly, and the lengths of time during which the elderly are in poverty are longer than for the rest of the population (Ku et al., 1997). Wu and Chang (1997) also point out that the elderly had lower average income than other age groups and four out of five elderly people had a monthly income below the national average in 1993. Bradshaw and Chen (1996) identified that households with aged heads were more likely to be less well off than other age groups in 1991. In terms of poverty, the elderly were twice as likely to fall below the official poverty line in 1994 than those aged 36-45 (Chen, 1996a).

Moreover, Lo (1985) found that the equivalent income (after adjusting for household size and composition) of the elderly declined substantially relative to that of the non-elderly over the period 1976-1983. Similarly, Wang (1994a) showed the equivalent household consumption of elderly-headed households compared with that of all households decreased significantly from 91.3% to

66.8% over the period 1976-1990. Chen (1996a) also found that the elderly-headed households' poverty rate had increased from 16.2% to 24% over the period 1984-1994. However, Chan (1998) showed that although elderly-headed households had a higher poverty rate than that of non-elderly households (9.0% vs. 6.3%) in 1986, the former's poverty rate had been reduced more significantly than the non-elderly's (7.5% vs. 6.7%) in 1996. Thus, the previous studies of the economic well-being of the elderly in Taiwan suggest that their economic status have become worse off than the non-elderly's over time, though there was some sign of improvement in 1996.

One important point that the reader should keep in mind is that the elderly are not a homogeneous group in terms of their economic status. Analyses generally show wide differences between subgroups of the elderly. In the US, for example, the economic status of the "young elderly" in general, is found to be better than that of the "old elderly" (Radner, 1992; Schulz, 1988). Smeeding et al. (1987) also found that the older the elderly, the lower their adjusted disposable income relative to the national mean; this was the case across six industrialised countries (Canada, former West Germany, Norway, Sweden and the United Kingdom). In Taiwan, the economically well-off elderly have certain predominant characteristics: male, younger age, mainlander, higher education, non-farming occupation, and healthier (Chen, 1996a).

Assets

Although standard of living is often treated as synonymous with income, many researchers have found that supplementary resources such as assets may be crucial, especially for the elderly who rely on assets accumulated in their working lifetime[48] (McKay, 1992; Murray, 1964). Households of the same income and consumptions are not equally well-off if they have different amounts of asset wealth[49] (Radner, 1990). Many of the elderly possess assets that "provide housing, serve as a financial reserve for special or emergency needs, contribute directly to income through interest, dividends, and rents, and generally enhance the freedom with which they spend their available income" (Schulz, 1988: 37).

In terms of asset ownership, about half (46.7%) of all Taiwanese elderly owned savings or property in 1992 while it was 58.3% for those aged 60-64 and 27.3% for those aged 85 or over (Huang, 1993). These figures support the common belief that the elderly's assets, as a means of offsetting the drop in income that typically accompanies retirement, fall as the elderly become even older. In addition, Huang (1993) shows that about 71% of the elderly's resources is in the form of real estate (housing and land) while it is about 28% for savings. Although the distribution of asset ownership shows that Taiwanese elderly are in favour of owning housing and land (and that the ownership rate declines as they age), measures of economic well-being in terms of assets have often been neglected in Taiwanese research.

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[48] Moon (1977) argues that money income is a less important source of economic well-being for elderly families since many of them receive no earned income.

[49] Radner (1990) points out that the existence of both income and asset tests for eligibility purposes in some government transfer programmes (e.g. Supplemental Security Income, Aid to Families with Dependent Children, food stamps in the US) demonstrate the importance of considering both income and wealth.

A major exception is the study conducted by Lo (1985). In Lo's work, it was found that the elderly household head's (assuming the household's asset is owned by the elderly only) assets alone were in general sufficient to cover themselves and their spouses' living costs for the rest of their lives[50] (even without considering the possible interest payments and dividends generated by these assets). However, the assets owned by the low-income elderly were not considered by Lo. In addition, there has been no comparison of asset levels between the elderly and the non-elderly over time. These all need to be examined in order to understand the relative economic status of the elderly in the population over time.

Consumer durables

For many researchers, components of assets such as consumer durables have been treated as non-monetary indicators of economic status. Although this extra dimension of consumer durable indicators does not give a monetary value, these durables are presumably acquired at the expense of a household's financial saving, either by reducing the level of existing savings, or by reducing the amounts that people are able to save rather than pay for durables. To ignore the important contribution of consumer durables to

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[50] According to Lo (1985), the assets of elderly-headed households could cover their household consumption for up to 7 years in 1983. If we assume these total household assets belong to the elderly couples (the co-resident children's consumption being assumed to be paid by themselves) and divide by the elderly couple's (estimated) consumption, it was found that these assets could support the couple's consumption for about 12 years, a period approximately equal to the current life expectancy of the elderly after 65.

economic well-being would be unreasonable. In addition, the incapacity of people to obtain access to certain key items, such as housing, may lead to deprivation (e.g. Homelessness) and multiple deprivations.

The impetus for focusing on patterns of consumer durables came originally from Townsend's (1979) pioneering British work. He aimed at analysing styles of living, and developed indicators of deprivation based on items or activities which are socially-prescribed necessaries. This approach was followed up by Callan et al (1993), Mayer and Jencks (1989), Muffels (1993) and Nolan and Whelan (1996). However, these deprivation indicators have never been used before in the analysis of the elderly's economic well-being in Taiwan.

Overall, well-being is a complex concept, and will never be captured by a single statistic. Even economic well-being - a considerably narrower concept - is difficult to measure. Since the 1980s several studies have begun to assess the economic status of the elderly in Taiwan with the focus principally on cash income. In agreement with most other recent assessments, the research presented here shows a less favourable status for the elderly's income relative to the non-elderly. However, other important economic indicators such as assets and consumer durables have long been neglected or just crudely measured in the Taiwanese studies.

Section B: Familial support for the elderly

In Chapter 1, we focused on the changing role played by families in securing the economic status of the elderly. We showed that the family is still a principal income source for the elderly in Taiwan though its importance is declining over time. This section will review the literature concerning the levels and effects of familial support in the form of inter-household and intra-household transfers.

In the West, Cantor (1980) identifies three distinct types of the informal support available to elderly people: family members (including, children, spouses, siblings and other relatives), close friends, and neighbours. The most important in quantity and types of assistance are children, particularly in situations where there is no spouse in the home. In Taiwan, adult children are traditionally obliged to provide financial support to their aged parents; this is especially true for those who live apart from their parents (Chen, 1996b). In this thesis, we shall only examine money income since it is often used as the summary measure of economic status, but we should recognise that a significant amount of familial transfers take place in the form of non-cash benefits.

Inter-household transfers

In the United States, Cox and Raines (1985) point out that while most of the flow of transfers is from older to younger generations, a substantial number of inter-household transfers take place among households of the same generation. Measured in dollars, transfers given to younger generations account for almost two-thirds of the total transfer dollars. By contrast, the flow of transfers from younger to older households is small. Such transfers account for 9% of total transfer dollars given (Cox and Raines, 1985).

In Taiwan, Freedman et al. (1982) found that 87% of Taiwanese couples who lived in a nuclear unit gave money to the husband's parents – 40% regularly and 47% occasionally in 1980. The percentage of children giving financial contributions still remained the same in 1985[51]. Over 90% of children agreed about the need to share the living costs of their aged parents (Yi and Chen, 1998). When asked about the purpose of the gifts, 46% said it was to help parents with regular living expenses, 28% said the parents should have "extra", and 27% as a remembrance on special occasions (Chang, 1991). Wang and Wang (1999) showed that sons, in particular, are the most important supporters for the elderly's income (while daughters tend to provide for household goods and assistance in life). Chen (1996b) reported that 84% of the elderly received some money from children in 1988. Therefore, much evidence has shown that financial linkages from children to their elderly parents[52] have remained very high in Taiwan over the years.

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[51] Chang (1991) found that 87% of people gave money to the husband's parents in 1985 – 42% regularly and 45% occasionally.

[52] Although the flow of support is far from being one-way, the proportion of parents making regular or occasional money gifts to respondent couples was quite low over the period 1980-85. For example, only 1% of the young respondents reported getting money regularly from the husband's parents and 8% occasionally (Chang, 1991).

Lo (1988) supposes that the elderly receive a "net transfer", equivalent to the value of their financial transfers from children minus the inheritance given to children. Chang (1996) shows more than half (57.3%) of the elderly population were "economically dependent" on children and relatives[53] in 1989. Provision from children increases as the aged parents become more needy (Lo, 1987a). For the elderly who live alone or with a spouse only, one-third of their household income came from this inter-household transfer (Chan, 1994). And the lower the household income, the higher the proportion of inter-household transfer the household receives. Thus, living independently does not mean that familial support is necessarily weakened.

Chang's study (1991) suggests that the amount of transfers from children is not very large in most cases. Yet, the effect on the parents' standard of living (according to survey respondents' views) was significant: 18% of respondents said that the effect was very great and 41% said that it had "some" effect (Chang, 1991). Among the "economically dependent" in 1989, 90.8% said that they could have sufficient income for their living costs when they received the support from children or relatives (Chang, 1996). This was about half (52%) of the total elderly population in 1989. Moreover, 84% of those elderly with main income source from children were satisfied with their economic circumstances (Chang, 1999).

While the role of inter-household transfer as an economic support has been a

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[53] The "economically dependent" were defined as those who expressed difficulties to make ends meet on their, or their spouse's, income alone (Chang, 1996).

subject of considerable study in Taiwan, the evaluation of its amount has received less attention. In particular, previous researchers have not used a quantitative empirical approach to support their arguments and, as a result, they did not provide any "new" evidence on what actually happens in households in terms of income flows. So far, there has been only one study concerning the effect of inter-household transfer on the income position of the Taiwanese elderly. Kwon (1999) shows that private (inter-household) income transfers from the family do make significant contributions to the income of elderly households in Taiwan; in particular, in the poorest (bottom decile income) single elderly households. However, Kwon (1999) points out that this transfer still failed to secure the living standards of elderly households (even to reach half of the poverty line). Kwon did not examine the effectiveness of poverty reduction by inter-household transfers.

Intra-household transfers

The extended family structure is usually a simpler, more efficient way of providing for needy relatives than supporting them in separate households since there will be economies of scale associated with the resulting larger family. This living arrangement for the elderly has had a direct bearing on the level and stability of their economic well-being. In the US, Rendall and Speare (1995) found that the elderly's poverty rate has been very effectively reduced (from 42% to 13%) by co-residence with children, in particular, females account for almost all the alleviated poverty. Morgan et al. (1962) concluded that 73% of the elderly in the US improved their economic situation by living with relatives, and that only 5 % of co-resident elderly were worse off than if they lived alone. Economic incentives are among the most important motives for such extended families[54]; family ties seem to provide the basis for redistributing substantial amounts of resources in line with the needs and capabilities of the older generation. Failure to consider this "intra-household" effect may distort any comparative analysis of the elderly's economic status.

Historically, Chinese culture has emphasised strong familial relations, the extended family structure, filial piety and dependence on sons for support in old age. In Taiwan, the living arrangements of the elderly have also had important implications for their economic position. Many studies have noted a significant increase in the poverty rate among the elderly living separately, compared with those elderly co-residing with non-elderly (for example, see Cheng, 1998). Smeeding and Saunders (1998) also found that the poverty rate among the elderly in Taiwanese extended families fell from 46% to 25% due to income pooling with other non-elderly family members. However, Smeeding and Saunders did not evaluate the levels of intra-household transfers among Taiwanese elderly. Although the potential importance of familial support is undeniable, there has, up to the present, been no study evaluating both the inter-household and intra-household transfers, and their total effect on poverty alleviation in Taiwan. Thus one aim of this study is to investigate the impact of both types of transfer from children in order to shed more light on Taiwan's family-based anti-poverty policy.

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[54] In the US, nearly 30% of all elderly families live with relatives in extended family arrangements, often for economic reasons (Murray, 1971).

Section C: Social security and the income of the elderly

In recent years, many governments have started to assume responsibility with social security programmes focusing on their elderly populations. Most social scientists, policy makers and citizens who support the welfare state do so in part because they believe social security programmes help reduce the incidence of poverty. Kenworthy (1998) assesses the effects of social welfare policy on poverty across 15 affluent industrial nations over the period 1960-1991 and strongly support the belief that social welfare programmes reduce poverty. Danziger et al. (1981) surveyed eight studies of public transfers for their anti-poverty effectiveness, all indicate large reductions in poverty after public transfers are added – in some cases over 75%. In particular, the expansion of social security has been a major factor in the improved economic status of the elderly in the United States (Hurd, 1990).

However, many critics have also pointed out that a substantial share of public transfers support the middle and upper classes rather than the poor. In the United States, for example, more than half of the transfer payments and tax benefits dispensed by the federal government in 1991 went to households with income over $30,000, more than double the poverty cut-off for a family of four (Howe and Longman, 1992). And in most of other industrial nations social welfare is even more universal in nature, that is less targeted toward the poor, than it is in the United States (Esping-Andersen, 1990). Nevertheless, enough money reaches the poor that, in the absence of any detrimental effects[55] of social welfare programmes, one would expect them to have at least some poverty reducing impact.

In Taiwan, Ku (1997) claims that social welfare programmes in fact fail to reduce poverty because too small a share of transfers actually reaches the poor. For example, he points out that privileged groups receive three-quarters (74.9%) of social welfare expenditure in 1991 though they account for less than 9% of the total population. As Wang (1994b) points out, expenditures on social assistance are limited, so this does not affect the income share of the bottom quintile. On the other hand, Li (1997) suggests out that though the poor (defined as the bottom 20% of income distribution) elderly received the social welfare benefits[56] exceeding the taxes and contributions they paid, the nonpoor elderly received a higher net benefit because they received a considerable number of old age pensions and tax benefits.

Kwon (1999) suggests that the means-tested public transfers in Taiwan do contribute to the income of the poorest (bottom decile income) elderly couples,

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[55] This is the argument that, for many poor individuals with little in the way of marketable skills it makes sense financially to live off government transfers rather than take a low-wage job. Murray (1984: 9) concludes that this must be due to the perverse incentives created by an excessively generous social welfare system: "We tried to provide for the poor and produced more poor instead".

[56] The comprehensive welfare expenditures included public welfare spending, education, tax savings, philanthropy, direct inter-family gifts, and wage diversion (Li, 1997).

although they are at a lower level than inter-household transfers. On the other hand, the elderly who live alone depend equally on inter-household transfers and public transfers. Kwon (1999) suggests that public transfers in Taiwan do make an important contribution to the income of the elderly living alone or with a spouse only, but the transfers are not sufficient enough for these poor elderly (living separately from children) to escape poverty. Nevertheless, the effect of social security on poverty gap reduction and its efficiency, especially among the elderly has not been sufficiently studied up to now.

CHAPTER 4: RESEARCH QUESTIONS, DATA AND METHODS

Introduction

Chapters 1 to 3 have set out the context of the study, reviewing relevant academic literature concerning the economic status of the elderly over time, and the effects of familial and social security transfers in relation to the elderly's economic status in Taiwan. In order to measure these effects on a national scale, two main requirements need to be fulfilled. The first is that we need a comprehensive set of household survey data; the second is that a methodology for determining the economic status of survey respondents is needed.

This chapter is divided into three sections. Section A presents the research questions for this study and Section B considers the choice of a suitable dataset and the limitations of those available. The final section, defines "economic status" (in terms of three indicators - income, assets and consumer durables) and poverty indicators (based on these three economic indicators) and how to measure them. As far as possible, technical issues have been relegated to the Appendices.

Section A: Research Questions

We shall raise three major questions in the following three chapters.

Chapter 5

First, in Chapter 5, we shall examine the past trends and the current economic status of the elderly under rapid social change; in particular, how well have the elderly fared in Taiwan's rapidly changing society compared with the non-elderly population? In addition, some other questions will be asked as follows:

- Have the elderly all equally participated in the economic boom or is there a difference depending on living arrangement?
- How do income levels, income inequalities and income sources vary between the elderly and the non-elderly over time?
- How does the economic status of the elderly based on change with the additional consideration assets and consumer durables?
- What is the disparity by income level for relative assets holdings and consumer durables in the case of the elderly households and non-elderly households?
- How much assets do elderly households possess to withstand emergencies, unexpected expenses or loss of income?

Chapter 6

In chapter 6, the changes in the role of transfers from children on the income position of the elderly will be examined; in particular, how extensive is familial support from children to the elderly? Moreover, some other questions will be asked as follows:

- Do the elderly co-reside with children because of the economic incentive?
- How important for the elderly are transfers from children in the reduction of poverty?
- Is there a link between sex and the distribution of transfers from children to elderly incomes and how has this changed over time?
- Do the elderly living separately from children receive fewer transfers compared to those living with children?

Chapter 7

Finally, in Chapter 7, we shall examine what was the relationship of social security programmes to the income security of the elderly? In addition, we will be particularly interested to answer the following questions:

- Have social security transfers been adequate to help low-income households in need?
- Have social security transfers effectively reduced the elderly's poverty rate and income inequality?
- How effective and efficient are public transfers in fighting the poverty gap?
- How effective was each social security scheme (social insurance, occupational retirement schemes, social assistance and social allowances) in providing benefits?

Section B: Dataset

It is important at the outset to note that any analysis of the questions to be considered is constrained by the data used. The availability of micro-data based on large-scale household survey datasets, and the advanced software packages available today, have allowed us to make a more complete examination of the questions set out than ever before. For our study, ideally, one would expect the dataset to comprise the socio-economic characteristics of an individual, household income (or consumption), income sources (especially inter-household transfers and social security transfers), assets and consumer durables. In particular, the data about individual income would be helpful to explore more about intra-household transfers.

Currently three large-scale surveys concerning Taiwanese elderly and their economic status are available, namely the Old Status Survey (OSS), the Survey of the Elderly's Health and Living Status (SEHLS), and the Survey of Family Income and Expenditure (SFIE). The SEHLS does contain abundant information, such as the elderly's "number of living children" and "self-assessment of economic status"[57]. The OSS details the proportions of an elderly person's major income sources. Both surveys only focus on the elderly population and do not provide actual figures of assets, consumer durables and

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[57] This is in comparison with people of the same age (i.e. above average, about average, below average), and the range of income per month (NT$ 3,000 or less, 3,000-4,999, 5,000-9,999, 10,000-14,999, 15,000 or more).

the exact amount of cash income from public or private sources. In common with most previous analysis in this area, we are interested in comparing the objective living standards rather than subjective evaluations of individual income adequacy. Neither, the OSS nor the SEHLS are therefore suitable for our analysis.

The SFIE, on the other hand, is a multi-purpose annual cross-sectional survey providing a rich collection of detailed data about Taiwanese households. The SFIE is conducted annually and uses “household” and “person” as statistical units. For annual cumulative statistics, the reference time is the one-year calendar period (January 1 to December 31) of the relevant year. For “static data”, the reference time is the end of the relevant year. This includes detailed information on individual socio-economic characteristics (age, sex, marital status, ethnicity, residential locality, educational attainment, and occupation, etc.), income levels (individual and household income), income sources (earnings, property income, inter-household transfers, social security transfers, etc.), household assets (available from 1976 to 1994) and consumer durables (i.e. as colour television, telephone, air conditioner, refrigerator, washing machine, car, etc.).

The major forms of assets covered by the SFIE are categorised into four groups: residual land, private residence, other buildings, and other assets (land, factories, shops, livestock, transportation vehicles, machines, and equipment). The record of financial assets only exists for 1976 data and it is difficult to analyse its trend over time. Thus we only measure four major forms of assets from the SFIE. Regarding the individual social security schemes, this survey includes data on the transfers from social insurance (since 1993) and occupational retirement schemes (since 1994), Low-Income Household Aids, Old Age Allowance (since 1994) and Old Age Farmer Allowance (since 1995).

Distinct from the OSS and the SEHLS, the SFIE enables us to compare economic status between the elderly and the non-elderly. A modified version of the SFIE dataset has also formed part of the Luxembourg Income Study (LIS) database, a collection of almost 100 surveys in 27 countries spanning selected years from 1970 onwards (Bradshaw and Chen, 1996). For this, and the above reasons, it is no wonder that the SFIE has been by far the best and most frequently used dataset for assessing the economic well-being of the elderly in Taiwan (for example, see Chan, 1998; Lo, 1985; Lo, 1987a; Wang and Chan, 1996; Wang, 1994). In this thesis, we shall use data from 1976 to 1996, because the earliest available electrically-stored data is for 1976.

Data quality

While the data set offers an excellent resource to explore the economic position of an individual, the quality of this data should be examined in three aspects: consistency, under-representation and under-reporting.

Consistency

Over the period 1976-1996, the majority of the SFIE indicators concerning socio-economic status, income, assets and consumer durables have been remained unchanged over time. However, there are modern household equipment (e.g. personal computer and cable TV) and income entries (e.g. social insurance, occupational retirement schemes, low-income household aids, or social allowances) that have been introduced in recent years.

Under-representation

Even though the SFIE is a very rich source of data for distribution-related studies, it should be noted that the elderly are very likely to be under-represented in the original (unweighted) samples of the SFIE. This is probably the consequence of two factors. First, the coverage of the survey is only on non-institutional households, inevitably excluding the elderly-dominated institutionalised population. The majority of these elderly were likely to be male, Chinese mainland-born veterans. Given that the proportion of elderly living in institutional households is quite low[58], the overall picture of living arrangements provided by the survey data based on private households only is unlikely to be seriously distorted by this omission.

The second factor is the very probable greater extent of non-cooperation of households which are headed by elderly persons compared with households headed by non-elderly persons[59]. Since in Taiwan the very old elderly (aged 75+) are likely to experience a lower economic well-being than the young elderly (see Chen, 1996a), we should bear in mind that in most cases, the

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[58] This accounted for about 1% of the elderly population in 1996 (MOI, 1997).

[59] This is especially true in some countries for very old persons (see Kemsley, 1975). In Taiwan, based on a survey representing the non-institutional population, Chan (1994) found a lower proportion of sampled "very old elderly" (those aged 75 and older) in the sampled elderly population (27.8%) than the proportion in Taiwan's household registration data (29.3%) in 1988.

"true" relative status of the elderly could be slightly lower than that implied by the estimates reported below. However, the degree of this under-representation is unlikely to affect the estimation significantly.

Under-reporting

Past research has shown that differences in under-reporting of total income by age affect data on the relative positions of elderly and non-elderly households (Radner, 1982). This is usually due to respondents who do not know, remember incorrectly, refuse to answer, or give false information, out of anger or fear of government retribution. The elderly rely more heavily on income types such as interest payments or inter-household transfers that are reported relatively poorly. This can produce substantial underestimates of income and distort our view of the relative income positions of various socio-economic groups, especially for comparing elderly and non-elderly populations. An adjustment for under-reporting shall be expected to raise the income of the elderly relative to that of other age groups. However, it was not feasible to apply an adjustment for under-reporting in the study presented here since such adjustment is a complicated process.

Considering assets, the SFIE was not particularly designed to collect data on assets, thus they do not fully exploit the potential for analysing the pattern of asset holdings. Assets data from surveys are often considered to be of doubtful accuracy, and estimates of the upper tail of the asset distribution usually are particularly poor. Since our focus on the middle and lower portions of the asset distribution; the SFIE offers a good resource for the type of analysis discussed in this study.

Section C: Methods

It could be argued that the main conclusion of this thesis is that any assessment of the living standards of elderly people is fundamentally dependent on the hypothesis made in the analysis and the methodology adopted. It is therefore important to provide a detailed discussion of the technical issues involved, and it is unavoidable that some of these issues must be discussed prior to the presentation of results.

This section can be broadly divided into two parts: definitions of economic status and measurements of economic status.

Part A: Definitions of economic status

Since the primary objective of this research is to assess the economic status of the elderly, the first question arising from this objective is what do we mean by the term *economic status*. Despite the extensive and growing cost of public transfers for the elderly, there has been no consensus on a "measuring stick" with which to assess progress in improving the elderly's economic well-being. This is because economic status is a multidimensional concept. Moon (1977) suggests that an accurate indicator of economic status should capture a family's command over all goods and services; thus, we shall review the studies relating to the economic status by various measurements in the rest of this chapter.

Income

We begin our discussion of the elderly's economic status by looking at the *income* they receive. Income is not the only resource directly or indirectly contributing to economic welfare, there are other important kinds of resources such as human capital[60], social capital[61], and access to basic health care, etc. Sen (1992) suggests that an adequate income not only enables an individual to elementary needs such as food, transport and housing, but also contributes greatly to a number of kinds of social participation, not least being able to appear in public without shame. Moreover, there is also evidence that life satisfaction among the elderly is positively related to their income level (Leonard, 1982). As Mollie Orshansky argues, "while money might not be everything, it is way ahead of whatever is in second place" (Schulz, 1988:19). Thus, it is important to consider income as our indicator for measuring economic status for the elderly.

Smeeding et al. (1993) suggests that the economic well-being of households is determined by both cash and non-cash income. As many studies have shown, the elderly receive a substantial amount of income in non-cash forms (Hurd,

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[60] Human capital can be measured by an individual's level of education and it provides the potential for one's family to live. For detailed discussions, see Becker (1964).

[61] Social capital exists in the *relations* among persons. Coleman (1988: s101) points out that "a group within which there is extensive trustworthiness and extensive trust is able to accomplish much more than a comparable group without that trustworthiness and trust." A case that illustrates the value of trustworthiness is that of the rotating-credit associations of Southeast Asia and elsewhere (Coleman, 1988).

1990; Moon, 1976; Smeeding et al., 1993; Steckmest, 1999). For example, Moon (1976: 253) suggests that non-cash income to the elderly total more than 10% of the size of their current cash income. These include health care, education, childcare, transportation, food, and other subsidies from the government. As Moon (1976: 253) puts it: "cash income fails to capture all the resources which enable a family to command goods and services". In addition, "noncash income may also be provided to private households by private third parties such as employers, or by the household itself as in the case of imputed return from durables such as owned housing (imputed rent[62]) or automobiles" (Smeeding et al., 1993: 232). However, governments normally provide the largest amounts of non-cash benefits[63].

In order to fully appreciate the government's role in income distribution, it is desirable to consider not only cash but also those non-cash transfers and taxation transfer. The inclusion of such transfers can provide a more accurate guide, compared with the standard cash income measures, to the resources available to families or to the living standards achieved by families. Nevertheless, the measurement of non-cash income to individual households based on micro-data is a formidable task (Smeeding et al., 1993). Thus such an attempt would go far beyond the scope of this thesis. Here, we shall include

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[62] The imputed rent is the rent they could otherwise receive, or the rent they would be paying if they rented this housing.

[63] It should be noted that studies of non-cash income have been mainly based on the developed countries, which generally provide more non-cash welfare programmes than in the developing nations.

only the imputed rents of owner-occupied housing simply because it has been recorded in the SFIE. Therefore, the term household income here refers to the household's cash income plus its imputed rents.

The analysis of income performed here uses the disposable income rather than the gross income[64]. Although the gross income could be used as measure of economic status, this income measure is an administrative concept rather than a *real* living standard. This is because the elderly tend to pay less on taxes (due to retirement), interest payments (due to less capacity to borrow), mortgage, social insurance contributions (due to retirement) and outgoing private transfers. Thus the gross income is far from an ideal measure for economic status of the elderly. In this study, disposable income refers to income, including social security payments and imputed rents, net of taxes, interest payments, mortgage, social insurance contributions, and outgoing private transfers.

Assets

Asset as an annuity vs. short-term adequacy

Assets and income are difficult to combine, since income is a flow while net worth (i.e. assets less liabilities) is a stock (Weisbrod and Hansen, 1968). The combined result is often controversial (Radner, 1990) and it cannot be evaluated unless "the purpose the measure is to serve is enunciated"

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[64] This refers to the annual household income before taxes and social insurance contributions, interest payment, private transfers, etc.

(Projector and Weiss, 1969: 14). However, there have been several attempts to combine these two economic resources into one measure of economic well-being[65]. Following Murray's (1964) "asset as an annuity" method[66], a family could in principle liquidate all its assets and purchase an annuity for the remaining lifetime. This measure, however, was criticized on the grounds that it fails to take into account the future savings potential of non-elderly households (Projector and Weiss, 1969). In addition, Murray (1964) also admits, the possibility that this procedure may not be justified because of both the feasibility and desirability of individuals' asset management.

The whole topic of combining income and assets into a single measure is very controversial and no fully satisfactory method of combining these into a single measure exists at this time. Hence, our approach does not implicitly spread assets out over the expected lifetime as the "asset as an annuity" method does. As Radner (1990: 3) points out, when the economic status of age groups is compared, the important question usually is "how well off each age group is

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[65] See for example, Murray (1964), Radner and Vaughan (1984), Radner (1990), and Weisbrod and Hansen (1968).

[66] Murray (1964) suggests that assets can be assumed to be capable of earning a 4% annual rate of return. The principal and the appropriate interest amounts are divided over the expected remaining years of the individual's life in equal annual sums so that the assets will be exhausted at the end of that period. The annual amount computed in this way is added to the current annual income less income actually received from assets. Nevertheless, this technique is subject to many conditions and considerations for the individuals involved. See also Weisbrod and Hansen (1968).

now, not at some past or future time". As suggested by Radner and Vaughan (1984), assets can be viewed as being used either to provide the ability to withstand emergencies, to pay for income loss or for large uncertain expenses (e.g. medical expenses). Therefore we shall examine the value of a household's assets separately from its income. We are most interested in the short-term "adequacy" of the economic resources of households. Thence, it should be noted that this study only attempts to serve as a preliminary study for the economic resources of the elderly in Taiwan.

Definition of assets

As Friedman and Sjogren (1981: 17) suggest, the major forms of assets owned by the elderly can be put into the following five groups[67]:

1. Total assets (the aggregate of equities in all assets)
2. Home equity[68] (the value of the home less any outstanding mortgage)
3. Liquid assets (savings, current accounts, stocks, and bonds)
4. Illiquid assets (equities in business and real estate)
5. Retirement assets[69] (Insurance policies and annuities)

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[67] The broader definition of assets also includes precious paintings, antiques, and human capital. However, these assets are very difficulty to access or even to estimate.

[68] Ownership of a home wholly or primarily debt-free represents a less liquid asset than financial assets. However, it also functions as a liquid asset in the sense that it could replace income otherwise required to be spent on rent or mortgage payments (Crystal and Shea, 1990).

[69] Retirement pension schemes represent another form of assets. They are often referred to

Many studies have attempted to estimate the monetary value of retirement assets and consumer durables. The former is normally defined as the present value of the future stream of benefits (such as a pension) a qualified person will receive. It can be regarded as a "social security wealth" (Wolff, 1994: 144) which also tends to include occupational pensions. Consumer durables include cars, televisions, furniture, household appliances, and the like. Takayama (1992), for example, estimates the value of each consumer durable in 1984 based on the Japanese National Survey of Family Income and Expenditure[70]. However, the evaluation of "social security wealth" or consumer durables will be excluded in this study. The main reason is that the evaluation processes are too complicated and such an attempt would go far beyond the scope of this thesis.

Since there is no debt or liabilities data in the SFIE, we only can assess the asset holdings rather than the net worth of households. The major forms of assets covered by the SFIE are categorised into four groups: residual land, private residence, other buildings, and other assets. The lump sum component of some old-age benefits (e.g. social insurance or occupational retirement schemes) will be regarded as income rather than assets. Here, assets will be

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as non-fungible because they cannot be traded or mortgaged (by contrast, the other four types of assets listed above that are typically referred as fungible) (Friedman and Sjogren, 1981).

[70] This dataset contains the amount of each major consumer durable held in 1984, and the amount purchased during 1984. Then Takayama estimates the value of each consumer durable by multiplying the quantity held with the unit purchase price in 1984, and then subtracting the depreciation. For detailed discussion, see Takayama (1992).

considered here as a simple store of value and a source of potential consumption[71].

Consumer durables

As Moon (1976: 253) points out, "cash income fails to capture all the resources which enable a family to command goods and services". As noted in Chapter 3, the ownership of consumer durables represents the command that the person has over goods and services. Townsend (1979: 31) suggests, that by relating deprivation "scores" to resources, people with resources "so seriously below those commanded by the average individual that they are, in effect, excluded from ordinary living patterns, customs and activities" could be identified. Townsend's work was a ground-breaking study, yet it is not without its criticisms. Many critics have focused on the point that observed differences in living patterns may be attributable to differences in tastes rather than resources. For example, Piachaud (1981: 421) argues that Townsend has left out a vital factor – choice:

"To *choose* not to go on holiday or eat meat is one thing: it may interest sociologists, but is of no interest to those concerned with poverty. To have little or no *opportunity* to take a holiday or buy meat is entirely different."

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[71] Note that assets such as housing and other property are normally less readily marketed than assets such as shares and bonds. In addition, owner-occupied housing is not normally acquired as a reserve for contingencies, but rather for the services and satisfaction it yields for family living (Murray, 1964).

Research concerning the choice[72] of consumer durable indicators seems particularly difficult as they need to be "taste-free", yet relevant for all ages. An attempt to construct such an indicator, albeit a rather crude one, is presented below. The choice of the items here has been determined by what was common to the surveys. Based on the SFIE, we construct ten indicators for assessing consumer durables following three main criteria set up by Townsend (1979), i.e. housing condition[73], consumer durables and sufficient space. This attempt to construct such indicators, admittedly a rather crude one, is as follows.

The housing condition selected is a dwelling with mains water (either belong to the house or shared) while the consumer durables are: colour television, telephone, air conditioner, refrigerator, geyser (water heater - gas or electric), washing machine, kitchen extraction fan, and car. Further, a yes/no variable has been constructed to indicate "large residence space" in terms of square feet per equivalent adult[74] in the dwelling being more than 8 *pins* (or 26.4 sq ft).

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[72] A later study by Mack and Lansley (1985) attempted to respond to these criticisms in a number of ways. In the selection of items for inclusion in the deprivation index, they made use of respondents' stated views about whether particular items or activities constituted "necessaries" (Mack and Lansley, 1985: 38). To assess the role of tastes, they also asked those who did not have a particular item or activity whether they "would like, but can't afford" that item.

[73] Townsend (1979) classifies three aspects of inadequate housing: structural defects rendering housing unfit, lack of basic amenities, and inadequate space or overcrowding.

[74] In order to assess the household size and composition, we divide the residence's floor area

However, we have to bear in mind that these indicators can only serve as a reference point, since a particular indicator may relate to one's life style rather than actual economic status[75]. For the construction of the non-monetary indicator, a score of 1 is assigned for each item available to a household, and then the sum of all the scores is calculated.

Equivalence scales

It is generally accepted that a single person does not need as great an income as a couple to be equally well-off, and that the presence of children in a household imposes extra costs, but that these additional costs may not be as great for children as for additional adults. In Taiwan, some previous studies[76] concerning the economic status of the elderly can be questioned because they adopted "per capita" household income (or consumption). This approach is likely to overestimate the income or consumption level of elderly households since they generally have smaller household size.

A variety of methods have been proposed to derive equivalence scales, that is, measures of the relative needs of households differing in size and composition.

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by the OECD per adult equivalence scale factor (see the description below) for the household. We assume that children demand less space and that the "economy scale" of consumption also applies to living space. A similar measure based on living area in terms of square meters per equivalent adult has also been applied by Tsakloglou (1996).

[75] For instance, an elderly man who lives alone may not possess a kitchen extraction fan since he may not cook often.

[76] See for example, Chen (1996a), Lo (1985), Lo (1987a) and Wang and Chan (1996).

Buhmann et al. (1988) claim that the levels of poverty rates and inequality are somewhat sensitive to the choice of the equivalence scale. By contrast, Atkinson et al. (1995) argue that the sensitivity between poverty and equivalence scale used is not terribly significant. However, there is no one approach universally accepted since "each of the (equivalence) scales has its own strengths and its own weakness" (Whiteford, 1985: 103). Therefore, we do not enter the debate about the selection of best equivalence scales. Rather, we take a pragmatic approach of choosing one particular option for assessing the equivalent income that is currently used by many researchers.

For this study we shall choose the OECD equivalence scale[77]. We make no claim that this is the best scale to use, but simply that it is a familiar scale. The equivalent income of a household is calculated by dividing the household disposable income by the equivalence scale value. Radner and Vaughan (1987: 111) also suggest that it is appropriate to adjust assets as well because here "assets can be viewed primarily as a resource for consumption in the short run and that resource is being viewed as spread over the persons in the household". Thus, the equivalent asset (i.e. asset per adult equivalent) of a household is calculated by dividing by the household asset value by the OECD equivalence scale value. For convenience, we assume that the income, assets and consumer durables of the household are resources for all members of the household and only for members of the household.

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77 The scale is as follows: the first adult is valued 1.0 and subsequent adult 0.7. Adult is defined as aged 18 or over; those under 18 are defined as a child with a factor 0.5 for each child (OECD, 1982).

Part B: Measurements of economic status

Types of poverty lines

A *poverty line* is defined as an income level below which people are called poor, and above which people are called non-poor. The definition and the criterion used to set the poverty line play a crucial role in the measurement of poverty since it is an intricate process whose outcome is highly sensitive to the measurement method applied. Five approaches are proposed by Deleeck et al. (1992) to derive the poverty line: the official (or political) method[78], deprivation indices (see "Consumer durable poverty" below), the absolute method (or the budget method)[79], the relative method and the subjective method[80].

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[78] This takes a minimum income that is set by social security or tax regulations as a poverty line. Generally, the minimum guaranteed income in social assistance is used. One might assume that these rates reflect a political consensus (or, at least, a majority view) on the minimum level of income acceptable in a particular society.

[79] The *absolute* method involves prescriptive definitions based on the assertions of experts about people's minimum needs. For example, nutritional experts are asked to assess the minimum needs of individuals with respect to food, clothing, housing, etc. This method was first conducted by Rowntree (1901) and it remains a broadly advocated approach (particularly by Bradshaw et al.(1987)).

[80] This approach represents a radical departure from the previous ones. It relies on direct questioning of the population about their views about minimum income needs. The method therefore takes account of the fact that poverty is a socially constructed category, and is not something that can be determined by an outside observer without regard to the circumstances

Nevertheless, all these approaches face formidable problems at conceptual and empirical levels, and no single approach is likely to suffice (Callan and Nolan, 1991).

In this study, however, we only select the relative method as poverty measures. This approach aims to set a standard which is commensurate with societal living standards or expectations. A consequence of using relative poverty lines is that a nationwide improvement in incomes, which leaves the relative positions of households unchanged, has no effect on the measurement of poverty rate.

Poverty measures: headcount poverty

Income poverty

Given a certain poverty line, there are several ways to express the total extent of (income) poverty. Still the most popular overall measure of poverty is the "headcount", the number of poor persons or households. The relative poverty rate is defined as the percentage of persons living with incomes below 50% of the median disposable income of all households. Our definition is in line with well-established theoretical perspectives on poverty (Townsend, 1979). Such a measure is now also commonly employed by the OECD (Organisation for Economic Co-operation and Development) countries and other international organisations (Smeeding and Saunders, 1998).

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and values in the surrounding society (see van Praag et al., 1982).

The disadvantage of the relative poverty measure is that the choice of the "cut-off" level and the equivalence scale is largely arbitrary. Since it is possible that large numbers of households may have incomes that are just below or above a chosen poverty line, we will use two alternative poverty cut-offs. These are taken as 40% and 60% of the median and for convenience we refer to those below the first as being in "severe poverty" and those below the second as being "in or near poverty".

Asset poverty

In addition to the poverty rate based on income, we shall also conceptualise poverty for households falling below certain asset levels. According to Wolff (1990:160), the asset (or wealth) poverty line is derived as "the product of the official poverty line (based on income) and the ratio of median household wealth to median household income". Following Wolff's example, the asset poverty line will be set at 50% of the median equivalent asset in this thesis.

Consumer durable poverty

An alternative way to assess poverty is in terms of exclusion from the norms of conditions of life of the society, due to lack of resources. In order to capture this aspect of poverty, one has to construct a deprivation index (or consumer durable poverty) measure for consumer durables. The deprivation indices attempt to measure poverty through the non-possession of a number of goods, non-participation in certain activities and non-use of certain services (e.g. quality of food, clothing and dwelling, household possessions, use of health and educational facilities). This method was pioneered by Townsend (1979) where he constructs a "deprivation index" based on twelve indicators (from an original 60 included in his survey) of standard of living, such as the lack of a refrigerator, no holiday away from home in the last twelve months, and the lack of a cooked breakfast most days of the week. Townsend stated that a score of five or six or more on this index was “highly suggestive of deprivation” though the deprivation score itself is not used as a definition of poverty[81].

The analysis of poverty using these non-monetary indicators should give additional insights for describing the living conditions of the elderly. In addition, measures based on deprivation indicators are less sensitive to wide fluctuations in income which can cause problems for the assessment of poverty. Indeed, it could be argued that “an overall index based on a set of deprivation indicators provide a better measure of “permanent” or long run poverty than would survey estimates of current income” (Whelan, 1993: 26).

In our study, the consumer durable poverty line for an individual will be set at a score of less than 50% of the median score (for all households) for the ten selected basic durables as discussed above. For the construction of the non-monetary deprivation indicator a score of 1 is assigned for each item unavailable to a population member, and then the sum of all the scores is calculated. In order to identify the least privileged members of the society, Tsakloglou (1996; 1998) tries to focus on multiple poverty indicators (in terms of income, consumption and consumer durables). In our study, we shall adopt

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[81] Piachaud (1981) criticises making an income threshold based on the deprivation scores. Mack and Lansley (1985) have developed and improved this method by introducing a measure of poverty based on the social perception of needs.

multiple poverty indicators based on income poverty, asset poverty and consumer durable poverty indicators.

Income inequality

Another useful measure of the distribution of equivalent income is income inequality in terms of the Gini coefficient, which measures the extent to which an actual distribution differs from an exactly equal distribution. It ranges in value between 0 and 1; the higher the coefficient, the greater the degree of measured inequality.

Mean versus median

Mean amounts of income and assets have often been used in analysis of the economic well-being of different groups. However, there are certain problems in using means to look at the situation of a group. As Quinn (1987) points out, medians generally are more representative of the typical units in a group than means because the former are less affected by extreme values. Where possible, medians, rather than means, are used in this study. When sources of income, familial support or social security transfers are examined, it is more meaningful to use means rather than medians in these contexts, because some of the elderly may not have such income sources (e.g. social assistance).

Money and real value

Throughout this study, all income and assets from 1976 to 1996 are converted to constant 1996 NT$ (1US$= 30 $NT; 1£= 50 NT$) using the consumer price index.

Unit of measurement

In the case of multi-person households, there is a choice in analysis between "weighting by households" and "weighting by persons". For the first approach, each household is counted once, regardless of the number of persons in the unit. Thus, the low income of a household of one person would be given the same weight as, say, the low income of five persons. In the second approach, the household is counted once for each person (of any age) in the household. The use of the "weighting by persons" concept differs from the income concept used in much previous work (for example, see Bradshaw and Chen, 1996; Chen, 1996a; Lo, 1985; Lo, 1987a; Wang and Chan, 1996; Wang, 1994), which has often compared the income of households headed by the elderly to households headed by younger persons.

Since one of the main purposes of this study is to evaluate the economic status of the elderly in comparison to the non-elderly, the distributions used are distributions of persons, not households. Our approach assumes that the well-being of the elderly population is the true subject of interest, rather than that of households headed by the elderly. Crystal and Shea (1990) suggest that this concept allows us to group persons by their own individual ages rather than that of the head householder. Moreover, Jenkins (1991:457) points out "people - not households or families - experience poverty". This approach is attractive since this method presents a more accurate result for the economic status of the elderly where equal weight is given to all individual persons, both elderly and non-elderly.

Unit of categorisation

Considering the unit of categorisation, all economic indicators operate on a household basis, since families tend to make income, asset and consumer durable decisions jointly and over time for future consumption needs. In this study, the elderly generally are divided into three groups according to their living arrangements.

- **Lone elderly** are defined as elderly individuals living alone.
- **Elderly couple** is defined as a two-person household containing only the elderly people. It is assumed that these two elderly persons are a married couple, though no marital status indicator is included in the survey data over the period 1976-1987.
- **Co-residing elderly** are those who belong to an extended household containing both elderly and non-elderly individuals.

Although there is a possibility that there are more than two elderly persons living together, this is excluded from consideration in order to simplify the analysis. In addition, lone elderly and elderly couples will be referred to as "independent elderly" while the "elderly household" here is defined as a household having at least one elderly individual. We will refer to "all elderly" and "all non-elderly" as elderly individuals and non-elderly individuals respectively, regardless of their living arrangements.

Equal sharing assumption

Household members are assumed to "pool" their individual resources and these pooled resources are redistributed equally based on need. Our distributions are derived by assigning to each household member attributes of the household such as equivalent income, equivalent asset and consumer durables. In doing so, it is implicitly assumed that the distribution of resources within the household is equitable. Although this is a very common assumption in distributional studies, there are grounds to suspect that it is not necessarily correct (see the discussion in Chapter 6). Moreover, a household is defined as being poor (e.g. asset poor) if its average level of resources falls below the (asset) poverty line. In other words, an individual is poor if he or she is a member of a poor household.

CHAPTER 5: THE CHANGING ECONOMIC STATUS OF THE ELDERLY

Introduction

The purpose of this chapter is to determine the elderly's economic status by three economic indicators (income, assets and consumer durables) over the period 1976-1996. It should be noted that all income and assets refer to "equivalent household disposable income" and "equivalent household assets" respectively and they all have been adjusted into real terms. Throughout this chapter, the comparisons of income, asset level and the score of ten household durables are all measured by their median values.

This chapter is divided into three sections. Each section begins by showing the trend of an economic indicator among the elderly and the non-elderly over the period 1976-1996 (1976-1994 for assets). Then the distributions (by either income quintiles or five classes) of each economic indicator are examined. For assets and consumer durable sections, the level of assets or consumer durables will also be assessed based on income quintiles. Finally, each section ends with an analysis of poverty based on the economic indicators under consideration.

Section A: Income

Income levels

The changes in the elderly's equivalent income over the period 1976-1996 are shown in Table 5.1.

Table 5.1: Equivalent income of the elderly (NT$'000)

Household type	Year					Rate of
	1976	**1981**	**1986**	**1991**	**1996**	**increase***
Lone elderly	75.2	93.4	124.8	174.1	204.9	5.1
Elderly couple	76.2	72.3	107.8	141.4	212.9	5.3
Co-residing elderly	63.8	89.5	114.8	179.0	235.4	6.7
All elderly	65.1	88.7	114.5	173.3	227.7	6.5
All non-elderly	71.4	100.7	128.8	204.1	260.0	6.7

Source: Author's calculations based on the SFIE.

***Note:** The rate of increase is defined as the effective percent per annum growth over the period 1976-1996.

The elderly overall have experienced a substantial growth of 6.5% p.a. (i.e. per annum) in real terms over the period 1976-1996. However, this growth rate was slightly lower than that of the non-elderly (6.7% p.a.) over the same period. The elderly are not a homogenous group: the independent elderly (i.e. lone elderly and elderly couples) have lost ground in income growth (about 5% p.a.) compared with the co-residing elderly (6.7% p.a.). Co-residing elderly in extended households were the only type of elderly who experienced income growth in line with that of the non-elderly (i.e. 6.7% p.a.) over the period 1976-1996. Although co-residing elderly had a lower income level than the independent elderly in 1976, the former's income has increased to a higher level (NT$ 235,400) than lone elderly and elderly couples (NT$ 204,900 and NT$ 212,900 respectively) in 1996. Thus the elderly living with relatives have over time become significantly better-off in terms of income growth and income level compared with the independent elderly.

Next, the relative equivalent income level of the elderly households to that of the non-elderly - i.e. the income ratio - is shown in Table 5.2.

Table 5.2: Income ratios of equivalent income

Household type	Year					Change
	1976	1981	1986	1991	1996	(1976-96)
Lone elderly	1.05	0.93	0.97	0.85	0.79	-0.26
Elderly couple	1.07	0.72	0.84	0.69	0.82	-0.25
Co-residing elderly	0.89	0.89	0.89	0.88	0.91	0.02
All elderly	0.91	0.88	0.89	0.85	0.88	-0.03

Source: Author's calculations based on the SFIE.

From Table 5.2, though independent elderly had income ratios at least 5% higher than that of the non-elderly in 1976, these ratios have dropped steeply to about 80% over the period 1976-1996. On the other hand, the income level of co-residing elderly shows only a slight change (+ 2%) over the period though it was about 10% lower than that of the non-elderly. Overall, the income ratios for the elderly have dropped slightly by 3% over the period 1976-1996 though there was an increasing trend for 1991-1996. These results suggest that the elderly's economic status (in terms of income) have indeed deteriorated in relation to the non-elderly over time, in particular, that of the independent elderly.

Next, the proportions of elderly in quintiles according to equivalent income between 1976 and 1996 are shown in Table 5.3.

Table 5.3: The elderly by income quintile (%)

Household type	**Income quintile**					**Total**
	Bottom	**2**	**3**	**4**	**Top**	
1976						
Lone elderly	10.8	16.2	27.1	8.1	37.8	100.0
Elderly couple	19.0	19.0	14.3	16.7	31.0	100.0
Co-residing elderly	27.9	21.7	18.8	17.0	14.6	100.0
All elderly	26.9	21.4	18.7	16.7	16.3	100.0
1996						
Lone elderly	35.9	23.1	15.4	13.7	11.9	100.0
Elderly couple	37.9	19.7	17.0	12.5	12.9	100.0
Co-residing elderly	26.4	21.1	19.4	17.3	15.8	100.0
All elderly	29.5	21.0	18.5	16.1	14.9	100.0

Source: Author's calculations based on the SFIE.

The changes in the quintile percentages reflect the decline of equivalent income among the independent elderly over time. While there were about one-third of independent elderly in the top quintile in 1976, this fell to only about one-tenth in 1996. In contrast, the quintile distributions are very stable for co-residing elderly over the study period.

Income inequality

Table 5.4 gives Gini coefficients for the distribution of equivalent income within different elderly households as well as for the non-elderly as a whole.

Table 5.4: Gini coefficients of equivalent income

Household type	Year					Change
	1976	1981	1986	1991	1996	(1976-96)
Lone elderly	0.36	0.34	0.33	0.38	0.28	-0.08
Elderly couple	0.34	0.31	0.36	0.32	0.29	-0.05
Co-residing elderly	0.27	0.29	0.30	0.29	0.28	0.01
All elderly	0.28	0.30	0.30	0.31	0.28	0
All non-elderly	0.26	0.27	0.27	0.28	0.27	0.01

Source: Author's calculations based on the SFIE.

Table 5.4 shows that though the Gini coefficient increasing for all elderly from 0.28 to 0.31 over the period 1976-1991; then dropping back to 0.28 over the period 1991-1996 (for lone elderly, the Gini coefficient fell by 0.10 over the period 1991-1996). Overall, the Gini coefficient for lone elderly and elderly couples has reduced by 0.08 and 0.05 respectively over the period 1976-1996 while for co-residing elderly it increased by 0.01. Although income inequality among independent elderly has reduced significantly over time, a substantial proportion of them were distributed on the bottom income quintile in 1996 (Table 5.3).

Sources of Income

Table 5.5 illustrates several trends in the sources of income for the elderly.

Table 5.5: Household income by source of income (%)

Household type	Income source					
	Earnings	Property	Inter-household transfer	Social security	Others	Total
1976						
Lone elderly	40.2	20.1	31.2	4.4	4.0	100.0
Elderly couple	34.1	16.7	26.2	16.8	6.2	100.0
Co-residing elderly	84.5	9.7	4.2	0.6	1.0	100.0
All elderly	82.4	10.1	5.2	1.1	1.2	100.0
All non-elderly	85.5	9.3	3.5	0.5	1.2	100.0
1996						
Lone elderly	10.4	19.4	22.5	38.5	9.2	100.0
Elderly couple	11.5	27.1	22.6	28.0	10.9	100.0
Co-residing elderly	65.6	12.9	4.7	11.2	5.6	100.0
All elderly	58.6	14.4	7.0	13.7	6.2	100.0
All non-elderly	77.4	11.2	2.6	4.9	3.8	100.0

Source: Author's calculations based on the SFIE.

Notes:

1. Earnings refer to total receipts from employers, entrepreneurial income and part-time job.
2. Property income is the income derived from interest payments, dividends and imputed rents (from owner-occupied dwellings).
3. Inter-household transfer (called "private transfer" in the SFIE) denotes transfers from children, relatives, or friends, etc.
4. Social security refers to transfers from social insurance, occupational retirement schemes, social assistance and social allowances.

One of the important measures by which the economic status of the elderly in all types of living arrangements can be compared is the composition of income. Table 5.5 shows that a vital source of income for elderly persons is their individual earnings through economic activity in 1976. For the independent elderly, earnings were their main source of income in 1976, but social security was the main source in 1996. For inter-household transfers, both lone elderly and elderly couples have experienced a reduction by 9% and 4% respectively between 1976 and 1996. In 1996, inter-household transfers accounted for about one-fifth of independent elderly's household income.

The percentage of social security as household income for lone elderly has increased significantly by 34.1%, from 4.4% in 1976 to 38.5% in 1996. By contrast, both elderly couples and co-residing elderly only experienced a smaller increase (about 11%). In 1996, lone elderly and elderly couples had transfers from social security accounting for over one-third and one-quarter of household income respectively while it was only about one-tenth for co-residing elderly. This suggests that social security emerged as one of the most important income sources for independent elderly by 1996. It is also important to note that the proportion of property income rose about 10% between 1976 and 1994 for elderly couples, underscoring the potential size of the asset holdings for these elderly. On the other hand, the proportion for lone elderly is stable at about one-fifth over time.

For independent elderly, though some income sources rise in importance, they do not necessary replace the drop in relative income positions compared with the non-elderly (as shown in Table 5.2). Overall, the elderly have become over time more dependent on social security in place of employment for income maintenance. In particular, it is the lone elderly who have become more dependent on social security, while elderly couples are more dependent on property or assets.

Income poverty

For relative poverty, Table 5.6 shows that there were about 11% of the elderly in poverty according to the standard measure (50% of median equivalent income), and about 21% in near poverty (60% of median equivalent income). Concerning lone elderly, their poverty rate in 1996 increases from about 14% to 27.1% using the definition of near poverty rather than standard poverty. Similarly, the poverty in elderly couples increases from 14.5% to 29.5%. The substantial changes in poverty rates according to different thresholds suggest that assessing the independent elderly is very sensitive to the poverty definitions. By contrast, poverty rate based on the threshold of the relative poverty line in 1976 (I shall call it the absolute poverty rate) measures poverty against a fixed reference, unaffected by changes in living standards over time, but adjusted for inflation. From this perspective, it can be seen that the elderly's absolute poverty rate was as the same level as their standard poverty rate in 1976. Moreover, this poverty rate declined from over 10% in 1976 to virtually zero by 1996. This shows the improvements in income levels over the period of study could have eradicated all elderly's poverty in 1996 according to the 1976's threshold.

Table 5.6: Absolute and relative poverty rates (%)

Household type	Absolute poverty	Relative poverty (as % of median equivalent income)		
		Severe (40%)	Standard (50%)	Near (60%)
1976				
Lone elderly	8.1	2.7	8.1	8.1
Elderly couple	7.1	4.8	7.1	11.9
Co-residing elderly	10.5	3.3	10.5	19.9
All elderly	10.2	3.4	10.2	19.1
All non-elderly	6.0	1.8	6.0	13.7
1996				
Lone elderly	0.0	4.5	13.5	27.1
Elderly couple	0.2	5.4	14.5	29.5
Co-residing elderly	0.0	4.0	9.9	18.5
All elderly	0.1	4.4	11.1	21.4
All non-elderly	0.1	2.1	6.0	12.6

Source: Author's calculations based on the SFIE.

Note: The absolute poverty rate is based on the threshold of the relative poverty line in 1976.

Concerning standard poverty, the elderly have about twice the rate of the non-elderly in 1976 (10.2% vs. 6.0%) as well as in 1996 (11.1% vs. 6.0%). In terms of severe poverty (40% of median equivalent income) and near poverty, the elderly again show about twice the poverty rate than that of the non-elderly in 1996. This suggests that the elderly living separately from children were twice as likely to fall into poverty (40%-60% of median equivalent income) than elderly living with children. Moreover, about 10% of all elderly were distributed between 50% and 60% of median equivalent income in 1996. This also suggests that one-tenth of the non-poor elderly (measured by near poverty) were at risk of falling into standard poverty. For convenience, we shall refer to the (income) standard poverty as (income) poverty for the rest of this study.

Interim summary

- The elderly are not a homogenous group since the co-residing elderly became significantly better-off in terms income level and income inequality compared with independent elderly over the period 1976-1996.
- About one-third of independent elderly have fallen into the bottom income quintiles over the period while the quintile distributions were very stable for co-residing elderly between 1976 and 1996.
- Although both earnings and inter-household transfers were the most important source of income for independent elderly in 1976, lone elderly have become more dependent on social security in 1996 and it is property income for elderly couples.
- For lone elderly and elderly couples, social security was responsible for

one-third and one-quarter of household income respectively in 1996.

- In terms of absolute poverty, although the improvements in income levels over the period 1976-1996 could have eradicated all elderly poverty by 1996, there were still about one-tenth and one-fifth of the elderly in standard and near poverty, respectively, in 1996.
- The elderly were twice as likely to fall into poverty (by severe, standard or near poverty definitions) than the non-elderly over the period 1976-1996.
- One-tenth of the non-poor elderly in 1996 (measured by near poverty) had median equivalent income just above the standard poverty line and were at risk of falling into standard poverty.
- Extended families have a demonstrable effect on the level and stability of the elderly's income position, and can provide a direct shield against poverty in old age.

Section B: Assets

In this section, we shall address the question of how the changes in elderly persons' equivalent assets have changed their economic status over time. However, it should be noted that asset holdings are measured over the period 1976-1994 rather than 1976-1996, due to availability of data. Our approach does not primarily spread the asset out over the expected lifetime of the household, but is concerned with a much shorter time horizon of economic status. Here, assets shall be viewed as being usable either to provide the ability to cover income loss or large uncertain expenses, or both. Thus, the analysis offered here should be regarded purely as a descriptive exercise.

Level of Assets

The changes in the elderly's equivalent assets over the period 1976-1994 are shown in Table 5.7. In comparison with the income growth for the elderly (6.5% p.a.) over the period 1976-1996, the asset growth for the elderly (13.5% p.a.) was even greater. This is probably due to the land speculation which occurred in Taiwan during the 1980s. Elderly couples had the highest asset growth (16.8% p.a.) among all types of households. Although the non-elderly increased their equivalent assets more than those of the elderly (15.1% p.a. vs. 13.5% p.a.), the elderly had higher median equivalent assets than those of the non-elderly throughout the period 1976-1994. In particular, elderly couples had median equivalent assets of about NT$ 2 million in 1994, more than 30% than those of non-elderly and co-residing elderly (about NT$ 1.5 million). Also, elderly couples' median equivalent assets were about twice those of lone elderly (NT$ 885,600). This suggests that elderly couples have accumulated considerable assets compared with the lone elderly over time.

Table 5.7: Equivalent assets of the elderly (NT$'000)

Household type	Year					Rate of
	1976	1981	1986	1991	1994	increase*
Lone elderly	84.2	8.6	170.1	358.9	885.6	14.0
	(22%)	(48%)	(36%)	(35%)	(33%)	
Elderly couple	120.9	270.9	443.9	1,470.6	1,963.4	16.8
	(31%)	(21%)	(23%)	(14%)	(13%)	
Co-residing elderly	158.5	310.8	389.5	1,073.9	1,509.5	13.3
All elderly	157.9	304.5	383.4	1,078.0	1,551.2	13.5
All non-elderly	119.4	279.9	362.9	1,048.6	1,493.6	15.1

Source: Author's calculations based on the SFIE.

Note: Figures with a bracket indicate the proportion of "no assets" elderly.

***Note:** The rate of increase is defined as the effective percent per annum growth over the period 1976-1994.

It should be noted that lone elderly's median equivalent asset has surprisingly dropped from NT$ 84,200 to only NT$ 8,600 during 1976-1981. It can be seen that this was due to a substantial increase in the proportion of lone elderly possessing no assets from 22% to 48% over the period 1976-1981 (while this proportion has dropped from 31% to 21% for elderly couples over the same period).

Next, the ratios for elderly households' median equivalent assets against those of the non-elderly are shown in Table 5.8.

Table 5.8: Ratios of median equivalent assets – elderly vs. non-elderly

Household type	Year					Change
	1976	1981	1986	1991	1994	(1976-94)
Lone elderly	0.71	0.03	0.47	0.34	0.59	-0.12
Elderly couple	1.01	0.97	1.22	1.40	1.31	0.30
Co-residing elderly	1.33	1.11	1.07	1.02	1.01	-0.32
All elderly	1.32	1.09	1.06	1.03	1.04	-0.28

Source: Author's calculations based on the SFIE.

Table 5.8 shows that the elderly's asset ratios have dropped from 132% to 104% over the period 1976-1994. The ratios for lone elderly and co-residing elderly have dropped substantially against that of the non-elderly (by 12% and 32% respectively) over the study period, while elderly couples' ratios have shown a substantial increase from 101% to 131%. The lone elderly consistently had equivalent assets far below that of the non-elderly which the co-residing elderly's equivalent assets were still slightly higher than that of the non-elderly in 1994. Thus the asset indicator can give a significant boost to elderly couples' economic status, while there was a worse picture for lone elderly, and a slightly improved one for co-residing elderly in 1994.

Next, the distribution of equivalent assets by (five) asset classes is presented in Table 5.9.

Table 5.9: The elderly categorised by five asset classes (%)

Household type	Asset classes, NT$ million					Total
	=0	0-1	1-2	2-3	3+	
1976						
Lone elderly	22	60	11	5	3	100
Elderly couple	31	62	7	0	0	100
Co-residing elderly	14	82	3	0	1	100
All elderly	15	80	4	0	1	100
1994						
Lone elderly	33	19	13	11	25	100
Elderly couple	13	19	19	14	35	100
Co-residing elderly	10	23	31	16	21	100
All elderly	13	22	27	15	24	100

Source: Author's calculations based on the SFIE.

Despite the fact that the elderly's median asset levels have increased significantly over the period 1976-1994, more than one-tenth (13%) of the elderly are still classified as "no assets" (i.e. asset class =0) in 1994 (see Table 5.9). In particular, one-third of lone elderly were likely to fall into this class in 1994. The proportion of the elderly with assets of more than NT$ I million have all increased over time. In particular, the proportion for those holding assets of more than NT$ 3 million has increased significantly from 1% to 24% over the period 1976-1994. In other words, one out of four elderly had more than NT$ 3 million of equivalent assets in 1994 though the number of such elderly was very small in 1976. This suggests that the addition of an asset indicator can be crucial for assessing the economic status of the elderly, especially elderly couples.

Another perspective is afforded by looking at asset ratios by income quintile as shown in Table 5.10.

Table 5.10: Asset ratios by income quintile in 1994

Household type	Income quintile					Overall
	Bottom	2	3	4	Top	ratio
Lone elderly	0.57	0.55	1.12	0.76	0.93	0.59
Elderly couple	1.10	1.43	1.87	1.43	3.50	1.31
Co-residing elderly	0.77	0.94	1.00	1.10	1.61	1.01
All elderly	0.83	0.97	1.05	1.14	1.64	1.04

Source: Author's calculations based on the SFIE.

As expected, Table 5.10 shows there is a positive link between asset ratio and equivalent income though it is not a smooth progression. For lone elderly and elderly couples, their asset ratios in the 3rd quintile are significantly higher than those in the 4th quintile (and the top quintile among lone elderly). Apart from these, increasing equivalent income level is in general associated with higher asset ratios for all elderly in all kinds of living arrangements. Looking at the asset ratio in the top income quintile of lone elderly (i.e. 0.93) shows that even the lone elderly's top quintile is still 7% below that of the non-elderly's median equivalent asset. By contrast, the median asset for the bottom quintile of elderly couples is still 10% above that of the non-elderly. And for their top quintile, elderly couples have assets equal to 3.5 times that of the non-elderly. The results suggest that even low-income elderly couples cannot simply be regarded as poor since they have higher median equivalent assets (than the median non-elderly level) to draw on the event of economic adversity. By contrast, the lone elderly are generally asset-poor and are at risk in times of permanent low-income.

Next, the ratios of the elderly's median equivalent asset against their median equivalent income (i.e. asset-to-income ratios) for each quintile are shown in Table 5.11. One important analytical advantage of this ratio is that it allows us to compute the potential period for which the elderly's existing median equivalent assets alone would keep the elderly at current income.

Table 5.11: Asset-to-income ratios by income quintile in 1994

Household type	Income quintile					Overall
	Bottom	2	3	4	Top	ratio
Lone elderly	6.7	4.3	6.9	3.6	3.0	4.8
Elderly couple	13.3	11.3	11.4	6.6	10.7	12.4
Co-residing elderly	8.4	7.3	6.1	5.3	5.3	6.8
All elderly	9.5	7.5	6.4	5.4	5.4	7.5
All non-elderly	7.7	6.7	5.9	5.0	4.6	6.0

Source: Author's calculations based on the SFIE.

Looking at the all elderly and all non-elderly categories first, it is clear from

Table 5.11 that the elderly have a higher asset-to-income ratio than that of the non-elderly across all income quintiles. The low-income (i.e. bottom-income quintile) elderly's equivalent assets could potentially support them at current income levels for up to 9.5 years rather than 7.7 years for their non-elderly counterparts. However, the low-income lone elderly's ratio (6.7) is lower than that of the non-elderly. This suggests that the low-income lone elderly are the most likely group to deplete their median equivalent assets and so are at risk in times of permanent low-income. In contrast, assets alone could support low-income elderly couples for up to 13.3 years in the event of income interruption, about twice longer than that of the non-elderly (7.7 years).

Double poverty (based on income and assets)

The poverty line can be defined by an insufficiency in either income or assets, or both. For a double threshold based on income and assets, this would imply that a family is destitute if it has both inadequate income to meet normal minimal needs and inadequate assets to provide against minimal interruptions of normal income flow (Wolff, 1990). Although the previous tables show that the elderly generally have higher equivalent asset levels than that of the non-elderly over the period 1976-1994, double poverty (based on both income and asset indicators) does not necessary decline over time. From Table 5.12, it can be seen that the double poverty rate for all elderly has increased from 3.5% to 6.2% over the period 1976-1994 while it remained about 2% for the non-elderly. Comparing living arrangements, the poverty rates are at least 10% for independent elderly in 1994 while it is less than half of this (4.5%) for co-residing elderly.

Table 5.12: Double poverty rates, based on both income and assets (%)

Household type	Year					Change
	1976	1981	1986	1991	1994	(1976-94)
Lone elderly	8.1	8.3	10.2	14.9	12.6	4.5
Elderly couple	0.0	11.1	11.8	11.8	10.1	10.1
Co-residing elderly	3.6	5.4	4.5	5.3	4.5	0.9
All elderly	3.5	6.0	5.7	7.0	6.2	2.7
All non-elderly	2.3	3.1	2.6	3.1	2.1	-0.2

Source: Author's calculations based on the SFIE.

Note: The individual is "doubly poor" if both his/ her equivalent income and equivalent assets are below the income and asset poverty lines (i.e. below 50% of median equivalent income and 50% of median equivalent assets) in a given year.

Interim summary

This section has produced some noteworthy results. These can be summarised as follows:

- The asset indicator can give a significant boost to elderly couples' economic status, while there was a worse picture for lone elderly, and a slightly improved one for co-residing elderly in 1994.
- Whilst asset ratios for lone elderly and co-residing elderly have dropped substantially (12% and 32% respectively) against that of the non-elderly over the study period, elderly couples' ratios have experienced a substantial increase (+30%).
- Elderly couples had median equivalent assets of about NT$ 2 million in

1994, more than 30% higher than the non-elderly and co-residing elderly (about NT$ 1.5 million). In addition, elderly couples' median equivalent assets were about twice that of lone elderly (NT$ 885,600).

- Despite the fact that the elderly's median asset levels have increased significantly over time, more than one-tenth of the elderly (about one-third for lone elderly) had no assets in 1994.
- The proportion of the elderly with more than NT$ 3 million has increased dramatically from only 1% to a quarter over the period 1976-1994. Thus the addition of an asset indicator can be crucial for assessing the economic status of the elderly, especially elderly couples.
- Even low-income elderly couples cannot simply be regarded as poor since they have higher median equivalent assets (than the median non-elderly level) to draw on the event of economic adversity.
- The low-income elderly's median equivalent assets could potentially support them at current income levels for up to 9.5 years rather than 7.7 years for the low-income non-elderly. However, the low-income lone elderly are the most likely group to deplete their median equivalent assets and so are at risk in times of permanent low-income.
- Among the low-income elderly couples, their assets alone could support them remaining the current income level for up to 13 years, about twice longer than that of the non-elderly (7.7 years)
- One-tenth of independent elderly were "doubly poor" having inadequate income to meet normal minimal needs and inadequate assets to meet minimal interruptions of normal income flow in 1994.

Section C: Consumer durables

In the previous sections we have been concentrating on income and asset indicators as economic measurements. Here, we will look at the living standards of households by ten basic consumer durable indicators in terms of median scores, as well as the detailed ownership rate of ten basic consumer durables.

First, the median score of ten consumer durables over the period 1976-1996 is shown in Table 5.13.

Table 5.13: Scores of ten consumer durables of the elderly

Household type	Year					Increase,
	1976	1981	1986	1991	1996	1976-96
Lone elderly	2	3	4	6	7	5
Elderly couple	2	4	6	7	8	6
Co-residing elderly	2	5	7	8	9	7
All elderly	2	5	7	8	9	7
All non-elderly	3	6	7	8	9	6

Source: Author's calculations based on the SFIE.

Notes:

1. The ten consumer durables are: mains water, colour television, telephone, air conditioner, refrigerator (assume full ownership in 1996), geyser (either gas or electric geyser), washing machine, kitchen extraction fan, car, large residence space (> 26.4 sq ft per equivalent adult).

2. According to the survey of the SFIE in 1996, the indicator "refrigerator" has been deleted due to the high percentage of ownership in recent years. For reasons of consistency, we assume its ownership rate as 100% in 1996.

Table 5.13 shows that although the elderly have the same or similar (median) score for ten consumer durables in comparison with the non-elderly over the period 1976-1996, the scores do vary across different living arrangements. Co-residing elderly are found to be at least one score higher than lone elderly and elderly couples over the period 1981-1996. In 1996, the co-residing elderly have achieved the score of nine, equal to that of the non-elderly. The elderly couples' score was slightly behind this, and the lone elderly's further behind. The results suggest that lone elderly not only had the lowest median equivalent income and median equivalent assets over time, they also had the lowest ownership in consumer durables. On the other hand, co-residing elderly had the same levels of consumer durables and assets as non-elderly though their income were relatively lower than that of the non-elderly.

Next, we shall assess the ownership of consumer durables by considering five classes of consumer durable scores in 1996. Although both the elderly and the non-elderly have the same median score (i.e. nine) in 1996 (Table 5.13), Table 5.14 shows that almost three-quarters (71%) of the non-elderly scored nine or ten, compared with only half for the elderly. In addition, more than one-third (36%) of the non-elderly owned ten basic consumer durables, while the figure is 23% for co-residing elderly, and less than 2% for independent elderly. Although it might be argued that consumable scores are dependent on household size – so that one would expect lower scores for independent elderly – it is significant that half the lone elderly score less or equal 6 consumer durables, and therefore this does reflect a difference in economic well-being.

Table 5.14: Ownership of consumer durables by five score classes in 1996 (%)

Household type	Scores of consumer durables					Total
	<=6	7	8	9	10	
Lone elderly	50	19	18	13	1	100
Elderly couple	17	16	28	37	2	100
Co-residing elderly	8	11	24	35	23	100
All elderly	13	12	24	33	17	100
All non-elderly	4	7	19	35	36	100

Source: Author's calculations based on the SFIE.

Next, the score of consumer durables by income quintile is shown in Table 5.15. The bottom quintile elderly have at least one item less than that of the top quintile regardless of the elderly's living arrangements. Lone elderly have also a lower score in comparison with other elderly in each quintile. By contrast, both elderly couples and co-residing elderly have similar scores to the non-elderly in each quintile. This suggests that the low median scores among elderly couples over time were mainly due to a high proportion of low-income elderly couples.

Table 5.15: Score of ten consumer durables by income quintile in 1996

Household type	Income quintile					Total
	Bottom	2	3	4	Top	
Lone elderly	6	7	7	7	8	7
Elderly couple	8	8	9	9	9	8
Co-residing elderly	8	8	9	9	9	9
All elderly	8	8	9	9	9	9
All non-elderly	8	9	9	9	10	9

Source: Author's calculations based on the SFIE.

From Table 5.16, the results show that, on average, the elderly are better-off than the non-elderly in terms of space available to them in their residence. With respect to the other consumer durables, the non-elderly are better-off than the elderly. For example, the elderly's mean ownership of ten basic consumer durables is about 82% with three out of ten consumer durables (i.e. colour TV, telephone, and refrigerator) having an ownership rate of over 90%. By contrast, the average ownership rate for the non-elderly is about 89% with seven out of ten durables at over 90%.

For lone elderly, there is a markedly low proportion possessing air conditioner (25.6%), washing machine (51.8%), kitchen extraction fan (52%), and car (1.3%). However, about 88% of lone elderly reported to own a larger residence space, compared with co-residing elderly (75.6%) and the non-elderly (77.8%). Nevertheless, lone elderly still had the lowest ownership in eight out of ten consumer durables in 1996. Co-residing elderly had the highest ownership of consumer durables (84.9%) among elderly households (a figure similar to the non-elderly's), though they may be more crowded for space.

Table 5.16: Mean ownership of ten individual consumer durables in 1996 (%)

Consumer durables	Elderly by household type			Individuals	
	Lone elderly	Elderly couple	Co-residing elderly	All elderly	All non-elderly
1. Colour TV	93.3	98.9	99.6	98.9	99.7
2. Telephone	75.3	98.4	98.5	96.3	98.9
3. Air conditioner	25.6	51.9	67.4	60.7	77.1
4. Refrigerator	100.0	100.0	100.0	100.0	100.0
5. Geyser	65.7	83.4	90.1	86.6	93.2
6. Mains water	85.7	88.0	89.4	88.7	91.4
7. Washing machine	51.8	84.4	93.7	88.1	96.4
8. Kitchen extraction fan	52.0	79.4	90.2	84.7	93.4
9. Car	1.3	4.1	44.6	33.1	60.2
10. Large residence space	87.9	94.3	75.6	80.2	77.8
Overall mean	63.9	78.3	84.9	81.7	88.8

Source: Author's calculations based on the SFIE.

Note: With respect to the refrigerator indicator, see note 2 of Table 5.13.

Poverty (based on income, assets and consumer durables)

This section tries to focus on the least privileged members of a society using the combined information on income, asset and consumer durable indicators. Three alternative poverty thresholds are utilised for the purposes of this exercise. The first two are those used in earlier sections (50% of the median equivalent income and 50% of the median equivalent asset). The third threshold is related to the non-monetary household possessions indicator: an individual is classified as materially deprived if the score of the household is less than 50% of the median score for the ten selected basic durables as discussed above.

Table 5.17 shows though more than half of the elderly and the non-elderly were exposed to at least one kind of poverty from income, assets or consumer durables in 1976, this proportion has fallen to about one-third for the elderly and the non-elderly in 1994. Nevertheless, it was still as high as 61% and 47% for lone elderly and elderly couples respectively in 1994. For the triple-poverty condition, there were about 7.5% of lone elderly falling in this condition in 1994 while it was only 2.4% for elderly couples. For co-residing elderly and the non-elderly, their rates even fell to nearly zero. Approximately one in six lone elderly (16.8%) faced at least two poverties while it was only about one-tenth (11.4%) and 5% for elderly couples and co-residing elderly respectively. With respect to the one-poverty condition, one-third of independent elderly were exposed to one kind of poverty while this proportion for co-residing elderly and the non-elderly was about one-quarter.

Table 5.17: The elderly by multiple poverty indicators (%)

Household type	Number of poverty indicators			
	1	2	3	Total
1976				
Lone elderly	24.4	21.6	8.1	54.1
Elderly couple	50.0	11.9	0.0	61.9
Co-residing elderly	38.3	13.2	2.8	54.3
All elderly	38.7	13.4	2.7	54.8
All non-elderly	42.2	12.2	1.8	56.2
1994				
Lone elderly	36.6	16.8	7.5	60.9
Elderly couple	33.6	11.4	2.4	47.4
Co-residing elderly	26.6	5.0	0.5	32.1
All elderly	29.0	7.2	1.5	37.7
All non-elderly	27.8	2.4	0.2	30.4

Source: Author's calculations based on the SFIE.

Although lone elderly and elderly couples tended to have the same income poverty rate in 1976 (see Table 5.6), the lone elderly were exposed to significantly higher triple-poverty conditions than elderly couples in 1994. On the other hand, elderly couples have shown an improved picture of economic status with the additional consideration of assets and consumer durables to the income measure. The co-residing elderly had the most stable and relatively highest level of economic status compared to that of the non-elderly. Thus, extended families can provide a direct effect on the level and stability of the elderly's economic position, as well as providing a direct shield against triple-poverty conditions for the elderly. The above results reveal that income indicator alone can easily misguide about the true economic circumstances of an elderly.

Conclusion

The chapter used three economic indicators (income, assets and consumer durables) to examine the economic well-being of the elderly in relation to that of the non-elderly over the period 1976-1996. The main findings point out that the elderly have lost ground compared with the non-elderly in terms of income growth, income inequality and (income) poverty rates. The elderly appear to have become more dependent on social security in place of employment for income maintenance over time. However, this result looks more favourable for the elderly's economic position after the inclusion of assets. Even the low-income elderly cannot simply be regarded as poor since they had higher median assets than those of the non-elderly over the period 1976-1994. In particular, low-income elderly couples could potentially remain at current income levels twice longer than the low-income non-elderly in the event of economic adversity. The asset indicator can give a significant boost to elderly couples' economic status, while there was a worse picture for lone elderly, and a slightly improved one for co-residing elderly in 1994.

Although lone elderly and elderly couples tended to have the same income poverty rate in 1976, lone elderly experienced significantly higher triple-poverty conditions than elderly couples in 1994. Correspondingly, elderly couples have shown an improved picture of economic status based on income change with the additional consideration of assets and consumer durables. Co-residing elderly had the most stable and relatively highest level of economic status compared to that of the non-elderly. Thus, extended families have been shown to have a direct effect on the level and stability of the elderly's economic position, as well as providing a direct shield against triple-poverty conditions for the elderly. Elderly couples' economic status was slightly behind this, and the lone elderly's was the worst.

CHAPTER 6: FAMILIAL SUPPORT AND THE INCOME OF THE ELDERLY

Introduction

The purpose of this chapter is to examine the impact of familial support on the elderly's economic status over the period 1976-1996. It is divided into four sections. Concepts and methods are discussed in Section A. The distribution of elderly persons' own individual income and intra-household transfers are shown in Section B. Then in Section C, the distribution and effectiveness of the elderly's inter-household transfers from their non-co-resident children are examined. The extent of familial support against living arrangements is considered in Section D. Summaries of the main findings are given in the interim summaries and the conclusion.

Section A: Concepts and methods

Individual income

In order to gauge intra-household transfers, we have to assess the distribution of the elderly's own individual income before the intra-household transfers can be determined. According to the SFIE, each elderly person is like other household members in having his or her own *personal income* apart from an "extra income" derived from the household. Each elderly's net personal income (i.e. personal income is deducted from their personal "non-consumption expenditure") and a proportion of the "extra income" (relative to the household size) are added to form an *individual income*. Since social allowances such as Old Age Allowance and Old Age Farmer Allowance are mainly allocated to the elderly person only, any household "extra income" containing these income sources will be equally shared and added to the elderly members' individual income[82].

For lone elderly, their individual income is assumed to be the same as the equivalent income while for elderly couples individual income is taken to be the net personal income plus half of the household's extra income. For co-residing elderly, their individual income is the net personal income plus their share of the extra household income and elderly-related benefits, according to the following formula:

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[82] This assumption is for reasons of simplicity.

Individual Income (for co-residing elderly)

= Net Personal Income

+ ((Extra Household Income- Social Allowance) / Household Size)

+ ((Social Allowance) / Number of Elderly Persons in the Household))

This formula permits a measure of the contribution (i.e. the intra-household transfer) from relatives within the household and facilitates comparisons with elderly persons residing independently.

Intra-household transfers (based on equal sharing assumption)

Previous attempts at estimating the size of intra-household transfers have been quite diverse. Morgan et al. (1962) estimated intra-household transfers as any cash gifts and the value of food and housing[83] which the dependent subfamily (consisting of all elderly persons and their spouses) received, less any such contributions which the subfamily made to other members of the family. The other interesting study for this topic is that of Baerwaldt and Morgan (1973). According to Baerwaldt and Morgan, the intra-household transfer is defined as the amount, transferred within the family from those

[83] Value of food was estimated from the US's Department of Agriculture's data on mean expenditures on food according to income and family size. Value of housing was estimated according to a formula which gave more than proportionate weight to the husband and wife of the primary adult unit. See Morgan et al. (1962) for more information.

earning more than they consume, to those consuming more than they earn[84]. Although they did not specially deal with the elderly or extended families, flows of income and resources among all family members (often including elderly) were measured. The authors attempted to estimate an actual dollar amount for transfers among family members and provided some guidelines for the allocation of these transfers.

One aim of this study is to contribute to the understanding of intra-household transfer distribution – the aspect of income distribution which is least known in Taiwan. In this thesis, the intra-household transfer to a household member is defined as the net difference between the equivalent income and individual income:

Intra-household Transfer = (Equivalent Income) – (Individual Income)

Although it is possible to consider an elderly couple living in an extended household, we shall focus on *each individual's* income against their equivalent income, rather than considering income sharing between couples. This transfer is generally regarded as the net transfer from co-resident children (though they could also come from the elderly's co-resident siblings) in an extended family. Alternatively, this transfer can also be the net transfer between spouses in an elderly couple household. An elderly person residing

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[84] Baerwaldt and Morgan (1973) also measure several definitions of income (including money income, imputed rent, free rent, and value of housework) and consumption allocation rules.

with relatives will benefit from the younger members' higher level of income if the household's equivalent income is higher than his or her individual income. It should be noted that the difference between equivalent income and individual income is in general an indicator of a *potential* contribution of intra-household transfers rather than *actual* transfers. Nevertheless, this analysis can provide a starting point in the understanding of possible transfers between household members.

The direction of the transfer and its amount is assumed to be a function of both the level of household equivalent income and an elderly person's individual income. This transfer can have either a positive or negative effect (i.e. the elderly as a provider of support) on the economic well-being of a household member, as illustrated in Table 6.1.

Table 6.1: Illustration of intra-household transfers based on four example combinations of equivalent income and individual income

Equivalent income	Individual income		Intra-household income
100	100	→	0
100	200	→	-100
150	100	→	50
150	0	→	150

Non-equal sharing assumption (no intra-household transfers)

In the West, the assumption of the equal sharing of resources among household members has long been questioned (Jenkins, 1991; Lazear and Michael, 1986; Orshansky, 1967; Piachaud, 1982; Young, 1952). Piachaud (1982), for example, suggests that in most families the distribution of income between males and females is highly unequal. If this true, then some elderly residing in "non-poor households" may in fact be "poor" under the unequal sharing of resources. Orshansky (1967) identifies the "hidden poor" who do not appear in the official poverty counts since they live in non-poor households but have extremely low personal income. Moreover, Haddad and Kanbur (1990) suggest that the neglect of "intra-household inequality" is likely to lead to a considerable understatement of the levels of inequality and poverty. Thus we shall also assess the "no pooling" assumption (i.e. no intra-household transfer) in this chapter.

Inter-household transfers

According to Cox and Raines (1985), they examine the directions and the levels of flow[85] of "household-to-household transfers" between young and older generations. However, there are no detailed records from the SFIE data set regarding the transfer given to younger, older, or same generations. The

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[85] One could consider the average amount of net transfers according to a household's transfer status: givers, receivers and those who neither give nor receive transfers (i.e. the transfers given less transfers received being positive, negative, or zero).

closest item in the SFIE is called "Current transfer receipts from individuals"[86] (see Appendix C: 4.5) which are associated with individuals as well as organisations. But, this is not a direct measure of household-to-household transfer. Thence, it is difficult to examine the inter-household transfer between older and younger generations.

Due to the above limitations, we shall assume the inter-household transfer to be equal to the private transfer defined in the SFIE (though the incoming transfers could come from organisations, such as scholarships). Moreover, the inter-household transfer to the older generation is assumed to be entirely from the younger generation (i.e. adult children) rather than the same generation or friends or other relatives[87]. Also, in Chapter 3 we found that children are the most important supporters of the elderly's income. Thus, it is possible to assume that the total amounts of inter-household transfers are received from adult children.

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[86] Basically, the "individual's transfer" comprises items from both individuals' transfers (such as donations, gifts, financial assistance, "red packets" given for weddings, free rent imputed) and from organisations (e.g. scholarship). Likewise, outgoing private transfers include gifts to individuals or donations to non-profit organisations and offerings to temples or churches.

[87] See Table 1.4 indicates that adult children do play a more important role in supporting the elderly than any other private sources (relatives or friends).

Familial support

Familial support of an elderly person is defined as the sum of inter-household transfers and intra-household transfers:

Familial support = (Individual Inter-household Transfers) + (Intra-household Transfers)

Our estimates should be interpreted as lower bounds on the total contribution of the family. This is because we consider only financial resource contributions, ignoring the non-cash transfers or the direct labour contributions of family members in caring for their elderly parents. *Throughout this chapter, the comparisons of individual income, intra-household transfers, inter-household transfers and familial transfers are all in terms of mean values.*

Coverage and adequacy

In reviewing how successful a system is in relieving poverty, Spicker (1993: 162) suggests, "there are two main criteria which might be applied. One is coverage – the extent to which the benefits cover the range of contingencies in which people are likely to be poor. Second, there is adequacy – the level of benefits which are provided". We shall investigate both coverage and adequacy for familial support in this chapter and that of social security transfers in Chapter 7.

Effectiveness on poverty rate reduction

The common technique for gauging anti-poverty effectiveness is by subtracting transfers from other income and measuring the poverty rate counterfactually (see, for example, Deleeck et al. (1992) and Mitchell (1993)). That is, each household's poverty status is evaluated on the basis of net equivalent income (i.e. after transfers), and on the basis of equivalent income minus equivalent transfers received (i.e. before transfers). Therefore, the "poor before transfers" households are those with equivalent income (net of the transfer concerned) below the poverty line. On the other hand, the "post-transfer poor" households are those whose equivalent income is below the poverty line. The effectiveness of poverty (headcount) reduction can be expressed as:

(Proportion of individuals who are non-poor due-to-transfer) / (Proportion of individuals who are poor before transfer)

Nevertheless, it should be noted that *real* pre-transfer income is not necessarily equal to this *defined* pre-transfer income in the absence of the exchange for inheritance; nor are possible behavioural changes[88]. This relatively simple numerical exercise can allow us to find a first indication of the effectiveness of familial transfers on poverty rate reduction.

[88] For detailed discussion, see Cox and Jakubson (1995) and Rendall and Speare (1995).

Section B: Individual incomes and intra-household transfers

The distribution of the elderly's mean individual income is shown in Table 6.2.

Table 6.2: Individual income of the elderly (NT$'000)

Household type by sex	Year 1976	1981	1986	1991	1994	Rate of increase*
Men						
Lone elderly	117.5	121.1	161.4	251.5	261.3	4.1
Elderly couple	144.6	149.7	201.8	268.0	353.1	4.6
Co-residing elderly	64.5	74.2	96.5	165.1	242.4	6.8
Women						
Lone elderly	90.9	125.4	122.7	185.5	219.9	4.5
Elderly couple	15.5	8.3	25.7	32.2	77.7	8.4
Co-residing elderly	3.7	4.7	9.9	14.7	50.9	14.0
Overall						
Lone elderly	106.0	122.4	148.5	231.2	244.8	4.3
Elderly couple	80.9	79.0	114.6	151.2	215.7	5.0
Co-residing elderly	28.3	36.4	52.6	94.6	154.0	8.8

Source: Author's calculations based on the SFIE.

***Note:** The rate of increase is the effective percent per annum growth over the period 1976-1996.

Co-residing elderly have the highest increase in individual income per annum (8.8%) compared with lone elderly (4.3%) or elderly couples (5%) over the period 1976-1996, but the co-residing elderly have had significantly lower individual incomes in comparison with the independent elderly over time. In 1996, for example, though co-residing elderly have an individual income of NT$ 154,000, it is still far below that for lone elderly (NT$ 244,800) or elderly couples (NT$215,700). However, elderly men have significantly higher individual incomes than their female counterparts; in particular, male elderly in couples or male co-residing elderly have about five-times the individual income of their female counterparts. On the other hand, lone elderly women do have a significantly higher individual income (NT$ 219,900 in 1996) than other elderly women either living with spouses (NT$ 77,700) or children (NT$ 50,900).

Next, Table 6.3 presents the elderly's *income independency* in their household. This independency factor is calculated as the ratio of mean individual income to mean equivalent income; by definition, all lone elderly have 100% income independency. All co-residing elderly (either men or women) benefited from co-residence with relatives though the degree of independency has increased over time. For example, female co-residing elderly would drop their income level by at least four-fifths in 1996 without income sharing with other household members. By contrast, male co-residing elderly are more economically independent: their individual income level could be as high as 86% of their equivalent income. Men in elderly couples are more likely to be the main earners with individual income at least 41% above their equivalent income (in 1996) while their female counterparts had individual incomes only around one-third (31.2%) of their equivalent income.

These results suggest that female elderly are hardly over income contributors to their household and they have significantly low individual income compared to their male counterparts. Economic incentive is a primary factor for co-residence among the elderly, in particular for women. However, these women, in particular those in elderly couples, are at risk of sharp income drops in the event of none or unequal income sharing, or the death of their husbands.

Table 6.3: Ratios of income independency (%)

Household type by sex	Year				
	1976	1981	1986	1991	1996
Men					
Lone elderly	100.0	100.0	100.0	100.0	100.0
Elderly couple	151.1	161.4	150.5	152.0	141.6
Co-residing elderly	84.3	68.4	67.9	73.1	86.2
Women					
Lone elderly	100.0	100.0	100.0	100.0	100.0
Elderly couple	16.1	9.0	19.0	18.4	31.2
Co-residing elderly	5.1	4.6	7.5	7.5	19.2
Overall					
Lone elderly	100.0	100.0	100.0	100.0	100.0
Elderly couple	84.0	85.2	85.1	86.1	86.6
Co-residing elderly	38.2	34.7	38.4	44.7	56.3

Source: Author's calculations based on the SFIE.

For intra-household transfers, we will consider all elderly living with relatives, even those with only a spouse; the results are given in Table 6.4.

Table 6.4: Intra-household transfers (NT$'000)

Household type by sex	Year				
	1976	1981	1986	1991	1996
Elderly couple					
Men	-48.9	-57.0	-67.7	-91.7	-103.7
Women	81.1	84.5	109.5	142.6	170.9
Overall	15.4	13.8	20.1	24.4	33.3
Co-residing elderly					
Men	12.0	34.3	45.5	60.7	38.7
Women	68.5	97.5	122.3	180.8	213.6
Overall	45.6	68.7	84.4	117.0	119.5

Source: Author's calculations based on the SFIE.

It is no surprise to see the "negative" intra-household transfers for men in elderly couples (Table 6.4). These are net contributors of intra-household transfers while their spouses have a significant gain from this living arrangement. On the other hand, both co-residing men and women are the beneficiaries of the co-residence with children since they receive a net positive value of intra-household transfers, whether large or small. These transfers are particular important for elderly women since they received over five-times the level of intra-household transfers than their co-residing elderly men (NT$

213,600 vs. NT$ 38,700 in 1996). Although the elderly within elderly couples can receive significant intra-household transfers as shown above, we only focus on the intra-household transfers among co-residing elderly in the rest of this section.

Apart from evaluating the intra-household transfers, the proportion of co-residing elderly whose individual income is above their equivalent income is presented in Table 6.5.

Table 6.5: Co-residing elderly having higher individual income than equivalent income (%)

Sex	Year				
	1976	1981	1986	1991	1996
Men	25.5	24.9	26.0	32.2	37.0
Women	1.7	0.8	1.8	2.3	3.8
Overall	11.3	11.8	13.7	18.2	21.7

Source: Author's calculations based on the SFIE.

The proportion of co-residing elderly, with individual income higher than equivalent income has increased from one-tenth to one-fifth over the period 1976-1996. Notice however that two-thirds of elderly co-resident males have lower individual income than their equivalent income. By contrast, over 96% of women would be worse-off as a result of no income pooling with co-resident children.

The detailed distribution of co-residing elderly by levels of individual income and equivalent income is shown in Table 6.6.

Table 6.6: Distribution of co-residing elderly by levels of individual income and equivalent income in 1996 (%)

Equivalent income,	Individual income, NT$ '00,000					Total
NT$ '00,000	<1	1-2	2-3	3-4	>4	
<1	1.9	0.9	0.1	0.1	0.0	3.0
1-2	24.1	2.7	2.9	1.7	1.0	32.5
2-3	23.5	2.7	1.9	2.3	3.4	33.8
3-4	10.3	1.1	1.1	1.0	3.0	16.6
>4	7.9	0.7	0.6	0.5	4.4	14.1
Total	67.7	8.1	6.6	5.6	11.8	100.0

Source: Author's calculations based on the SFIE.

Note: The underlined cells refer to elderly having equivalent income greater than individual income.

Table 6.6 shows that although only 3% of co-residing elderly have equivalent income below NT$ 100,000, this proportion would increase to 67.7% without income pooling (i.e. based on individual income alone). Around two-thirds (67.7%-3%=64.7%) of the co-residing elderly with low individual income (NT$ 100,000 or below) could have been better-off by household income pooling. Among these elderly, one-quarter would have equivalent income ranging between NT$ 100,000-NT$ 200,000 and on other one-quarter between NT$ 200,000-NT$ 300,000. Moreover, about 8% of the co-residing elderly with individual income under NT$ 100,000 would have equivalent income above NT$ 400,000.

There are 4.5% (2.7%+1.1%+0.7%) of co-residing elderly with individual income between NT$ 100,000-NT$ 200,000 who could benefit from income pooling while 2.7% would remain relatively the same even after equal income sharing. Concerning the elderly with income above NT$ 400,000, there are about one-tenth (11.8%) of co-residing elderly having such an income level before income pooling, while 7.4% (1.0%+3.4%+3.0%) of them became worse-off after income pooling. According to the aggregate figures from all underlined cells, about 73% of the elderly are *significantly* better-off by intra-household transfers while only about 16% of the elderly are *significantly* worse-off after income pooling.

Next, we investigate the effects of intra-household transfers on poverty alleviation among the co-residing elderly in Table 6.7. The poverty rates for co-residing elderly could have increased sharply to about 87% and 70% in 1976 and 1996 respectively without intra-household transfers. For male co-residing elderly, though their pre-transfer poverty has significantly decreased by 20% over the period 1976-1996, there were still half of them remaining poor in 1996 (while it was 93.1% for women) if no intra-household transfers were available.

In terms of the effectiveness in poverty reduction, one could say that intra-household transfers from children are 100% effective if all pre-transfer poor elderly are lifted from poverty. Table 6.7 shows about nine out of ten pre-transfer poor elderly have become non-poor due to intra-household transfers in both 1976 and 1996. Thus the existence of intra-household transfers was very effective in helping the pre-transfer poor elderly to avoid poverty over the period 1976-1996.

Table 6.7: Effectiveness of intra-household transfers on poverty rates (%)

Poverty status	Sex		
	Men	Women	Overall
1976			
Poor before transfers	70.9	97.8	86.9
Post-transfer poor	8.0	7.8	7.9
% of reduction	**88.7**	**92.0**	**90.9**
1996			
Poor before transfers	50.9	93.1	70.4
Post-transfer poor	8.6	8.5	8.5
% of reduction	**83.1**	**90.9**	**87.9**

Source: Author's calculations based on the SFIE.

Due to intra-household transfers, about 62% (70.4%-8.5%) of the elderly could become non-poor in 1996. This is especially true for elderly women where about 85% (i.e. 93.1%-8.5%) of the pre-transfer poor women could escape poverty. In other words, the conventional methods of poverty measurement (i.e. based on equal sharing) can lead to a serious under-estimate of elderly poverty if there is a significant unequal sharing in an extended family. This is especially true for elderly women. This situation can be considered as hidden poverty since these elderly could be poor under the alternative assumption of no intra-household support.

Interim summary

- Though co-residing elderly have a higher equivalent income, their individual income was quite low in comparison with the independent elderly. Male elderly in couples or male co-residing elderly have about five-times the individual income of their female counterparts.
- Men in elderly couples are more likely to be the wage-earners with individual income at least 41% higher than their equivalent income, while their female counterparts had individual incomes around one-third of household income.
- Economic incentive is a highly probable primary factor for co-residence among the elderly, in particular for women. However, women in elderly couples are at risk of sharp income drops in the event of none or unequal income sharing, or the death of their husbands.
- The majority of the co-residing elderly have improved their income levels through co-residence with adult children: over two-thirds of men and 96% of women.
- About 73% of the co-residing elderly are *significantly* better-off by intra-household transfers while only about 16% become *significantly* worse-off after income pooling.
- The existence of intra-household transfers was very effective in helping

the co-residing elderly avoid poverty over time. About nine out of ten pre-transfer poor elderly have become non-poor due to intra-household transfers in both 1976 and 1996.

- About 62% of co-residing elderly could escape poverty in 1996. This is especially true for co-residing elderly women.
- The conventional method of poverty measurement can lead to a serious under-estimate of elderly poverty (in particular for elderly women) if there is an unequal sharing in an extended family.

Section C: Inter-household transfers

The distribution of the elderly's mean individual inter-household transfers (hereafter inter-household transfers) by sex and household type is shown in Table 6.8.

Table 6.8: Individual inter-household transfers (NT$'000)

Household type by sex	Year				
	1976	1981	1986	1991	1996
Men					
Lone elderly	17.8	37.7	35.2	39.7	39.5
Elderly couple	42.4	57.3	79.8	95.7	88.4
Co-residing elderly	6.1	8.9	11.1	17.4	20.1
Women					
Lone elderly	59.1	50.7	88.3	83.7	93.4
Elderly couple	0.0	3.6	8.8	11.8	11.0
Co-residing elderly	0.3	0.7	1.2	2.3	5.7

Source: Author's calculations based on the SFIE.

From Table 6.8, it can be seen that although lone elderly men received a lower inter-household transfer than lone elderly women over the period 1976-1996, men in elderly couples received a higher transfer than women in elderly couples. For the former, it confirms the previous findings (stated in Chapter 1 and 3) that elderly women tend to receive a more significant level of inter-household transfers than their male counterparts. Thus, the inter-household transfer received by the men in elderly couples, may not necessary dedicated to these men alone. Rather, these transfers should be regarded as a transfer to the whole household. *Therefore, in the rest of this thesis, elderly couples' inter-household transfers (for men or women) will be shared equally between the elderly couples and adjusted by equivalence scale in the rest of this thesis.*

Next, the distribution of the elderly's inter-household transfers by household type is shown in Table 6.9.

Table 6.9: Inter-household transfers (NT$'000)

Household type	Year				
	1976	1981	1986	1991	1996
Lone elderly	35.7	41.5	52.8	53.2	61.0
Elderly couple	27.2	36.4	55.0	68.0	63.1
Co-residing elderly	2.6	4.4	6.1	10.4	13.4

Source: Author's calculations based on the SFIE.

From Table 6.9, it can be seen that though individual men or women in elderly couples have received different levels of inter-household transfers than their counterparts in the lone elderly, the equivalent inter-household transfers to lone elderly and elderly couples are about the same (NT$ 61,000 and NT$ 63,100 respectively) in 1996. In other words, the independent elderly seem to receive the same equivalent amount of inter-household transfer whether they live alone or with a spouse. By contrast, the co-residing elderly received the least inter-household transfers - due to the fact that non-co-resident children reduce the amount of inter-household transfer for those parents who are already co-resident with other children. Since the distribution of inter-household transfers among co-residing elderly is very small, we shall only focus on the effects of these transfers on lone elderly and elderly couples only.

The share of inter-household transfer as a proportion of household income is shown in Table 6.10.

Table 6.10: Inter-household transfers as a proportion of household income (%)

Household type by sex	Year				
	1976	**1981**	**1986**	**1991**	**1996**
Lone elderly: Men	22.6	33.5	23.2	22.7	15.8
Women	58.7	57.2	68.1	55.4	39.3
Overall	38.2	40.4	38.1	32.7	25.2
Elderly couple	37.2	48.6	49.8	43.5	25.9

Source: Author's calculations based on the SFIE.

Though the share of inter-household transfer for independent elderly has fluctuated over the period 1976-1996, the trend is a general decline. In particular, the share for female lone elderly has dropped about 20% from 58.7% in 1976 to 39.3% in 1996, though that share still accounts for over one-third of their household income. The declines among male lone elderly and elderly couples are on a small scale over the study period. Overall, their share of inter-household transfer only accounts for one-fourth of their household income in 1996. Since a greater amount of inter-household transfer as a proportion of household income represents a higher financial commitment from children to their elderly parents, the results suggest there is a significant decline in children's financial commitment to the independent elderly (in particular for female lone elderly) over the period 1976-1996.

Next, we shall classify the elderly population into five classes according to the level of contribution of inter-household transfer to overall household income. The lowest class (0%) indicates no inter-household transfer received from children while the top class (50+%) indicates the elderly have more than half of their household income from inter-household transfers. The distribution of the elderly by the level of inter-household transfers as a proportion of household income is shown in Table 6.11.

Though the amount of inter-household transfer as a proportion of household income for independent elderly has declined over the period 1976-1996 (see Table 6.10), Table 6.11 shows there is an increase in the proportion of lone elderly and elderly couples receiving inter-household transfers (+3.2% and +7.9% respectively) over the same period. Nevertheless, there are still over one-third of lone elderly men without inter-household transfers in 1996 while it is only 5% for lone elderly women. Although the proportion of the elderly with a significant level of inter-household transfers (of more than half of the household income) has declined significantly over the period 1976-1996, this still accounts for over one-third of lone elderly women in 1996.

Table 6.11: Distribution of the elderly by the level of inter-household transfers as a proportion of household income (%)

Household type by sex	Inter-household transfer as % of household income					Total	Sample size
	0	1-10	10-30	30-50	50+		
1976							
Lone elderly: Men	38.1	23.8	14.3	4.8	19.0	100.0	22
Women	12.5	6.3	12.5	6.2	62.5	100.0	15
Overall	27.0	16.2	13.6	5.4	37.8	100.0	37
Elderly couple	14.5	22.8	14.5	16.9	31.3	100.0	84
1996							
Lone elderly: Men	36.2	21.6	19.4	13.1	9.7	100.0	268
Women	5.1	10.6	23.0	25.3	36.0	100.0	178
Overall	23.8	17.2	20.9	17.9	20.2	100.0	446
Elderly couple	6.6	24.5	32.6	19.3	17.0	100.0	882

Source: Author's calculations based on the SFIE.

Since the sample size for male and female lone elderly was less than 30 in 1976, we have to draw any conclusion carefully from these 1976 elderly groups. Nevertheless, both lone elderly and elderly couples with significant levels of inter-household transfer (over 50% of household income) have declined by 17.6% and 14.3% respectively over the period 1976-1996, though a slightly increased proportion of independent elderly have received these transfers over the same period.

Table 6.12 presents mean inter-household transfers by income quintile as a proportion of household income.

Table 6.12: Inter-household transfers as a proportion of household income by income quintile in 1996 (%)

Household type by sex	Income quintile				
	Bottom	2	3	4	Top
Lone elderly: Men	35.3	18.7	16.2	9.6	9.4
Women	38.2	40.3	35.0	49.1	35.6
Overall	37.1	28.3	23.5	22.3	15.9
Elderly couple	39.3	28.7	24.9	26.1	13.5

Source: Author's calculations based on the SFIE.

In terms of the levels of inter-household transfers by income quintile, male lone elderly and elderly couples with lower income have a higher dependency on inter-household transfers from children (see Table 6.12). For example, the level of inter-household transfers from children is 39.3% for elderly couples in the bottom quintile while it is only 13.5% for the top quintile. For male lone elderly, the level also declined from the bottom (35.3%) to top quintile (9.4%) while it accounts for 35-50% among female lone elderly across all income levels. This suggests that inter-household transfer is an important source of income (say, at least one-third of household income) for lone elderly women whether they are poor or rich. By contrast, inter-household transfers are only important for less well-off lone elderly men and elderly couples.

Next, we shall examine the inter-household transfer as a proportion of poverty line by income quintile in Table 6.13.

Table 6.13: Inter-household transfers as a proportion of poverty line by income quintile in 1996 (%)

Household type by sex	Income quintile				
	Bottom	2	3	4	Top
Lone elderly: Men	28.5	25.8	34.2	27.4	42.0
Women	27.8	53.5	70.9	146.1	150.1
Overall	28.1	38.1	48.5	65.6	69.0
Elderly couple	30.2	37.9	52.4	74.8	57.3

Source: Author's calculations based on the SFIE.

Although the previous table shows that poorer independent elderly tend to have significantly heavier reliance of inter-household transfers than their richer counterparts, Table 6.13 clearly shows there is an inverse variation between the independent elderly's inter-household transfer and their equivalent income. Although the low-income independent elderly have substantial inter-household transfers at least one-quarter of poverty line, the richer (top two quintile) independent elderly have inter-household transfer more than half of poverty line; richer female lone elderly have inter-household transfers even above poverty line by 46%. Although the inter-household transfer is substantial, only richer lone elderly women could prevent poverty by this transfer alone, and the family-centred policy of the Taiwan government is at risk since the bottom quintile independent elderly only received inter-household transfers below one-third of the poverty line.

The effectiveness of inter-household transfers in poverty rate reduction is examined in Table 6.14.

Table 6.14: Effectiveness of inter-household transfers on poverty rates (%)

Poverty status	Lone elderly			Elderly
	Men	Women	Overall	couple
1976				
Poor before transfers	28.6	62.5	43.2	41.0
Post-transfer poor	9.5	6.3	8.1	4.8
% of reduction	**66.8**	**89.9**	**81.3**	**88.3**
1996				
Poor before transfers	24.3	65.2	40.6	42.4
Post-transfer poor	7.1	16.9	11.0	13.8
% of reduction	**70.8**	**74.1**	**72.9**	**67.5**

Source: Author's calculations based on the SFIE.

In Table 6.14, about seven out of ten pre-transfer poor lone elderly or elderly couples have became non-poor due to inter-household transfers in 1996. Nevertheless, the effectiveness of the poverty reduction for lone elderly and elderly couple fell 8% and 21% respectively over the period 1976-1996. In addition, the independent elderly's post-transfer poverty has increased substantially over the survey period. Elderly couples' post-transfer poverty has increased substantially from 4.8% to 13.8% over the study period. In the same way as intra-household transfers did for co-residing elderly, Table 6.14 shows that inter-household transfers have played a crucial role in preventing poverty for independent elderly. However, the effectiveness of poverty reduction has declined over the period 1976-1996.

Interim summary

- The independent elderly seem to receive the same equivalent amount of inter-household transfer whether they live alone or with a spouse. By contrast, the co-residing elderly received much lower inter-household transfers.
- Although inter-household transfers still account for over one-quarter of household income among the independent elderly in 1996, there is a significant decline in children's financial commitment to the independent elderly (in particular for female lone elderly) over the period 1976-1996.
- The proportions of lone elderly and elderly couples with significant levels of inter-household transfer (over 50% of household income) have declined by 17.6% and 14.3% respectively over the period 1976-1996; a slightly

increased proportion of independent elderly have received these transfers over the same period.

- The inter-household transfer is an important source of income for lone elderly women whether they are poor or rich. By contrast, poorer lone elderly men or elderly couples tend to have a significantly higher level of inter-household transfers than their richer counterparts.
- Well-off lone elderly women could prevent poverty by inter-household transfer alone, while this was not the case for the bottom quintile independent elderly.
- Although inter-household transfers have played a crucial role in preventing poverty for the independent elderly, their effectiveness of poverty reduction has declined over the period 1976-1996.

Section D: Trade-off of familial support against living arrangements

The distribution of elderly with half of equivalent income from familial support (the sum of inter- and intra-household transfers) is shown in Table 6.15.

Table 6.15: Elderly with half of income from familial support (%)

Household type by sex	Year				
	1976	1981	1986	1991	1996
Men					
Lone elderly	19.0	34.1	21.9	22.8	11.2
Elderly couple	7.1	5.1	8.9	10.6	9.3
Co-residing elderly	73.0	70.6	70.8	64.4	50.4
Women					
Lone elderly	62.5	60.0	77.3	62.4	41.6
Elderly couple	97.6	94.9	92.8	89.9	88.0
Co-residing elderly	98.1	98.6	97.6	97.8	91.4
Overall					
Lone elderly	37.8	41.7	40.3	34.9	23.3
Elderly couple	51.8	50.0	50.5	49.9	48.5
Co-residing elderly	87.9	85.8	84.4	80.0	69.4

Source: Author's calculations based on the SFIE.

In Table 6.15, it can be seen that the percentage of lone elderly and co-residing elderly with more than half of income from familial support has reduced by at least 14% over the period 1976-1996. However, about seven out of ten co-residing elderly still received such a level of transfers in 1996 while it was about one out of five for lone elderly. In addition, about nine out of ten women co-residing elderly had more than half of income from family support in 1996 while it was about half for their male counterparts. Concerning elderly couples, there was no significant decline for the proportion of the elderly (about 50%) with more than half of income from familial support. Thus, the results suggest that elderly couples and co-residing elderly still relied heavily on familial support over the study period. For lone elderly, the importance of family support was declining and few elderly were heavily reliant on this transfer in 1996.

The elderly's familial support by sex and household type is shown in Table 6.16.

Table 6.16: Familial support in 1996 (NT$'000)

Household type	Sex		
	Men	Women	Overall
Lone elderly	39.5	93.4	61.0
Elderly couple	-40.6	234.0	96.4
Co-residing elderly	58.8	219.3	132.9

Source: Author's calculations based on the SFIE.

Concerning familial support, Table 6.16 shows the elderly are not a homogenous group in terms of living arrangements and sex. Women from elderly couples and co-residing elderly have received a more significant transfer from familial support than have elderly men. For example, co-residing elderly men could receive family transfers of NT$ 58,800, significantly lower than that of their female counterparts (NT$ 219,300). Among elderly couples, women could receive familial support of NT$ 234,000 while the men, on contrary, would give a net transfer of NT$ 40,600. Female lone elderly receive far less familial support (NT$ 93,400) than women from elderly couples or female co-residing elderly though they still receive more than twice the familial support than that of lone elderly men (NT$ 39,500). There is a similar degree of economic incentive for elderly women to live with their children or male spouse, with a much weaker incentive in the case of elderly men. This suggests that there was a strong economic incentive for the elderly to live with their children rather than living alone or with a spouse only in 1996.

In terms of pre-transfer poverty, Table 6.17 shows that elderly women (in particular from elderly couples and co-residing elderly) have extremely high proportions of pre-transfer poverty in 1996. For example, 95% for co-resident elderly women, and even for female lone elderly, two-thirds of them were poor before this transfer. Similarly, over half of male co-residing elderly would also fall in poverty without transfers from familial support. Overall, about half of the independent elderly are poor without familial support in 1996 while it is three-quarters for co-residing elderly. As far as the effectiveness of poverty reduction is concerned, the transfers from familial support have been very effective for the elderly. At least two-thirds of the pre-transfer poor elderly have been lifted out of poverty in 1996 by this transfer, and in particular, it was over 86% for the co-residing elderly. The results suggest that co-residence with families can still be regarded as the most effective way to avoid poverty.

Table 6.17: Effectiveness of familial support on poverty rates in 1996 (%)

Household type by sex	Poverty status		% of reduction
	Poor before transfers	Post-transfer poor	
Men			
Lone elderly	27.2	9.3	**65.8**
Elderly couple	18.1	14.5	**19.9**
Co-residing elderly	55.5	9.8	**82.3**
Women			
Lone elderly	68.0	19.7	**71.0**
Elderly couple	88.9	14.5	**83.7**
Co-residing elderly	95.0	10.0	**89.5**
Overall			
Lone elderly	43.5	13.5	**69.0**
Elderly couple	53.4	14.5	**72.8**
Co-residing elderly	73.7	9.9	**86.6**

Source: Author's calculations based on the SFIE.

Conclusion

It has been found that the majority of co-residing elderly appeared to improve their income levels through intra-household transfers: over two-thirds of co-residing men and 96% of co-residing women improved their income level through such transfers. In particular, about three-quarters of the co-residing elderly are *significantly* better-off by intra-household transfers. This suggests economic incentive is a highly probable primary factor for co-residence among the elderly, in particular for women. Moreover, the existence of intra-household transfers was also very effective in helping nine out of ten co-residing elderly who were pre-transfer poor to avoid poverty between 1976 and 1996. However, the conventional method of poverty measurement can lead to a serious under-estimate of the elderly poverty (in particular for elderly women) if there is an unequal sharing in an extended family.

With respect to inter-household transfer, the independent elderly received a substantial amount of such transfers in 1996, though this transfer as a proportion of household income declined significantly (in particular for female lone elderly) over the period 1976-1996. The low-income independent elderly only received inter-household transfer amounting to a quite small fraction of the poverty line while this transfer alone was enough to prevent poverty among well-off lone elderly women. Nevertheless, inter-household transfers have played a crucial role in preventing poverty for independent elderly people, though the effectiveness on poverty reduction has declined between 1976 and 1996.

In terms of total familial support, the co-residing elderly received more than the independent elderly. This suggests that there is still a strong economic incentive for the elderly to live with their children rather than living alone or with a spouse only. At least 86% of the pre-transfer poor co-residing elderly had been lifted out of poverty in 1996 by this transfer, which was higher than for the lone elderly and elderly couples (69% and 73% respectively). The results suggest that co-residence with families can still be regarded as the most effective way to avoid poverty. This analysis generally supports the view that familial support was still substantial up to 1996, but its share of household income was decreasing over the period 1976-1996.

CHAPTER 7: SOCIAL SECURITY AND THE INCOME OF THE ELDERLY

Introduction

The purpose of this chapter is to assess the effects (adequacy, effectiveness and efficiency) of social security for the elderly's economic status in Taiwan. We shall mainly focus on the impact of social security in the single year 1996 rather than over a period, as in the previous two chapters. This is because social security expenditure did not reach a significant level until the early 1990s.

This chapter is divided into four sections. Section A sets out the conceptual framework for the analysis. Sections B to D treat social security as a whole and analyse its distribution, coverage, effectiveness and efficiency of targeting the poor elderly. Then, the individual effects (i.e. coverage, adequacy and effectiveness) of four social security schemes are shown in Section E; these are social insurance, occupational retirement schemes, social assistance and social allowances. The summaries of the main findings are set out in the interim summaries and the conclusion.

Section A: Concepts and methods

Social security transfers

Social security transfers, in this chapter, comprise benefits from four individual schemes: social insurance, occupational retirement payment (including Veterans' Subsidies[89]), social assistance (mainly Low-Income Household Aids) and social allowances (including Old Age Allowance and Old Age Farmer Allowance). Government subsidies for NHI premiums[90] will be excluded from the definition since we are only interested in cash income. We shall analyse social security transfers in terms of "equivalent social security transfers", similar to the concept of equivalent inter-household transfers in Chapter 6. This is defined as the household's social security transfers adjusted by their associated equivalent scales. In addition, transfers are measured by their mean values.

Poverty gap

In addition to the "headcount" income poverty, in this chapter the average poverty gap is used (the income shortfall relative to the poverty line), as well as the aggregate poverty gap (the cumulative sum of income shortfall relative to

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[89] It should be noted that although Veterans' Subsidies are defined as part of social assistance schemes in Chapter 2, in the SFIE it is regarded as an occupational retirement scheme.

[90] Some disadvantaged groups can have a proportion of their premiums contributed by the government on their behalf; in particular, the contributions for low-income households are totally borne by the government (Ku, 1998a).

the poverty line). Although Deleeck et al. (1992) point out that the headcount measure of poverty is useful for its simplicity of presentation since it is easily interpretable for the non-expert, even for the layman, it is conceptually at odds with most people's view of poverty, which is to see it as a matter of degree[91]. One merit of using poverty gap measurement is that it permits us to distinguish between a situation where the poor are concentrated in a zone near the poverty line and a situation where a significant number of households are seriously deprived.

Effectiveness and efficiency on poverty gap reduction

There are a growing number of Taiwanese studies that focus on the distribution of *social welfare expenditure* to various socio-economic groups of the population[92]. However, there are only two studies that have researched on the *impact of social security* on the *income of the elderly* in Taiwan. Bradshaw and Chen (1996) have examined the effect of Taiwanese social security on the reduction of income inequality and poverty rate for the elderly. By contrast, Kwon (1999) has investigated the distribution and adequacy of Taiwanese social security for the income of the elderly. However, the extent to which social security has been effective in reducing the elderly's poverty gap and its

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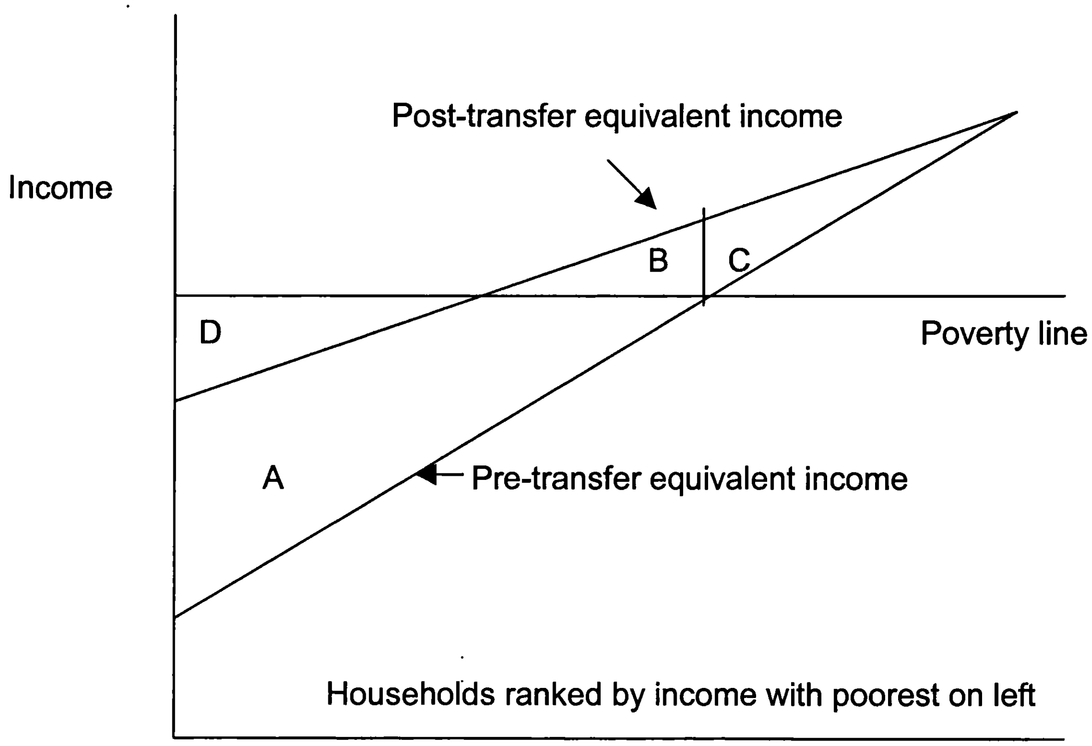
[91] The headcount measure has been criticized, notably by Sen (1979), because it takes no account of how far below the poverty line poor households actually are.

[92] For example, Wang (1994b) examines the effect of the welfare state on income distribution in Taiwan with respect to both taxation and social welfare policies. Li (1997) uses a comprehensive measure to assess Taiwan's welfare spending and its distributional effects.

efficiency as a tool in distributing transfer, has up to now been unexplored.

Our technique used to measure the effects of social security was originally proposed by Beckerman (1979). To illustrate Beckerman's approach, Figure 7.1 shows the components of the analysis. This technique combines the classic head count approach with the poverty gap approach. An important point to note is that Beckerman's measures are driven by the poverty gap, which is a reliable means of addressing poverty issues at the aggregate level. The notion of the aggregate poverty gap can be defined "the total amount needed, theoretically, to raise the incomes of all poor households to the level of the poverty line". The estimation of the "poverty gap" allows us to learn more about certain aspects of poverty, particularly those relating to the intensity of poverty.

Figure 7.1: Illustration of Beckerman ratios



Source: Adapted from Beckerman (1979: 53)

On the basis of Figure 7.1, three synthetic indicators reflecting the impact of social security transfers on poverty gap can be proposed as follows:

1. The effectiveness of poverty gap reduction = A/ (A+D)
2. The efficiency of poverty gap reduction = A/ (A+B+C) and
3. The spillover= (B+C)/(A+B+C)

The area (A+B+C) represents total social security transfers. Area D is the post-transfer poverty gap and area (A+ D) the pre-transfer poverty gap. Area (B+C) stands for that proportion of social security transfers which is received by households who do not strictly need it for their security of subsistence. It should be noted that the spillover defined here has been modified from the original Beckerman definition (i.e. B/(A+B)), which only concerns the pre-transfer poor households. In our definition, we shall include the spillover caused by all households (including pre-transfer non-poor households) since we are most interested to assess the spillover of social security transfers towards all households.

Effects of social security by individual scheme

In Section E, we shall focus on the effects of social security in terms of four individual schemes: social insurance, occupational retirement schemes, social assistance and social allowances. The approach is basically the same as the rest of the chapter where distribution, coverage and effectiveness and efficiency are the major yardsticks for measurement. However, there are some important differences. First, the analysis is carried out only for households actually receiving the particular type of transfer income rather than all households[93]. Thus, inadequacies due to the rules of entitlement or non-take-up[94] are not considered. Second, pre-transfer income is defined as available household income (i.e. net income) minus the particular type of transfer, rather than all transfers. In other words, the definition of pre-transfer income implies that the effect of each scheme is assessed in the situation that all other kinds of transfer have already been received. For example, whilst analysing the adequacy of social insurance, pre-transfer income excludes these payments, but it may include the transfers from other three schemes. Thus what is in fact measured is the *marginal* effect of a particular kind of transfer, and the results by scheme *cannot* be interpreted as a strict decomposition of the overall effect of public transfer and they should be viewed in this light.

Goals of social security

There are multiple goals for social security programmes. Although we have mainly examined the effect of social security transfers in reducing poverty, it

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[93] For detailed discussions, see Deleeck et al., (1992).

[94] Factors affecting take-up include the knowledge of benefits, the complexity of benefit systems, the problem of administrative hassle, stigma, the fear of negative consequences flowing from claims to benefit and the lack of real gains. The take-up for social assistance is likely to be higher than for other social security benefits (Hill, 1990) - this is attributed to its characteristics in the meeting of individual need. Also, the take-up of social assistance benefit is likely to rise with the amount to which the individual is entitled.

has to be kept in mind that relieving poverty is certainly not the only aim of social security schemes (see Section A, Chapter 2). But it does not seem pointless or invalid to assess to what extent social security transfers succeed in achieving one particular aim, meanwhile disregarding, for the moment, other aims, as long as it is kept in mind that only a particular evaluation is carried. For our purposes, however, it is sufficient that we assume that the alleviation of poverty is the primary goal of social security. Thus, the relatively simple numerical exercise undertaken in this thesis aims only to serve as a preliminary study for the impact of social security in Taiwan.

Section B: Distribution and adequacy of social security transfers

Table 7.1 presents the changes of equivalent social security transfers (hereafter social security transfers) to the elderly over the period 1976-1996.

Table 7.1: Social security transfers of the elderly (NT$'000)

Household type	Year					Rate of
	1976	1981	1986	1991	1996	increase*
Lone elderly	5.1	9.4	10.0	50.8	97.1	15.9
Elderly couple	17.2	3.3	4.5	22.9	71.1	7.4
Co-residing elderly	0.7	0.9	2.4	9.5	34.8	21.8
All elderly	1.8	1.4	3.0	14.8	47.4	17.9
All non-elderly	0.4	0.7	1.7	5.2	11.9	17.9

Source: Author's calculations based on the SFIE.

***Note:** The rate of increase is defined as the effective percent per annum growth over the period 1976-1996.

Table 7.1 shows what social security transfers remained relatively unchanged in real terms across all elderly groups over the period 1976-1986, then a dramatic increase over the period 1991-1996. Both the elderly and the non-elderly have the same growth rate in social security transfers at 17.9% p.a. over the period 1976-1996, but the non-elderly's transfer in 1996 (NT$ 11,900) is less than one-quarter of that of the elderly (NT$ 47,400). Among the elderly, independent elderly had at least twice the average social security transfers compared with co-residing elderly in 1996. This suggests that social security has a more important role in providing income for independent elderly than for co-residing elderly and non-elderly.

It should be noted that in 1976 the transfers for elderly couples were extremely high (NT$ 17,200) compared with the average amount among all elderly (NT$ 1,800), or that for lone elderly (NT$ 5,100), compared with the amount for elderly couples in 1981 (NT$ 3,300) or 1986 (NT$ 4,500). One plausible explanation for this is a significantly higher social assistance transfer received by elderly couples in 1976. It can also be partly explained by the higher "severe poverty" experienced among elderly couples (4.8%) compared with other elderly groups, such as lone elderly (2.7%), in 1976 (see Table 5.6). Next, the elderly by the level of social security transfers as a proportion of household income is examined in Table 7.2.

Table 7.2: The elderly by the level of social security transfers as a proportion of household income (%)

Household type	Social security transfers as % of household income					Total
	0	1-10	10-30	30-50	50+	
Lone elderly	11.2	14.4	24.9	14.1	35.4	100.0
Elderly couple	12.0	19.5	33.8	19.7	15.0	100.0
Co-residing elderly	1.7	66.6	21.8	6.4	3.5	100.0
All elderly	4.5	52.8	24.5	9.5	8.7	100.0
All non-elderly	1.4	92.3	4.6	1.1	0.6	100.0

Source: Author's calculations based on the SFIE.

It can be seen that there are significant proportions of independent elderly with a high proportion of household income from social security transfers. Concerning the proportion of people for whom social security makes up more than half of household income, it is one-third (35.4%) and 15% for lone elderly and elderly couples respectively in 1996 while it is extremely low for the non-elderly (only 0.6%). Moreover, the majority of co-residing elderly and non-elderly (68% and 94% respectively) has less than 10% of household income arising from social security. These figures suggest that the income source from social security was much more important to independent elderly than co-residing elderly or non-elderly.

Next, social security transfers as a proportion of household income across all income quintiles is shown in Table 7.3.

Table 7.3: Social security transfers as a proportion of household income, by income quintile (%)

Household type	Income quintile				
	Bottom	2	3	4	Top
Lone elderly	35.8	34.7	34.6	45.9	31.0
Elderly couple	22.9	24.4	27.7	21.8	29.7
Co-residing elderly	12.0	9.2	10.0	10.4	10.8
All elderly	17.5	14.4	14.9	14.8	15.4

Source: Author's calculations based on the SFIE.

The results suggest that although less well-off elderly in general have a higher proportion of social security than their richer counterparts, the difference is not significant. In fact, the elderly couples' bottom quintile even had a lower proportion of household income from social security than their top quintile (22.9% vs. 29.7%) though this was not the case for lone elderly.

Next, we shall examine the adequacy of social security transfers (as a proportion of poverty line) across all income quintiles in Table 7.4.

Table 7.4: Social security transfers as a proportion of poverty line by income quintile (%)

Household type	Income quintile				
	Bottom	2	3	4	Top
Lone elderly	42.3	59.7	74.4	125.7	130.1
Elderly couple	27.4	43.9	60.5	60.3	129.0
Co-residing elderly	14.7	16.7	22.5	30.0	58.3
All elderly	21.1	25.7	32.9	41.9	75.3

Source: Author's calculations based on the SFIE.

Table 7.4 clearly shows there is a proportional variation between the elderly's equivalent income and social security transfers. The all elderly top quintile receives social security transfers equal to three-quarters (75.3%) of poverty line while it was only about one-fifth (21.1%) for their bottom quintile counterparts. Concerning the bottom quintile, the independent elderly received social security transfers equal to less than half of the poverty line (one-quarter for elderly couples) while their top quintiles have these transfers equal to about

130% of poverty line. The social security transfer has a lower value for co-residing elderly where their bottom quintile has a transfer equal to 14.7% of poverty line.

The above results show that social security has not been progressively distributing transfers to the poorer elderly and so has not helped equalize income distribution of the elderly after retirement. The low-income independent elderly only received social security transfer amounting to a quite small fraction of the poverty line while this transfer alone was enough to prevent poverty among well-off independent elderly.

Section C: Effectiveness of social security transfers

First, the effectiveness of social security on the reduction of headcount poverty is shown in Table 7.5.

Table 7.5: Effectiveness of social security transfers on poverty rates (%)

Household type	Poverty status		% of reduction
	Poor before transfers	Post-transfer poor	
Lone elderly	56.3	13.5	**76.0**
Elderly couple	42.6	14.5	**66.0**
Co-residing elderly	18.4	9.9	**46.2**
All elderly	26.5	11.1	**58.1**
All non-elderly	8.1	6.0	**25.9**

Source: Author's calculations based on the SFIE.

In Table 7.5, it can be seen that although a quarter (26.5%) of pre-transfer elderly are poor in 1996, more than half (58.1%) of these poor elderly have been taken out of poverty by social security transfers. For lone elderly, three-quarters (76%) were raised through social security while it was about two-thirds (66%) for elderly couples and 46.2% for co-residing elderly. In particular, social security has played an important role in lifting the pre-transfer poor independent elderly from poverty (by at least two-thirds).

In terms of poverty reduction, it is not only important to know what percentages of the elderly (by headcount measure) are falling below the poverty standard before and after government benefits; it is also important to assess the gap below the poverty line as a proportion of poverty line (i.e. the intensity of poverty).

The effectiveness of social security on the poverty gap is presented in Table 7.6.

Table 7.6: Effectiveness of social security transfers on poverty gap (%)

Household type	Poverty status		% of reduction
	Poor before transfers	Post-transfer poor	
Lone elderly	50.4	17.4	**65.4**
Elderly couple	37.0	19.6	**46.9**
Co-residing elderly	29.2	18.5	**36.6**
All elderly	35.8	18.7	**47.8**
All non-elderly	22.0	17.9	**18.4**

Source: Author's calculations based on the SFIE.

Note: The poverty gap is defined as the shortfall relative to the poverty line and can be expressed as a proportion of poverty line.

From Table 7.6, it can be seen that though the elderly's pre-transfer poverty gap (35.8%) is greater than that of the non-elderly (22%), the former's poverty gap has been significantly reduced by half (47.8%) due to social security while it was only 18.4% for the latter. Although the pre-transfer poverty gap among lone elderly and elderly couples was as high as 50.4% and 37% respectively, their post-transfer poverty gaps are less than 20%, similar to that of the non-elderly. The lone elderly experiences the greatest reduction of pre-transfer poverty gap (65.4%), with 46.5% for elderly couples and 36.6% for co-residing elderly. These results suggest that social security transfers have reduced by almost half the poverty gap among all poor elderly, in particular poor lone elderly (by two-thirds).

The effectiveness of social security on the reduction of aggregate poverty gap is shown in Table 7.7.

Table 7.7. Effectiveness of social security transfers on aggregate poverty gap

Household type	Aggregate poverty gap, NT$' million		% of reduction
	Poor before transfers	Post-transfer poor	
Lone elderly	16.8	1.4	**91.7**
Elderly couple	18.5	3.3	**81.9**
Co-residing elderly	24.9	8.5	**65.9**
All elderly	61.1	13.4	**78.1**
All non-elderly	114.7	69.2	**39.7**

Source: Author's calculations based on the SFIE.

Note: The aggregate poverty gap is defined as the aggregate income shortfall of all poor individuals with respect to poverty line.

From Table 7.7, it can be seen that there is a significant percentage of reduction in the aggregate poverty gap among the elderly (78.1%) compared with the non-elderly (39.7%). Lone elderly and elderly couples have experienced significant reductions on aggregate poverty gap by 91.7% and 81.9% respectively. In terms of monetary value, the aggregate poverty gap for all elderly fell substantially from NT$ 61.1 million before the transfer to NT$ 13.4 million after. This implies that, in principle, an extra social security transfer of NT$ 13.4million (per adult equivalent) with perfect targeting (100% efficiency) would eliminate poverty among the elderly in the SFIE sample population. For the whole population, it would be necessary to adjust this figure by multiplying by the ratio of population against this sample size to reflect the true aggregate poverty gap among all households in Taiwan.

The effectiveness of a social security system can also be judged by the extent to which indices of inequality, such as the Gini coefficient, decrease (or increase) during the transfer process, as shown in Table 7.8.

Table 7.8: Effectiveness of social security transfers on the Gini coefficients

Household type	Gini coefficients		Change
	Before transfers	After transfers	
Lone elderly	0.45	0.28	-0.17
Elderly couple	0.36	0.29	-0.07
Co-residing elderly	0.30	0.28	-0.02
All elderly	0.33	0.28	-0.05
All non-elderly	0.28	0.27	-0.01

Source: Author's calculations based on the SFIE.

From Table 7.8, it can be seen that the elderly have experienced a significant reduction on the Gini coefficient (by 0.05) through social security transfers compared with 0.01 for the non-elderly. Concerning lone elderly and elderly couples, though their pre-transfer Gini coefficients are as high as 0.45 and 0.36 respectively, their coefficients dropped by 0.17 and 0.07 respectively. In contrast, the drop was only 0.02 for co-residing elderly. Thus social security transfers have proved to be very effective tool for reducing income inequality among the elderly, in particular for lone elderly.

Interim summary

- Although both the elderly and the non-elderly have the same growth rate of social security transfers over the period 1976-1996, the non-elderly's transfer was only about one-quarter of the elderly's (NT$ 11,900 vs. NT$ 47,400).
- Among the elderly, independent elderly have at least twice the average social security transfers compared with the elderly in extended households in 1996.
- Concerning the proportion of people for whom social security makes up more than half of household income, it is one-third (35.4%) and 15% for lone elderly and elderly couples respectively in 1996 while it is extremely low (only 0.6%) for the non-elderly. Moreover, the majority of co-residing elderly and non-elderly (68% and 94% respectively) have less than 10% of household income arising from social security.
- Social security does not necessary play a more important role for less

well-off elderly compared with well-off counterparts (e.g. elderly couples).

- Social security is not progressively distributing transfers to the poorer elderly and does not help equalize income distribution of the elderly after retirement. The low-income independent elderly only received social security transfer amounting to a quite small fraction of the poverty line. On the other hand, this transfer alone was enough to prevent poverty among some well-off independent elderly.
- Social security has played an important role in lifting the pre-transfer poor independent elderly from poverty (by at least two-thirds). Concerning poverty gap, this transfer has reduced by almost half the poverty gap among all poor elderly, in particular poor lone elderly (by two-thirds).
- In terms of the effectiveness on the reduction of aggregate poverty gap, lone elderly and elderly couples have experienced reductions of 91.7% and 81.9% respectively. And, in principle, an extra social security transfer of NT$ 13.4million with perfect targeting (100% efficiency) would eliminate poverty among the elderly in the SFIE sample population.
- Through social security, the elderly have a higher drop on the Gini coefficient than the non-elderly (0.05 vs. 0.01), in particular for lone elderly (by 0.17).

Section D: Efficiency of social security transfers

In the previous section, although a significant proportion of poverty headcount and poverty gap have been effectively reduced by social security, it is also desirable to examine the efficiency of its total associated costs.

Before social security transfers

The pre-transfer "income surplus" or "poverty gap" by poverty status (i.e. pre-transfer non-poor, non-poor due to transfer or post-transfer poor) is presented in Table 7.9.

Table 7.9: Pre-transfer income surplus or poverty gap (%)

Household type	Poverty status		
	Pre-transfer non-poor	Non-poor due to transfers	Post-transfer poor
Lone elderly	90.4	-50.2	-51.1
Elderly couple	86.6	-32.9	-44.9
Co-residing elderly	104.3	-24.0	-33.6
All elderly	100.8	-33.8	-38.5
All non-elderly	129.3	-17.4	-23.6

Source: Author's calculations based on the SFIE.

Note: The poverty gap (or income surplus) is the amount of income below (or above) poverty line as a proportion of poverty line.

Table 7.9 shows that the pre-transfer elderly have a lower income surplus and a higher poverty gap than that of the pre-transfer non-elderly whatever the poverty status. For example, the pre-transfer non-poor elderly's income surplus was about 100% while it was 129% for their non-elderly counterparts. At the same time, the post-transfer poor elderly have a higher pre-transfer poverty gap (38.5%) than that of the non-poor-due-to-transfer elderly (33.8%), in particular among elderly couples and co-residing elderly. This suggests that post-transfer poverty among the elderly was partly due to a higher poverty gap even before social security transfers.

After social security transfers

Next, mean social security spillover or poverty gap is shown in Table 7.10.

Table 7.10: Post-transfer spillover or poverty gap by poverty status (%)

Household type	Poverty status		
	Pre-transfer non-poor	Non-poor due to transfers	Post-transfer poor
Lone elderly	41.7	67.4	-17.4
Elderly couple	42.5	57.7	-19.6
Co-residing elderly	23.0	46.0	-18.5
All elderly	27.0	55.1	-18.7
All non-elderly	8.2	31.7	-17.9

Source: Author's calculations based on the SFIE.

Note: The poverty gap (or spillover) is the amount of income below (or social security transfers above) poverty line as a proportion of poverty line.

From Table 7.9 and Table 7.10, it can be seen that the poverty gap from pre-transfer poor elderly to the post-transfer poor elderly has dropped significantly because of social security transfers (from 38.5% to 18.7%). However, the transfers were rather inefficient, since a substantial amount of social security transfers were distributed to households in excess of what was strictly needed to stay above the poverty line. For example, the pre-transfer non-poor elderly and the non-poor-due-to-transfer elderly have a spillover from social security of about 27% and 55% respectively; in particular, among independent elderly. Moreover, since the poor elderly were in a minority in the sample of the SFIE, social security transfers alone could have lifted them from poverty if the inefficiencies had been improved.

Next, the elderly's social security transfer by poverty status is shown in Table 7.11. It can be seen that the elderly have received higher social security transfers than their non-elderly counterparts by poverty status. Among the elderly, the post-transfer poor elderly receive a social security transfer of NT$ 26,300, less than a quarter of that for the non-poor-due-to-transfer elderly (NT$ 118,000). Even for the pre-transfer non-poor elderly, they have a social security transfer of NT$ 35,800, which is still higher than that of post-transfer poor elderly. The post-transfer poor elderly received a lower social security transfer than the pre-transfer non-poor elderly, and even lower than that of the non-poor-due-to-transfer elderly. This suggests that a substantial amount of social security transfers were distributed to households in excess of what was strictly needed to stay above the poverty line.

Table 7.11: Social security transfers by poverty status (NT$'000)

Household type	Poverty status		
	Pre-transfer non-poor	Non-poor due to transfers	Post-transfer poor
Lone elderly	55.4	156.1	44.8
Elderly couple	56.5	120.3	33.6
Co-residing elderly	30.5	92.9	20.1
All elderly	35.8	118.0	26.3
All non-elderly	10.9	65.2	7.6

Source: Author's calculations based on the SFIE.

Next, the efficiency of total social security transfers in helping to close the total poverty gap is illustrated in Table 7.12. Since our efficiency ratio includes all elderly receiving social security transfers (including pre-transfer non-poor households), the efficiency ratio is expected to be lower than as calculated by Beckerman's original method (see Section 7.2). From Table 7.12, it can be seen that the efficiency of the total social security transfer among the elderly is rather low, with only one-fifth (or NT$ 47.7 million) of these transfers spent on closing the poverty gap. But the efficiency for the non-elderly is even lower, only 7.9%. Concerning lone elderly, though they have the highest efficiency ratio among all elderly, two-thirds of their associated transfers have been "wasted" (i.e. targeted to individuals above the poverty line). For elderly couples, the "waste" is about three-quarters (75.9%) of their associated social security transfers, and it is about 86% for co-residing elderly.

Table 7.12: Efficiency of total social security transfers in closing the aggregate poverty gap

Household type	**Social security, NT$' million**		**% of reduction**
	In closing aggregate poverty gap	**Total**	
Lone elderly	15.4	43.3	**35.6**
Elderly couple	15.1	62.7	**24.1**
Co-residing elderly	16.4	121.6	**13.5**
All elderly	47.7	229.9	**20.8**
All non-elderly	45.5	577.2	**7.9**

Source: Author's calculations based on the SFIE.

Note: For the definition of aggregate poverty gap, see the note of Table 7. 7.

Interim summary

- The post-transfer poor elderly have a higher pre-transfer poverty gap (38.5%) than that of the non-poor-due-to-transfer elderly (33.8%), in particular among elderly couples and co-residing elderly. This suggests that post-transfer poverty among the elderly was partly due to a higher poverty gap even before social security transfers.
- The poverty gap from pre-transfer poor elderly to post-transfer poor elderly has dropped significantly due to social security transfers (from 38.5% to 18.7%). However, the social security transfer was rather inefficient since a substantial amount of social security transfers did not target the elderly in need.
- Since the poor elderly were still in a minority in the sample of the SFIE,

social security could have lifted them from poverty if the inefficiencies had been improved.

- The post-transfer poor elderly received a lower social security transfer than the pre-transfer non-poor elderly, and even lower than that of the non-poor-due-to-transfer elderly. This suggests that a substantial amount of social security transfers were distributed to households in excess of what was strictly needed to stay above the poverty line.
- The efficiency of distribution of the total social security transfer among the elderly was rather low, with only one-fifth of these transfers spent on closing the poverty gap. Concerning the lone elderly, two-thirds of their associated transfers have been “wasted”. For elderly couples, the “waste” was about three-quarters of their associated social security transfers.

Section E: Effects of social security by individual scheme

Coverage

Table 7.13 presents the coverage of the elderly receiving benefits from four individual social security schemes in 1996.

Table 7.13: Coverage of the elderly by type of social security transfer (%)

Household type	Social security scheme			
	Social insurance	**Occupational retirement scheme**	**Social assistance**	**Social allowance**
Lone elderly	25.8	16.1	1.8	50.0
Elderly couple	44.4	19.0	0.9	55.1
Co-residing elderly	86.6	12.9	0.6	36.6
All elderly	73.3	14.3	0.8	41.5

Source: Author's calculations based on the SFIE.

Note: The total number of elderly in the sample is 4,851.

In Table 7.13, it can be seen that there are drastic differences in the coverage of the elderly receiving social security transfers from different schemes. For social insurance, about three-quarters (73.3%) of the elderly were covered, compared with less than 1% of the elderly receiving social assistance (i.e. Low-Income Household Aids only). Although occupational retirement schemes are widespread in most industrial countries today, only about 14% of Taiwanese elderly possessed this income source (in the form of either pension or lump-sums) in 1996. However, the high coverage of social allowances has become a distinction unique to Taiwan, where two-fifths (41.5%) of the elderly could receive this benefit.

As far as living arrangements are concerned, only one-quarter (25.8%) of lone elderly could have received social insurance transfers and less than half (44.4%) of elderly couples. Co-residing elderly have the highest proportion in receipt of social insurance transfers (86.6%). In contrast, at least half of independent elderly have received social allowances, while it was about one-third for co-residing elderly. This finding suggests that a significant proportion of independent elderly were covered by social allowances, while social insurance tends to cover co-residing elderly. For both occupational retirement schemes and (especially) social assistance, their coverage for the elderly in general was still insignificant.

Table 7.14 shows that slightly over 70% of the elderly are covered by social insurances regardless of their income. On the other hand, only one-third of the top income quintile elderly received occupational retirement payments and this share decreases as the elderly become less well-off. For social assistance, the coverage was only 1% even for the bottom quintile elderly. Although over half (56%) of the bottom quintile elderly received social allowances, a substantial number of elderly have received income benefit though they did not strictly need it avoid poverty. In particular, the top three quintiles (17% for the top-quintile elderly; 26% for the 4th quintile elderly; and 41% for the 3rd quintile elderly) received this benefit. Since the elderly in the top three quintiles account for about half of the elderly sample size, a considerable amount of social security transfers have been wasted and have not targeted the most needy elderly group.

Table 7.14: Coverage of the elderly by social security scheme and income quintile (%)

Social security scheme	Income quintile					Total
	Bottom	2	3	4	Top	
Social insurance	71.2	74.0	73.6	75.2	73.8	73.3
Occupational retirement scheme	3.3	7.8	16.9	24.0	31.8	14.3
Social assistance	1.1	0.5	1.3	0.8	0	0.8
Social allowance	56.3	50.8	40.9	25.6	16.7	41.5
Sample size	**1432**	**1019**	**898**	**778**	**724**	**4851**

Source: Author's calculations based on the SFIE.

Adequacy

Table 7.15 shows the adequacy of social security transfers as a proportion of poverty line by scheme. It shows occupational retirement schemes provide the elderly recipients with an equivalent transfer at 22.4% above the poverty line. Social assistances are about one-third (36.6%) of poverty line, and it is about one-fifth (20.7%) of poverty line for social allowances. On the other hand, the transfers from social insurance are extremely low (less than 5%) among the elderly. Concerning independent elderly, their transfers were significantly higher than those of co-residing elderly or non-elderly (except for the transfer from social insurance).

Table 7.15: Social security transfers as a proportion of poverty line among elderly recipients, by scheme (%)

Household type	Social security scheme			
	Social insurance	Occupational retirement scheme	Social assistance	Social allowance
Lone elderly	2.5	189.2	((63.6))	36.4
Elderly couple	3.4	146.9	((55.8))	31.8
Co-residing elderly	4.9	102.4	(23.2)	13.5
All elderly	4.6	122.4	36.6	20.7

Source: Author's calculations based on the SFIE.

Note: Figures with a bracket indicate that the number of elderly in the sample within this scheme is less than 30, and double brackets indicate less than 10 people.

Since social allowance has the highest coverage and offers a substantial amount of transfer for independent elderly, this scheme has been the most important social security scheme for securing the income position of the elderly in Taiwan. Although the occupational retirement scheme is the only type of social security scheme which enables the elderly to escape poverty, its coverage is rather low. For social assistance, though it provides a considerable transfer for the elderly recipients, its coverage was extreme low among the elderly. On the other hand, the social insurance scheme has a high coverage but its benefit level is very low.

Next, Table 7.16 presents the social security transfer as a proportion of poverty line among all elderly by type of scheme and income quintile.

Table 7.16: Social security transfers as a proportion of poverty line by type of scheme and income quintile (%)

Social security scheme	Income quintile					Total
	Bottom	2	3	4	Top	
Social insurance	2.5	3.0	3.0	4.6	12.9	4.6
Occupational retirement scheme	68.8	82.5	93.9	108.8	177.1	122.4
Social assistance	20.2	52.3	49.5	41.5	-	36.6
Social allowance	21.3	19.3	19.4	19.4	26.0	20.7

Source: Author's calculations based on the SFIE.

Table 7.16 shows that social insurance and occupational retirement schemes are highly earnings-related, in that a higher transfer goes to higher income households. In fact, these transfers are employment-related and the payment is calculated from a final or insured salary (see Table 2.8). Social allowances provide a transfer (about one-fifth of poverty line) to the elderly whether poor or rich. Indeed, this transfer is more or less a universal programme. Only social assistance scheme could provide a substantial amount of transfer (about one-third of poverty line) towards the elderly. However, the bottom quintile recipients have received relatively lower social assistance transfer than other quintiles. On the other hand, it should be noted that this transfer has uplifted the officially defined poor elderly into as far as the 4th quintile. For those remaining in poverty, this is probably due to the inadequate transfer provided and a large pre-transfer poverty gap.

Effectiveness

The effectiveness of poverty reduction by type of scheme is shown in Table 7.17.

Table 7.17: Effectiveness of social security transfers on poverty rates among the elderly recipients by scheme (%)

Social security scheme	Poverty status		% of reduction
	Poor before transfers	Post-transfer poor	
Social insurance	11.2	10.2	**8.9**
Occupational retirement scheme	35.5	1.9	**94.6**
Social assistance	38.5	15.4	**60.0**
Social allowance	30.5	16.5	**45.9**

Source: Author's calculations based on the SFIE.

The results suggest that about 95% of the pre-transfer poor elderly would be non-poor due to occupational retirement schemes. However, this is due to the nature of occupational pension scheme which normally serve as a major income source for those receive them. On the other hand, though social insurance could also be seen as a means of combating income poverty, less than one-tenth (8.9%) of the elderly recipients have been lifted from poverty by this transfer. By contrast, the percentage of poverty reduction through social allowance schemes (45.9%) is quite high which is not far from social assistance (60%). This suggests that social allowances in Taiwan have proved to be an effective measure for poverty reduction among the pre-transfer poor elderly, in addition to social assistance.

Conclusion

Chapter 7 show that independent elderly people, rather than the co-residing elderly and the non-elderly, were the main beneficiaries of social security in 1996. And a significant proportion of independent elderly had a high dependency of household income from social security transfers. Social security has proved to be a tool which can significantly reduce poverty rate, poverty gap and income inequality among the elderly, especially independent elderly. However, the social security transfer was rather inefficient since a substantial amount of social security transfers went to the well-off independent elderly in excess of what they strictly need. There is also a regressive distribution, where social security transfers to the low-income independent elderly alone could hardly prevent them from falling into poverty, unlike for the well-off independent elderly. This shows that Taiwan's current social security system displays problems of inadequacy, inequity and low efficiency.

It appears that, in 1996, social security transfers alone could have in principle eliminated all elderly poverty if the efficiency could have been improved. Such a low efficiency can be partly explained by the fact that schemes such as occupational retirement payments and social insurance schemes are earnings-related and a higher transfer goes to higher income households. In addition, these two schemes are not designed to remove poverty but to maintain living standards of eligible elderly persons at comfortable levels. Among the four major social security schemes, social allowances were the most important social security scheme for the elderly (in terms of coverage, benefit levels and poverty reduction) in 1996. However, many well-off elderly could also access these benefits and a considerable amount of these transfers have been wasted in targeting the well-off elderly. In contrast, the social assistance scheme, which could provide a progressive distribution of transfers, had extremely low coverage among the elderly.

CHAPTER 8: CONCLUSION

Introduction

This chapter is divided into four sections. Section A presents the major findings of the research in terms of the aims set out in Chapter 4, that is, to address some of the most pressing issues relating to familial support, social security and the changing economic status of the elderly in Taiwan. Sections B and C discuss the limitations of this research and recommendations for future research are also discussed. Finally Section D takes a wider perspective, both in terms of an evaluation of the research itself and its implications for Taiwan's future social security policy.

Section A: Major findings

The purpose of this section is to relate the findings of the data analysis to the three questions set out in Chapter 4, in order to draw out some overall conclusions.

1) How well have the elderly fared in Taiwan's rapidly changing society compared with the non-elderly population?

Although the ultimate goal of this study is the evaluation of social security programmes, the differences in economic status among the elderly are also themselves of interest. Most of our information on economic status in Taiwan comes from studies based on a restrictive definition of income which suggest that the economic status of many Taiwanese elderly over time was precarious at best though it had improved by 1996. However, there has not been a study so far concerning other aspects of economic status, such as assets and the ownership of consumer durables. In addition, our approach supposes that the well-being of the elderly population as a whole is the true subject of interest, rather than that of previous studies which often regarded the "elderly" only as households headed by elderly.

In agreement with most other recent studies, this study shows a less favourable status for the elderly's median equivalent income (household disposable income per adult equivalent) relative to the non-elderly. However, this study shows a more favourable economic position for the elderly after the inclusion of assets. Even the low-income elderly (i.e. in the bottom income quintile) cannot simply be regarded as poor since they had higher median equivalent assets (assets per adult equivalent) than those of the non-elderly over the period 1976-1994. In particular, low-income elderly couples could potentially remain at current income levels twice longer than the low-income non-elderly in the event of economic adversity. However, it should be noted that one-tenth of independent elderly (lone elderly or elderly couples) were "doubly poor" having inadequate income to meet normal minimal needs and inadequate assets to meet minimal interruptions of normal income flow in 1994.

The elderly are not a homogenous group in terms of their economic status. Although lone elderly and elderly couples tended to have the same income poverty rate between 1976 and 1996, elderly couples have shown an improved picture of economic status with the addition of assets and consumer durables to the income measure. The asset indicator can give a significant boost to elderly couples' economic status, while there was a worse picture for lone elderly, and a slightly improved one for co-residing elderly (the elderly in an extended family) in 1994. Correspondingly, lone elderly experienced significantly higher triple-poverty conditions (based on indicators from income, assets or consumer durables) than elderly couples in 1994.

In summary, the current income measure is an incomplete indicator of economic well-being; an overall measure should take account of all the economic resources (income, assets and consumer durables) that the elderly are likely to possess. By these measures, the elderly's economic status in

Taiwan has deteriorated against that of the non-elderly over the period 1976-1996. Extended families have been shown to have a direct effect on the level and stability of the elderly's economic position (in terms of income, assets and consumer durables), as well as providing a direct shield against poverty (based on these three economic indicators) for the elderly over the period 1976-1996. Thus, the extended family appears to be the most economically secure living arrangement for the elderly in Taiwan over time.

2) How extensive is familial support from children to the elderly?

In Taiwan, though the strong norms of filial piety have long had a direct effect on the economic security of the elderly, the rapid decline in fertility and the declining habit of co-residence with married children have cast doubts on the possibility of future reliance on children. Most empirical studies of poverty assume in Taiwan an equal sharing of resources between all household members. In such studies, household members are assumed to "pool" their individual resources and these pooled resources are redistributed equally based on need. Although it has been argued that the equal sharing of resources assumption is not realistic, there has not yet been a study in Taiwan to assess how unequal sharing (in a form of intra-household transfers) could affect the measurement of the elderly's poverty.

According to our findings, the majority of co-residing elderly appeared to improve their income levels through such transfers: over two-thirds of co-residing men and 96% of co-residing women improved their income level through intra-household transfers. About 73% of the co-residing elderly are *significantly* better-off by intra-household transfers. In addition, the existence of intra-household transfers was also very effective in helping co-residing elderly (nine out of ten) to avoid poverty between 1976 and 1996. This suggests the economic incentive is a highly probable primary factor for co-residence among the elderly, in particular for women.

As discussed in Chapter 6, intra-household transfers are notional, assuming living standards are shared by all co-residents. This is obviously not always the case, but the assumption of shared standards has been the only feasible working assumption. The conventional method of poverty measurement can lead to a serious under-estimate of elderly poverty (in particular for elderly women) if there is unequal income sharing in an extended family. Moreover, for women in elderly couples, they are at risk of sharp income drops in the event of none or unequal income sharing, or the death of their husband.

With respect to inter-household transfer, the independent elderly still received a substantial amount of such transfers in 1996, though this transfer as a proportion of household income declined significantly (in particular for female lone elderly) over the period 1976-1996. The low-income independent elderly only received inter-household transfer amounting to a quite small fraction of the poverty line while this transfer alone was enough to prevent poverty among well-off lone elderly women. Nevertheless, inter-household transfers have played a crucial role in preventing poverty for independent elderly people, though the effectiveness on poverty reduction has declined between 1976 and 1996. This shows that although family-centred policy for the elderly was very effective among the well-off elderly, the low-income (bottom quintile) elderly are at risk, and the pooling process has become less effective in tackling poverty over time.

In terms of total familial support (the sum of intra-household transfers and inter-household transfers), the co-residing elderly received more than the independent elderly. This suggests that there is still a strong economic incentive for the elderly to live with their children. At least 86% of the pre-transfer poor co-residing elderly had been lifted out of poverty in 1996 by this transfer, which was higher than for the independent elderly. The results suggest that co-residence with families can still be regarded as the most effective way to avoid poverty. Despite some of the limitations of this study, we tentatively presented a direct examination of inter-household and intra-household transfers as a means of examining the economic role of familial support. This analysis suggests that familial support was still substantial up to 1996, but its share in household income was decreasing over the period 1976-1996.

3) What was the relationship of social security programmes to the income security of the elderly?

By 1996, Taiwan had already implemented four major social security schemes including social insurance, occupational retirement payment schemes, social assistance and social allowances. These schemes are supposed to have had a substantial impact on the income position of the elderly. Although previous studies have examined the distribution and adequacy of social security in relation to the income of the elderly, other questions about the impact of Taiwanese social security such as its effectiveness (in reducing poverty and income inequality) and efficiency (the degree to which social security actually helps in taking households out of poverty), have in the past been unanswered. Moreover, the effects of individual social security schemes towards the elderly's income position have also been ignored.

The results found in Chapter 7 show that independent elderly people, rather than the co-residing elderly and the non-elderly, were the main beneficiaries of social security (in terms of benefit level) in 1996. And a significant proportion of independent elderly had a high dependency of household income from social security transfers. Social security has proved to be a tool which can significantly reduce poverty rate, poverty gap (the income shortfall relative to the poverty line) and income inequality among the elderly, especially independent elderly. However, the social security transfer was rather inefficient since a substantial amount of social security transfers went to the well-off independent elderly in excess of what they strictly need. There is also a regressive distribution, where social security transfers to the low-income independent elderly alone could hardly prevent them from falling into poverty, unlike for the well-off independent elderly. This shows that Taiwan's current social security system displays problems of inadequacy, inequity and low efficiency.

It appears that, in 1996, social security transfers alone could have in principle eliminated all elderly poverty if the efficiency could have been improved. Such a low efficiency can be partly explained by the fact that schemes such as occupational retirement payments and social insurance schemes are earnings-related and are not designed to remove poverty but to maintain living standards of eligible elderly persons at comfortable levels. Among the four major social security schemes, social allowances were the most important social security scheme for the elderly (in terms of coverage, benefit levels and poverty reduction) in 1996. However, many well-off elderly could also access these benefits and a considerable amount of these transfers have been wasted in targeting the well-off elderly. In contrast, the social assistance scheme, which could provide a progressive distribution of transfers, had extremely low coverage among the elderly.

Section B: Limitations of this research

Any findings of this study are constrained by the data used. In this thesis, the dataset – SFIE – not only provides data on household income levels, income sources (especially inter-household transfers and social security transfers), but also assets and consumer durables. Regarding the individual social security schemes, this survey includes data on all four social security schemes: social insurance and occupational retirement schemes, social assistance, and social allowance. It also indicates individual person's socio-economic characteristics, income level and income sources. These have allowed us to make a detailed examination of the questions set out in Chapter 4.

While this data set offers an excellent resource to explore the economic position of the elderly population, it could be more complete if some other economic indicators and factors were considered in the SFIE. With respect to assets, the SFIE does not fully exploit the potential for analysing the pattern of asset holdings since data concerning financial assets are only available for 1976, and there are no data at all on savings, and valuable personal possessions. Since there is no indicator regarding whether the occupational retirement payment is a pension or lump sum, the present value of the future stream of benefits (i.e. social security wealth) cannot be estimated from the SFIE. Concerning the value of consumer durables, the lack of the year of purchase for each item makes the estimation of the monetary values difficult. In addition, information regarding household debt (or liability) is still unmeasured today. As a result, we cannot examine either a person's total assets or their net worth (i.e. assets less liabilities) based on the SFIE.

Significant political commitments have been given to old age since 1993, culminating in the introduction of new social assistance schemes such as MLIELA and Veterans' Subsidies. The effect of these new schemes on the elderly is important, however no record concerning these benefits is made by the SFIE.

Section C: Recommendations for future research

Although there are several limitations regarding the SFIE as a data source, we still can use it in future research to improve our understanding of the economic status of the elderly and its relationship with familial support and social security. For example, it is important to consider not only cash but also non-cash transfers in order to fully appreciate the government's role in income distribution. This is because Taiwanese elderly are likely to receive a substantial amount of non-cash income from the government. According to the SFIE 1996, we could also evaluate the elderly's non-cash benefits arising from NHI services such as the "number of outpatients (visits)" or "days of hospital stay" (see Appendix A). It is similarly important to recognize that taxation policies have an important impact upon individual incomes and therefore cannot be considered entirely separately from the more direct income maintenance policies (Hill, 1990). The inclusion of such non-cash transfers and taxation relief can provide a more accurate guide, compared with the standard cash income measures, to the resources available to the elderly.

For the purposes of this study, the elderly were treated as a more or less homogeneous group. For the design of effective poverty alleviation policies, it is essential to have information about the characteristics of the most vulnerable and materially deprived members of the society. However, there is still much unknown about the characteristics of the elderly in relation to their economic status, familial support and social security. For example, the relationship between labour force participation, age (in particular those aged 80 and over), ethnicity, residential locality, and educational attainment are among the issues that require further examination. Measurement of the elderly's expenditure would be useful to avoid the problem of underreporting of income among the elderly population although there may also be under-reporting of expenditure - but this measure can provide a different view of economic status than the income measure can offer. Moreover, it would be desirable to work with data from the more recent years of the SFIE (i.e. post-1996 datasets).

The single-country study focus limits the possibility to effectively gauge the impact of social security policies on poverty. Variation over time of many other potentially important factors – particularly demographics and the state of the economy – makes it difficult to isolate the effect of social security on poverty. There is a general consensus that comparative analysis can be very enlightening in the study of the adequacy of social security systems. As Hill (1996: 39) puts it, “comparative studies have a key role to play in disentangling interactions of this kind (between social policy input and actual outcomes), which cannot necessarily be easily identified in a study of one country”. A cross-national approach would be very useful in this respect, to compare the impacts of the Taiwanese social security system with some other countries.

Moreover, the knowledge of how public transfers affect private cash transfers is also important (Biddlecom et al., 2001). While the connection between private and public transfers could prove critical to gauge the effectiveness of public income redistribution, assessing this connection is more possible in countries such as Taiwan with less developed public income transfer systems while private transfers are still substantial. Knowing the magnitude and responsiveness of private transfers can be important in setting priorities for government subsidies. Subsidies are more effective when targeted to those with little or no access to private transfers. How far these changes in social security for the elderly result in a reduction of familial economic support is a question which can be further explored in the future.

Section D: Policy Implications

As mentioned in Chapter 2, the competition between candidates of different parties in national and local elections has benefited the elderly population since 1993. Although Taiwan has not yet become a welfare state compared with Western countries, the force of democratisation has increased the possibility of a Taiwanese welfare state arriving via public opinion (Ku, 1997). According to election promises in the 1997 county commissioner and city mayor elections, Premier Hsiao Wan-Chang announced that the government would introduce the National Pension Scheme (NPS) by 2000[95] (Ku and Chen, 2001). President Chen Shui-bian promised a universal Old Age Allowance in his election campaign for the 2000 presidential elections. This means-tested allowance scheme (NT$ 3,000 a month) has been implemented since 2002. It has benefited around 440,000 elderly previously not eligible for any retirement payment in Taiwan.

Jacobs (1998) points out that Taiwan's total social welfare spending is

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[95] The proposed scheme was delayed by a lack of funds after the Earthquake in 1999. Nevertheless, the Taiwanese government is likely to implement the NPS sooner or later due to the pressure of delivering an election promise to voters (Ku and Chen, 2001).

expected to increase significantly even without any major policy change[96]. The proposed NPS would replace the current universal old age allowance and give a monthly *Welfare Pension* (NT$ 3,000) to any elderly person who is not currently qualified to receive any retirement payment. This forthcoming NPS will also significantly increase welfare spending. As the government is under great pressure to develop future social security policies since the Asian financial crisis in 1997 and the Earthquake in 1999, it is increasingly important for it to target welfare expenditure more efficiently.

Although Taiwan has already implemented four major social security schemes for old age benefits, we should notice that relieving poverty is certainly not the primary aim of some social security schemes, in particular for social insurance and occupational retirement payments. Nevertheless, this study has found that in 1996 there was a substantial amount of Old Age Allowance and Old Age Farmer Allowance which did not target the poor elderly. Moreover, Biddlecom et al. (2001) have pointed that Old Age Farmer Allowance has led to a significantly decreased reliance by the elderly on transfers from children (i.e., a "crowding out" effect). Biddlecom et al. (2001) also concluded that there has been little effect due to Old Age Allowance, because of its lower coverage and benefit level. Thus, we should expect a decreasing reliance on transfers from children due to the new *universal* Old Age Allowance or the implementation of the NPS.

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[96] A younger population means lower spending on old age pensions and health care. Taiwan does have a less aged population than Japan and Western countries but it is ageing fast (as shown in Table 1.1).

In order to avoid the crowding out effect and to target the poor elderly more efficiently, it is important for the government to consider tightening the criteria for Old Age Farmer Allowance. On the other hand, instead of giving a "means-tested" Old Age Allowance or Welfare Pension, these benefits could be replaced by the MLIELA. Although we cannot analyse the impact of MLIELA from the SFIE dataset, Ku et al. (1997) suggest that 80% of the recipients felt that the benefits have improved their living standards and 70% of them were satisfied. In view of the fact that the elderly were still twice as likely to fall into poverty than the non-elderly over the period up to 1996, this study suggests the government ought to consider the increase of the coverage for receiving MLIELA.

Although a wider social security coverage from MLIELA transfers might cause children to cut back on private transfers to their retired parents, it should be noted that the criteria for receiving MLIELA is that the elderly persons' household income is 2.5 times below the official poverty line. Additionally, the criteria also include the *possible* resources from the claimants' children (living together or separately). In other words, the elderly who apply for MLIELA are do not have any children, or their children are too poor to help them. As a result, the crowding out effect on the MLIELA may not be significant. However, since the eligibility criteria for receiving social assistance are very tight, many poor elderly are not qualified to receive this benefit at present.

The high proportion of extended families in Taiwan is an argument in favour of developing a hybrid system in which responsibility is shared between families and the state. This study found that the extended family can have a direct effect on the level and stability of the elderly's economic position, as well as providing a direct shield against triple-poverty conditions for the elderly. Thus, the integration of the family as part of a broader social security system is very important in Taiwan, and this study suggests that the family can be regarded by the state as part of a multi-pillar system for old-age security. Therefore, the Taiwanese government should provide more incentives such as tax relief to promote children towards co-residence and to increase the amounts of inter-household transfers to elderly parents.

This study shows a general weakening of filial bonds and, in particular, a weakening of familial economic supports that has taken place over time in Taiwanese society. In addition, the future elderly generation has shown a lower willingness to live with their children. The continuing decrease in fertility will make it difficult for future young generations to support their aged parents. Chang (1999) shows that (in 1996) only about one quarter (27.3%) of people aged 50-64 had ever prepared savings or other financial plans for their old age. The sense of insecurity for the elderly concerning their economic status is also demonstrated by the Survey of Elder's Living Circumstances, which shows more than 73% of the non-elderly (aged 15-64) in favour of the implementation of the NPS (MOI, 1997). This may indicate the depth of concern for old age economic security among the future elderly population. Thus, the non-familial approach through the NPS is most likely to be the future of the Taiwanese social welfare system.

APPENDICES

Appendix A: Brief Introduction to the Survey of Family Income and Expenditure 1996[97]

Population Coverage

The objects of the survey are individuals residing in Taiwan area and possessing the nationality of the Republic of China and the families formed by these individual.

Member of household

The members of the household consist of those who partake of the common living of the household and comprising the following cases:

1. Those who are officially registered under the household head, living in the Taiwan area and are:
   (1) Sending more than 50% of his/her personal income to fund the household.
   (2) Acquiring more than 50% of his/her personal consumption from the household.
   (3) Supplying more than 50% of the household expenditure.
2. Those who are not officially registered under the household head but

[97] This information is drawn from DGBAS (1997).

partake of the common living of household in accordance with (1) and (3) above.

Economic household head

The person in the household who earns the largest personal share of salary in family income is considered to be the economic household head. In case there is more than one such person in the household, the elder one is assumed the post; or, if all the members of the household are without any income, the registered household head is considered to be the economic household head.

Sample size

If a survey is large enough and if the sample of respondents providing data is carefully chosen, it can provide an objective and (in some sense) scientific picture of the broader society, provided standard tests of the statistical significance of the data have been met. As a matter of fact, one of the strengths of the SFIE data is the relatively large number of observations in the survey. A systematic sampling survey on the family income and expenditure in Taiwan started in 1964, and its history can be divided into six stages as follows:

Stage I (1964-1970): During this period, the survey was conducted every other year, and the size of samples - (as a fraction of total number of households) ranges from 0.13% to 0.16%.

Stage II (1972-1974): The frequency of the survey was changed to once every year, and the sample size was raised to 0.18%.

Stage III (1975-1977): The sample size was raised to 0.3%.

Stage IV (1978-1983): The sample size was raised to 0.4%.

Stage V (1984-1994): The number of samples fixed at 16,434 households.

Stage VI (1995): The number of samples was fixed at 14,706 households.

Stage VI (Since 1996): The number of samples has been fixed at 13,702 households.

Sampling method

The 1996 survey adopts a stratified two-stage sampling method. The Ts'un or Li is designated as the primary sampling unit, and the household is the secondary sampling unit. Ts'uns and Lis in places other than Taipei and Kaohsiung Municipality are classified into three "strata" - city, town, and village according to the employment structure in industry (determined by the household registration data). Criteria for the classification are as follows:

- A Ts'un or Li where workers engaging in agricultural, forestry, fishery, husbandry and mining account for 45% or more of total employment population is classified into the village stratum.
- A Ts'un or Li where workers engaging in agricultural, forestry, fishery, husbandry and mining account for less than 25% and those engaging in service industry not less than 40% of total employed population is classified into the city stratum.
- A Ts'un or Li not falling in the previous two strata is classified into the town stratum.

For the sample allocation, the Taiwan area is divided into three regions[98].

[98] They are Taipei municipality, Kaohsiung municipality and the Province of Taiwan (the rest of

There were 16 Hsiens and 5 cities in Taiwan province. Ts'uns and Lis of each Hsien/City are combined into three strata of city, town and village, according to the above criteria. In total, there are 44 city strata, 21 town strata, and 21 village strata in the Taiwan area. On the other hand, Taipei Municipality has 12 Ch'us and Kaohsiung Municipality has 11 Ch'us. All Lis in each Ch'u are classified into one city stratum. Samples allocated to these three regions are: 2,500 households in Taipei Municipality, 1,200 households in Kaohsiung Municipality, and 10,002 households in Taiwan Province.

Then, the samples of strata in each of the three regions are allocated by proportion. In the first stage sampling, 20% of Ts'uns or Lis in each stratum are drawn systematically. In the second stage sampling, the number of sampled household allocated for each sampled Ts'uns or Lis is determined by the sampled Ts'uns or Lis' number of households against that of it associated stratum. The average sampling rate in the second stage is near to 1.30%, and combining the two stages, the universal sampling rate is about 0.26%.

Taiwan and the Penghu Islands are administered together).

Survey method

Data are collected both by Interview survey and by diary survey.

Households to be interviewed

They are interviewed once a year, with inquiries designed to collect data on major items of annual income and expenditure.

Households required to do account-keeping

Besides being interviewed once a year, households are required to record all actual household income and expenditure item by item everyday. Meanwhile, fieldworkers are required to do regular inspection on the daily entries in order to prevent mistakes and omissions.

Interview data mainly come from the respondent's memory, and are therefore to discrepancy and omission, whereas account books are more accurate. However, account-keeping takes more survey manpower and money than interviews; so extensive application of the account-keeping approach is impossible. Only a small number of households are selected both to do account-keeping and to be interviewed. From this set of households, data obtained by the two approaches are compared, and the results used to check the results for all the households in the survey.

Appendix B: Selected Variables from the Code Book of the Survey of Family Income and Expenditure in 1996

A. Residential location

Geographical location indicator (any row; C1 C2): As a result, region of residence (i.e. a specific city or hsien).

Urban/rural indicator (any row; C3): A second geographical variable identifying another aspect of the location regarding city, town or rural area (1: city; 2: town; 3: rural area)

B. Household member (R2~20):

(1) Relation to the household head (C9 C10): 14 kinds of relations from own self, spouse, child, grandchild, parents, grandparents, brother or sister, children in law, grandchild in law, brother or sister in law, parents in law, brother or sister of spouse, other relative, others.

(2) Sex (C13): (1: male; 2: female)

(3) Age (C14 C15)

(4) Education attainment (C17 C18): illiterate, self-educated, primary school, junior high school, senior high school, vocational school, junior college, university or college, graduate school

(5) Graduate status (C19): 1: graduate; 2: dropout; 3: unschooled

(6) Employment classification by sector of activity (C20): 1: public enterprises; 2: general governments; 3: others

(7) Employment classification by industry (C21 C22): unemployed, agriculture, animal husbandry and hunting, forestry, fishing, miming, quarrying, manufacturing, electricity, gas and water, construction, commerce, transport or communication, insurance or finance or property, financial service, social service or personal service, public administration, or others

(8) Employment classification by occupation (C23 C24): unemployed, manager or department head, professionals, technicians or associate professionals, clerks, service workers, workers in fishing, farming, or machinery sector, low skill worker, current service man or woman.

(9) With part time work (C25): (1: yes; 2: no)

(10) Socio-economic status (C26 C27): agricultural employers, agricultural employees, non- agricultural employers, non- agricultural employees, salespersons, non-farming labourers, military personnel, others.

(11) Employment status (C28): employer, employee, and non-employed due to pre-primary school child (less than 6 years old), student, house wife, others (inc. the child without schooling and the elderly)

(12) Employment or not (C29): 1: employed; 2: non-employed; 3: employed from a person under 15 years old

(13) Income recipient (C30): 1: yes; 2: no

(14) Marital status (C31 C32): 91: single; 92: spouse living outside; 93: co-habit 94: divorced; 95: separated; 96: widowed

(15) No. of outpatient (C35 C36)

(16) Days of hospital stay (C37 C38)

C. Household equipment (R21)

(1) Colour television (C9 C10)

(2) Laser disc player (C11 C12)

(3) Film camera (C13 C14)

(4) Stereo (C15 C16)

(5) Radio and recorder (C17-18)

(6) Piano (C19 C20)

(7) Camera (C21 C22)

(8) Video tape recorder (C25 C26)

(9) Cable TV (C27 C28)

(10) Personal computer (C29 C30)

(11) Telephone (C31 C32)

(12) Car (C33 C34)

(13) Refrigerator (C37 C38) (1976-95 only)

(14) Air conditioner (C39 C40)

(15) Dehumidifier (C41 C42)

(16) Washing machine (C43 C44)

(17) Drier machine (C45 C46)

(18) Extraction fan (C49 C50)

(19) Gas geyser (C46 C47)

(20) Electric geyser (C48 C49)

(21) Oven (C57 C58)

D. Housing circumstance (R22):

(1) Tenure of dwelling: self-owned (C9), rented (C10), issued (C11), leased & others (C12)

(2) Usage of dwelling: residence only (C13), residence and other use (C14), others (C15)

(3) Piped water: independent usage (C23), sharing usage (C24), none (C25), paid by own self (C26), paid by employer or others (C27), paid by own self and employers (C28)

(4) Self-owned house loans: having house loans (C29), none (C30)

(5) Housing land area(pins) (C36 C37 C38) where 1 pin=3.3 ㎡

(6) Total room area (pins) (C39 C40 C41)

E. Income and outlay (from 1976 to 1994) (R23 ~99)

(1) Household or individual income variables

1. Gross wage and salary income from:

(1) All forms of cash and salary income, year-end bonus, lump sum or pension from retirement, overtime pay, insurance by employers, fringe and death benefits, etc.

(2) Income from second job

(3) Other income (imputed)

2. Entrepreneurial income from:

(1) Agricultural self-employment income

(2) Non-farm Self-employment income

(3) Others

3. Net property income from:

(1) Interest payments

(2) Investment income

(3) Rent of land

(4) Payment to use some right(s)

(5) Others

4. Imputed income

5. Current transfer receipts from:

(1) Children and other individuals

(2) Government

- Low-Income Household Aids
- Old Age Allowance
- Old Age Farmer Allowance
- Others

(3) Enterprises

- Social insurance
- Cash benefit from life and casualty

(4) Abroad

6. Miscellaneous income

Total receipts

(2) Non-consumption expenditure

1. Interest payments

(1) Payment for the acquisition of property

(2) Others

2. Current transfer expenditures to

(1) Private

- Expenditure of marriage, birth and funeral
- Charities
- Others

(2) Government

- House tax and land tax
- Income tax
- Other direct tax
- Others

(3) Expenditures on social insurance

(4) To abroad

(3) Consumption expenditure

1. Food
2. Beverage
3. Tobacco
4. Clothing and footwear
5. Rent and water charges
6. Fuel and lighting
7. Furniture and family facilities
8. Household operations
9. Medical care and sanitation
10. Transport and communication
11. Expenditure on recreation, education and culture
12. Miscellaneous expenditure
13. Total consumption expenditure

(4) Fixed assets (all Surveys included except 1995 and 1996)

1. Residual land
2. Private residence
3. Other buildings
4. Other assets

(1) Land

(2) Factories, warehouse, etc.

(3) Livestock or plants

(4) Transportation vehicles

(5) Machineries and equipment

5. Total amount

Appendix C: The Original Questionnaire of the Survey of Family Income and Expenditure 1996 (English Version)

Name of sampling householder: ______________ Address: ______________________
Name of household head: ______________

Standard Classifications of Statistical Area Ts'un or Li Code									

City or Hsien	Urbanization	Serial No. of First Sample	No. of Sample Household

Classification of Sampling Farm Household		
1. Farm household 2. Non-farm household	Grouped by Cultivated land	Grouped by full time or not

Interview Status

- ☐ 1. Original sampled registered household
  - Reason for substitution:
- ☐ 2. The sample registered household changing register to other address.
- ☐ 3. The sample registered household not living at the registered address.
- ☐ 4. Nobody at home
- ☐ 5. Refused
- ☐ 6. Address not existed
- ☐ 7. Other: ______________

1. Household Member

Item		Members living in the household: With the same household register as the household head										Members living in the household: With different household register to the household head				Members living outside with the same household register as household head			
Member code		1	2	3	4	5	6	7	8	9	10	31	32	33	34	51	52	53	54
Name																			
Relation to the household head																			
Sex																			
Age																			
Education	Educational attainment																		
	Graduate or not																		
Full time	public sector or not																		
	Industry																		
	Occupation																		
Part time																			
Socio-economic status																			
Employment status																			
Employment or not																			
Income recipient or not																			
Place of work																			
Married status																			
National health insurance	No. of outpatient																		
	Days of hospital stay																		
	Insured Persons status																		
	Who paid the premium																		
	Premium																		
Social Insurance (I)	Insured Persons status																		
	Insured month																		
Social Insurance (II)	Insured Persons status																		
	Insured month																		

2. Household Equipment

Equipment	Amount	Equipment	Amount	Equipment	Amount
1. Color TV set		11. Answering machine		21. Dishwasher	
2. Laser disk player		12. Fax machine		22. Exhaust fan	

Equipment	Amount	Equipment	Amount	Equipment	Amount
3. Movies camera		13. Modem		23. Vacuum cleaner	
4. Stereo		14. Sedan vehicle		24. Geyser	
5. Piano		15. Motor bicycle		25. Hot-warm water fountain	
6. Video game		16. Electro-magnetic oven		26. Microwave oven	
7. Video tape recorder		17. Air conditioner		27. Newspaper	
8. Cable TV		18. Dehumidifier		28. Magazine	
9. Personal computer		19. Washing machine		**Total Amount**	
10 Telephone		20. Drier			

3. Housing

(1) Tenure of dwelling ☐Self-owned ☐Rented ☐Issued ☐Leased & others

(2) Usage of dwelling ☐Independent ☐Connected ☐Others

(3) Style of building ☐One story ☐Two or three stories ☐Four or five stories ☐Six stories or over

(4)Piped water equipment ☐ possessed of ☐Not possessed of

(5)Self-owned house loans ☐Having house loans ☐None

(6)Parking lot ☐Self-owned ☐Rented ☐None

(7)Room numbers and area Room numbers____ Housing land area (pins):____ Total room area (pins):____

4. Income and Outlay

Part A:

Unit: Dollars

Item / Serial No. and amount / Income recipient	household head 1	2	3	4	5	6	7	8	Household income can not be taken apart to former income recipient	Sub-total amount
Code of member in household	**101**	**102**	**103**	**104**	**105**	**106**	**107**	**108**	**109**	**100**
1. Compensation of employee	**191**	**192**	**193**	**194**	**195**	**196**	**197**	**198**	**199**	**190**
(1) Full time payroll	211	212	213	214	215	216	217	218	219	210
(2) Part time and spare time payroll	221	222	223	224	225	226	227	228	229	220
a. Retirement pay	151	152	153	154	155	156	157	158	159	150
b. Other part time payroll	161	162	163	164	165	166	167	168	169	160
(3) Other receipts or subsides	231	232	233	234	235	236	237	238	239	230
a. Overtime pay	111	112	113	114	115	116	117	118	119	110
b. Awards	121	122	123	124	125	126	127	128	129	120
c. Insurance of GEI, LI, FHI, & SI by employers	131	132	133	134	135	136	137	138	139	130
d. Insurance of NHI by employers	701	702	703	704	705	706	707	708	709	700
e. Fringe & death benefits	141	142	143	144	145	146	147	148	149	140
2. Entrepreneurial income	**241**	**242**	**243**	**244**	**245**	**246**	**247**	**248**	**249**	**240**
(1) Agricultural & livestock income	261	262	263	264	265	266	267	268	269	260
(2) Net forest income	271	272	273	274	275	276	277	278	279	270
(3) Net fishing income	281	282	283	284	285	286	287	288	289	280
(4) Net operation surplus	291	292	293	294	295	296	297	298	299	290
(5) Net professional income	321	322	323	324	325	326	327	328	329	320
3. Net property income	**331**	**332**	**333**	**334**	**335**	**336**	**337**	**338**	**339**	**330**
(1) Interest income	341	342	343	344	345	346	347	348	349	340
(2) Investment income	351	352	353	354	355	356	357	358	359	350
(3) Others	361	362	363	364	365	366	367	368	369	360
4. Imputed rent income	**391**	**392**	**393**	**394**	**395**	**396**	**397**	**398**	**399**	**390**
5. Current transfer receipts	**411**	**412**	**413**	**414**	**415**	**416**	**417**	**418**	**419**	**410**
(1) From individuals	421	422	423	424	425	426	427	428	429	420

Item	1	2	3	4	5	6	7	8	Household income can not be taken apart to former income recipient	Sub-total amount
(2) From government	431	432	433	434	435	436	437	438	439	430
a. Low income household	301	302	303	304	305	306	307	308	309	300
b. Old-age allowance	311	312	313	314	315	316	317	318	319	310
c. Old-age farmer annuity	371	372	373	374	375	376	377	378	379	370
d. Insurance of GEI, LI, FHI, & SI by goverment	201	202	203	204	205	206	207	208	209	200
e. Insurance of NHI by goverment	951	952	953	954	955	956	957	958	959	950
f. Others	381	382	383	384	385	386	387	388	389	380
(3) Benifit of social insurance	451	452	453	454	455	456	457	458	459	450
a. Benefit of GEI, LI, FHI, and SI	981	982	983	984	985	986	987	988	989	980
b. Benefit of NHI	941	942	943	944	945	946	947	948	949	940
(3) From enterprises	441	442	443	444	445	446	447	448	449	440
a. Cash benefit of life and casualty insurance	461	462	463	464	465	466	467	468	469	460
b. Others	471	472	473	474	475	476	477	478	479	470
(4)From abroad	481	482	483	484	485	486	487	488	489	480
6. Miscellaneous receipts	**491**	**492**	**493**	**494**	**495**	**496**	**497**	**498**	**499**	**490**
Total receipts	**401**	**402**	**403**	**404**	**405**	**406**	**407**	**408**	**409**	**400**

Part B:

Unit : Dollars

Income recipient Serial No. and amount / Item	household head 1	2	3	4	5	6	7	8	Household income can not be taken apart to former income recipient	Sub-total amount
1 Interest.	**541**	**542**	**543**	**544**	**545**	**546**	**547**	**548**	**549**	**540**
(1)House loans	511	512	513	514	515	516	517	518	519	510
(2)Others	521	522	523	524	525	526	527	528	529	520
2. Current transfer expenditures	**561**	**562**	**563**	**564**	**565**	**566**	**567**	**568**	**569**	**560**
(1)To private	571	572	573	574	575	576	577	578	579	570
a. Expenditure of marriage, birth and funeral	551	552	553	554	555	556	557	558	559	550
b. Charities	171	172	173	174	175	176	177	178	179	170
c. Others	181	182	183	184	185	186	187	188	189	180
(2)To government	581	582	583	584	585	586	587	588	589	580
a. House tax and land tax	591	592	593	594	595	596	597	598	599	590
b. Income tax	611	612	613	614	615	616	617	618	619	610
c. Other direct tax	621	622	623	624	625	626	627	628	629	620
d. Others	631	632	633	634	635	636	637	638	639	630
(3)Social insurance	641	642	643	644	645	646	647	648	649	640
a. Expenditure on GEI	651	652	653	654	655	656	657	658	659	650
b. Expenditure on LI	661	662	663	664	665	666	667	668	669	660
c. Expenditure on Farmer's health insurance	671	672	673	674	675	676	677	678	679	670
d. Expenditure on Fisherman's health insurance	851	852	853	854	855	856	857	858	859	850
e. Expenditure on SI	861	862	863	864	865	866	867	868	869	860
f. Expenditure on NHI	681	682	683	684	685	686	687	688	689	680
(4)To abroad	691	692	693	694	695	696	697	698	699	690
Nonconsumption expenditure	601	602	603	604	605	606	607	608	609	600

Note: If the transfer receipts are the major receipts in your household, please give the right code for the Hsien (City) where you have obtained transfer receipts:____________

5. Consumption Expenditure

Unit : Dollars

Item	Serial No.	Amount
1. Food	**710**	
(1) Main food	711	
(3) Dairy	723	
(4) Fruits	724	
(5) Others	725	
(6) Gifts	726	
(7) Board	727	
2. Beverage	**730**	
(1)Non-alcoholic	731	
(2) Alcoholic	732	
3. Tobacco	**740**	
4. Clothing and footwear	**750**	
(1) Clothing	751	
(2)Footwear	756	
5. Rent and water charges	**760**	
(1)Rent		
a. Actual paid	761	
b. Imputed rent of self-owned	762	
c. Imputed rent of issued and leased	763	
(2)Repairs	764	
(3)Water charge	765	
(4)Household premiums	766	
6. Fuel and lighting	**770**	
(1)Electric rate	771	
(2) Gas	775	
(3) Others	777	
7. Furniture and family facilities	**780**	
(1) Furniture	781	
(2) Textile furnishing	782	
(3)Durable household equipment	783	
(4) Others	784	
8. Household operations	**790**	
(1) Domestic servants	791	
(2) Service to family	792	
(3)Other household operations	793	
9. Medical care and sanitation	**810**	
(1) medical equipment and instruction	811	
(2) Treatment in hospital, hospital service, and health insurance	812	
(3) Expenditure of medical article	813	
(4) Personal accident and medical premiums	814	
(5) Medical consumption of NHI	816	
10. Transport and communication	**820**	
(1) Purchase of personal transport equipment	821	
(2) Expenses on operations and maintenance of personal transport equipment	822	
(3) Purchase transportation	823	
(4) Other communications	824	
(5) Motor vehicle premiums	825	
11. Expenditure on recreation, education and culture	**830**	
(1) Traveling expenses	831	
(2) Recreation service	832	
(3) Newspaper, magazine and stationery	833	
(4) Recreation facilities	834	
(5) Expenditure on education, culture and researches	835	
12. Miscellaneous expenditure	**840**	
(1) Other goods not listed anywhere	841	
(2) Financial service	842	
(3) Personal care	843	
(4) Barber and bath	844	
(5) Food, beverage and tobacco in restaurant, ballroom	845	
(6) Gifts (food exclusive)	846	
(7) Miscellaneous expenses	847	
(8) Other non-saving premiums	848	
Total Consumption Expenditure	**800**	

6. Capital Gain or Loss

Unit : Dollars

Item	Serial No.	Amount
1. Capital gain	806	
2. Capital loss	807	

7. Capital Transfers

Unit : Dollars

Item	Serial No.	Amount
1. Capital transfers received	808	
2. Capital transfers paid	809	

Appendix D: The Original Questionnaire of the Survey of Family Income and Expenditure 1996 (Chinese Version)

附錄四、八十五年調查表格式

樣本名冊戶長姓名 ________ 住址 ________

經濟戶長姓名 ________

統計地區分類村里編號				農牧戶樣本戶分類		
行政區代號	鄉別代號	村里代號	樣本戶序號	1.農牧戶 2.非農牧戶	耕地面積分組	專業兼業分組

一、戶口組成

項目		戶內人口代號	與之經濟戶長關係	性別	年齡	教育程度別	畢業或肄業	本業			兼業別	社會經濟特性編號	從業身分	就業別編號	所得收入者編號	工作地點	婚姻狀況	全民健保					社會保險			
								部門別	行業別	職業別								門診次數	住院日數	健保身分別	繳健保費者	健保費用	投保身分I	投保月數I	投保身分II	投保月數II
(一)與戶長同戶籍者	①共同・生活者	01																								
		02																								
		03																								
		04																								
		05																								
		06																								
		07																								
		08																								
		09																								
		10																								
	②非共同生活	51																								
		52																								
		53																								
		54																								
與戶長非同戶籍但共同生活者		31																								
		32																								
		33																								
		34																								

二、家庭設備

名稱	數量	本年內購置費	修理及保養費	使用費	名稱	數量	本年內購置費	修理及保養費
彩色電視機				租購碟片費全年約___元①	電磁爐			
錄影機				沖洗費全年約___元②	冷暖氣機			
攝影機				購買唱片、錄音帶全年約___元③	除濕機			
音響				①+②+③= 838	洗衣機			
鋼琴(含電子琴)				租購錄影帶費及有線電視月租	烘衣機			
電視遊樂器				費每月___元× 12= ___元④	洗碗機			
錄放影機				租購軟體色帶、滑鼠等相關設	排油煙機			
有線電視頻道(含小耳朵)				備全年約___元⑤ ④+⑤= 836	吸塵器			
家用電腦				電話費(扣除營業用)___元⑥	熱水器			
	計		837	其他通訊費(傳真機傳輸費、轉	開飲機			
電話機				寫紙、網路租用費等)全年合計	微波爐(含烤箱)			

答錄機			約___元⑦ ⑥+⑦= 829		計	785
傳真機			汽車汽油費___元 A	報紙		
數據機			汽車全年通行費及停車費___元 B	期刊雜誌		
汽車(cc)			機車汽油費___元 C		計	969
機車(cc)			機車全年通行費及停車費___元 D	數量合計		
	計	826	827 A + B + C + D = 828			

三、住宅概況

請在相當欄位內「✓」填

1.住宅所屬	自有		租押		配住		其他(含借用)	
2.用　途	專用住宅		併用住宅		其　他			
3.建築式樣	平房		二至三層樓		四至五層樓		六層樓以上	
4.自來水設備	有		無					
5.現住自宅房屋貸款	有		無		6.有車者之停車位	自有	租借	無
7.住宅面積	房間數	房 廳	計 間		佔地	坪	建坪	坪

四、記載事項

1.耕地面積_____公頃_____公畝

2.禽畜現有數：

大型動物：乳牛_____頭、肉牛_____頭、種牛_____頭、鹿_____頭。

中型動物：豬_____頭、羊_____頭。

小型動物：雞_____隻、鴨_____隻、鵝_____隻、兔_____隻。

3.

農業收支	農業耕種禽畜牧農產加工	林業	漁業
淨收入			

4.換戶原因：(請在相當欄位內「✓」填。)

	原樣本戶	本戶若為更換戶換戶原因					
		戶籍遷出	戶籍仍在人住他處	調查期間無人在家	拒絕回答	地址已不存在	其他(請說明)
42	1	2	3	4	5	6	7

備註：

5.受訪問者姓名_______________電話號碼_______________

6.本戶如雇有員工(不含家庭佣人)雇用人數計_________人。

7.若本戶主要收入為移轉收入，則填列其收入來源縣市代號______。

8.本戶人口數計______人。

9.如有房屋貸款(不限現住屋)，則每月負擔房貸本利金額______元。

10.是否有房屋出租 住家用 營業用 住家營業兩用 無

五、經常性收入

	經濟戶長 1	2	3	4	5	6	7	8	家庭部分	合計
戶內人口代號	101	102	103	104	105	106	107	108	109	100
一、受雇人員報酬	191	192	193	194	195	196	197	198	199	190
1.本業薪資	211	212	213	214	215	216	217	218	219	210
2.兼業薪資	221	222	223	224	225	226	227	228	229	220
(1)退休金	151	152	153	154	155	156	157	158	159	150

(2)其他兼業薪資	161	162	163	164	165	166	167	168	169	160
3.其他收入	231	232	233	234	235	236	237	238	239	230
(1)加班費、值班費	111	112	113	114	115	116	117	118	119	110
(2)各類獎金	121	122	123	124	125	126	127	128	129	120
(3)雇主負擔公、勞、農、軍保費	131	132	133	134	135	136	137	138	139	130
(4)雇主負擔健保費	701	702	703	704	705	706	707	708	709	700
(5)福利、撫卹金等	141	142	143	144	145	146	147	148	149	140
二、產業主所得	**241**	**242**	**243**	**244**	**245**	**246**	**247**	**248**	**249**	**240**
1.耕種及畜牧淨收入	261	262	263	264	265	266	267	268	269	260
2.林業淨收入	271	272	273	274	275	276	277	278	279	270
3.漁業淨收入	281	282	283	284	285	286	287	288	289	280
4.營業淨收入	291	292	293	294	295	296	297	298	299	290
5.執行業務淨收入	321	322	323	324	325	326	327	328	329	320
三、財產所得收入	**331**	**332**	**333**	**334**	**335**	**336**	**337**	**338**	**339**	**330**
1.利息收入	341	342	343	344	345	346	347	348	349	340
2.投資收入(股息、紅利)	351	352	353	354	355	356	357	358	359	350
3.其他財產所得收入	361	362	363	364	365	366	367	368	369	360
四、自用住宅及其他營建物設算租金(扣除折舊費)	**391**	**392**	**393**	**394**	**395**	**396**	**397**	**398**	**399**	**390**
五、經常移轉收入	**411**	**412**	**413**	**414**	**415**	**416**	**417**	**418**	**419**	**410**
1.從私人	421	422	423	424	425	426	427	428	429	420
2.從政府	431	432	433	434	435	436	437	438	439	430
(1)低收入戶生活補助	301	302	303	304	305	306	307	308	309	300
(2)老人津貼	311	312	313	314	315	316	317	318	319	310
(3)老農津貼	371	372	373	374	375	376	377	378	379	370
(4)政府補助公、勞、農、軍保費	201	202	203	204	205	206	207	208	209	200
(5)政府補助健保費	951	952	953	954	955	956	957	958	959	950
(6)其他(災害救助等)	381	382	383	384	385	386	387	388	389	380
3.社會保險受益	451	452	453	454	455	456	457	458	459	450
(1)公、勞、農、軍保保險受益	981	982	983	984	985	986	987	988	989	980
(2)健保保險受益	941	942	943	944	945	946	947	948	949	940
4.從企業	441	442	443	444	445	446	447	448	449	440
(1)人身意外災害保險現金受益	461	462	463	464	465	466	467	468	469	460
(2)其他(其他保險現金受益、中獎)	471	472	473	474	475	476	477	478	479	470
5.從國外	481	482	483	484	485	486	487	488	489	480
六、雜項收入	**491**	**492**	**493**	**494**	**495**	**496**	**497**	**498**	**499**	**490**
所得收入總計	**401**	**402**	**403**	**404**	**405**	**406**	**407**	**408**	**409**	**400**

六、經常性支出

I 非消費支出

	經濟戶長 1	2	3	4	5	6	7	8	家庭部分	合計
一、利息支出	**541**	**542**	**543**	**544**	**545**	**546**	**547**	**548**	**549**	**540**
1.房屋貸款利息	511	512	513	514	515	516	517	518	519	510
2.其他(含合會)	521	522	523	524	525	526	527	528	529	520
二、經常移轉支出	**561**	**562**	**563**	**564**	**565**	**566**	**567**	**568**	**569**	**560**
1.對私人	571	572	573	574	575	576	577	578	579	570
(1)婚喪壽慶禮金	551	552	553	554	555	556	557	558	559	550
(2)公益慈善捐款	171	172	173	174	175	176	177	178	179	170
(3)其他	181	182	183	184	185	186	187	188	189	180
2.對政府	581	582	583	584	585	586	587	588	589	580

(1)房屋稅、地價稅	591		592	593	594	595	596	597	598	599		590	
(2)綜合所得稅	611		612	613	614	615	616	617	618	619		610	
(3)其他直接稅	621		622	623	624	625	626	627	628	629		620	
(4)其他	631		632	633	634	635	636	637	638	639		630	
3.社會保險	641		642	643	644	645	646	647	648	649		640	
(1)公保保費支出	651		652	653	654	655	656	657	658	659		650	
(2)勞保保費支出	661		662	663	664	665	666	667	668	669		660	
(3)農保保費支出	671		672	673	674	675	676	677	678	679		670	
(4)漁保保費支出	851		852	853	854	855	856	857	858	859		850	
(5)軍保保費支出	861		862	863	864	865	866	867	868	869		860	
(6)健保保費支出	681		682	683	684	685	686	687	688	689		680	
4.對國外	691		692	693	694	695	696	697	698	699		690	
非消費支出總計	**601**		**602**	**603**	**604**	**605**	**606**	**607**	**608**	**609**		**600**	

II 消費支出

項　目	各項目包括內容例示	編號
一、食品費合計		710
1.主食品	全年米、米製品___元，麥麵___元，雜糧___元，農牧戶自種自食設算___元。	711
2.副食品	全年肉類___元，魚貝及水產品___元，蔬菜類___元，蛋類___元，油脂類___元，調味品類___元。農牧戶自種自食設算___元。	715
3.乳酪類	奶粉平均每月___罐，每罐___元，訂購鮮牛、羊奶每月___元，其他奶製品，如奶油、煉乳、養樂多.....等全年___元。	723
4.水果類	每天(星期)購買水果___元，自種自食設算___元，其他加工水果與乾果全年___元，檳榔每天___元。	724
5.其他	平均每月(年)茶___元，咖啡、可可___元，砂糖(方糖)___元，糖果、冰淇淋等其他糖類___元。	725
6.婚生壽慶喪祭宴費	凡上列各類食物因婚生壽慶喪祭及地區性拜拜而增加購買金額。	726
7.在外伙食費	平均每月在外用膳或搭伙___元，營養午餐___元，幼稚園點心___元，偶而在外用膳全年約___元。	727
二、飲料費合計		730
1.非酒精性	平均每月(年)汽水、沙士、可樂、礦泉水___元，果汁及其他不含酒精性之飲料___元。	731
2.酒精性	平均每月(年)紹興酒、啤酒、高粱酒、白葡萄酒、水果酒、米酒及其他公賣局出品之各種酒類及進口洋酒___元。	732
三、菸草費合計	金龍牌、寶島牌、總統牌、長壽牌及其他公賣局出品之各種菸類及進口洋菸，平均___天一包，每包___元。	740
四、衣著類合計		750
1.衣著類	男用衣著___元，女用衣著___元，童用衣著___元，衣著修補費___元。	751
2.鞋襪及雜用品類	鞋___元，襪___元，擦鞋費___元，修補費___元，帽子、領帶、皮帶、雨傘、雨衣、鈕扣、手套、拉鍊等___元。	756
五、房租及水費合計		760
1.房地租毛額		
a.實付	每月房租___元×租賃期間___月，戶內人口長期在外就學就業之住宿費___元，地租___元。	761
	自有房屋及其他自用營建物之房地租設算。	762
b.設算	借住或配住房屋之房地租設算：借用___元(是否已過錄移轉收入)；配住___元(是否已過錄本業薪資)。	763
2.住宅裝修費	塌塌米換面、門窗、屋頂、地板、銷、爐灶之建材裝修費___元，電燈及電氣、自來水、瓦斯設備之裝修費___元。其他有關住宅、庭園裝修費___元，油漆、粉刷___元，壁紙等設計裝修費___元。	764
3.水費	平均每二個月自己實付自來水費___元。	765
4.自用住宅、居家設備	自用住宅保險保費___元，居家設備保險保費___元，其他營建物保險保費___元。	766

及其他營建物保險費		
六、燃料及燈光合計		**770**
1.電費	平均每二個月實付電費夏天 ___元，冬天 ___元；其他家用乾電池 ___元。	771
2.氣體燃料	天然氣平均每月___元，或桶裝瓦斯___天使用一桶，重量___公斤，每桶___元。	775
3.其他	木炭、原子炭、煤炭、煤球、焦炭、煤油、酒精、柴薪、農作物廢品。	777
七、家具及家庭設備合計		**780**
1.家具設備	全年購買及修理桌子___元，椅子___元，沙發___元，櫥櫃___元，床___元，鏡___元。嬰兒保育用品(小床、推車) ___元，雕刻、油畫等陳設物 ___元。	781
2.家用紡織類用品	購買及修理床(被)單 ___元，棉被胎 ___元，蚊帳 ___元，毛毯 ___元，窗帘 ___元，地毯___元，毛巾桌布 ___元，其他遮蓋布、綑包用品 ___元。	782
3.家庭耐久設備	購買及修理流理台___元，烹飪用具___元，飲用水過濾器___元，縫紉機___元，打蠟機___元，脫水機___元，電冰箱 ___元，果菜汁機 ___元＋ □ (785)。	783
4.家庭其他用具	購買碗筷___元，茶杯等玻璃器皿___元，熱水瓶___元，椅墊___元，其他奶瓶、奶嘴、杯墊、盆等陶磁器 ___元，電燈泡、電線 ___元，草蓆 ___元。	784
八、家事管理合計		**790**
1.家庭佣人	幼童保姆費(901) □ 元，家庭炊具．整潔僱工工資及其他佣人等費用(含大廈管理費)計(902) □ 元	791
2.對家庭服務	全年房屋之清理打臘 ___元，衣服之送洗 ___元，家庭用品之儲藏及搬運費用 ___元。	792
3.其他家庭管理支出	耐久程度有限的家庭用品，如洗衣粉一個月___包，每包___元，洗衣肥皂___元，全年漂白劑___元，洗碗精 ___元。手電筒、火柴、蠟燭、樟腦 ___元，清潔劑元，殺蟲劑___元，洗滌器、刷子、掃帚___元。家用紙製品、補鼠器、鎚秤___元，家用織物之修補整理洗染等工資 ___元，看家犬購置 ___元。	793
九、保健及醫療合計		**810**
1.醫療用具設備及器材	復健用義肢、義眼、助聽器、輪椅、矯正鞋、身高體重器、按摩器、血壓器、沖牙機、隱型眼鏡、遠近視眼鏡、拐杖之購置費 ___元。 醫療設備修理與租用費、其他耐久性醫療器具及設備之購買費等 ___元。	811
2.住院診療及非受雇醫院醫護服務	一、實際支付之 1.牙醫一般門診費___元。 2.假牙、鑲牙及矯正費等___元。 3.西醫門診費___元。 4.中醫門診費___元。 5.生產費用___元。 6.住院診療費___元。 7.慢性療養院、安養院(如老人、植物人等)、月子中心、居家照護等費用___元。 8.檢驗院、放射線院等費用___元。 9.民俗醫療費用(如傳統跌打損傷、收驚、問病或治病乩童紅包、香灰錢等___元。 二、醫生證明書費___元。	812
3.醫療用品支出 (包括中西藥在內)	1.西藥(如消炎藥、感冒藥、咳嗽藥、外用藥膏或藥水、口服液、抗生素、避孕藥、生理食鹽水、家庭常用各類成藥等，共 ___元。 2.中藥(如當歸、人參、四物、四神、十全大補、枸杞等中藥材與方劑，或傳統中藥成藥及科學濃縮中藥等)，共 ___元。 3.醫療保健用品(如體溫計、冰枕、急救箱、繃帶、尿液試紙、保險套、驗孕紙等)，共 ___元。	813
4.人身意外災害醫療保險	學生平安保險保費(含自付額及政府補助部分) ___元 。其他人身意外險、醫療險(如防癌險)保費 ___元	814
5.健保就診消費		816
十、運輸交通及通訊合計		**820**
1.個人交通通訊工具之購置	自行車之購置費 ___元，對講機、呼叫器之購置費 ___元＋ □ (826)。	821
2.個人交通設備使用管理及保養費	零件附屬品、輪胎 ___元＋ □ (827)＋ □ (828)。不包括因旅遊而增加之汽油費、停車費、通行費等)。	822
3.搭乘交通設備之費用(車資雜費)	全年搭乘汽車每月 ___元，火車___元，計程車___元，船___元，飛機___元(含通勤、通學等車資)。行李運費、保管費 ___元。	823
4.其他通訊費	明信片、郵票、郵資不足罰款___元，電報費___元，公共電話費___元＋ □ (829)	824
5.汽、機車保險費支出	汽車保險保費___元，機車保險保費___元。	825
十一、娛樂消遣及教育文化支出合計		**830**

1.旅遊費用	觀光、遊覽、旅行、郊遊、登山露營之交通費(包括門票費)、住宿費、餐飲費、保險費，國內(921) □ 元，國外(922) □ 元。	831
2.娛樂消遣服務	1.運動相關費用：個種競賽之門票____元，支付各種球類運動、騎馬、海水浴等費用____元，合計____元。 2.其他娛樂消遣：平均每月看電影____元，各種音樂會、跳舞之門票____元，各種展覽會、電動玩具遊樂費____元＋ □ (836)，合計____元。	832
3.書報雜誌文具	全年購買各項筆墨、水彩____元、書包____元，帳本、筆記本____元，聖誕卡、祝賀卡、信封、信紙____元，文具(含學生用文具)及各種紙張____元、兒童讀物、零買書刊____元，合計____元，報紙及期刊雜誌 □ (969)元。	833
4.消遣康樂器材	全年購買收錄音機__元，照相機__元，底片及沖洗費__元，照像簿、集郵費__元，小提琴__元，樂器__元，花卉與種植園圃之費用__元，飼養禽畜之費用__元，遊艇及小艇、狩獵、釣魚用具__元，運動用具之購置__元，玩具__元＋ □ (837)＋ □ (838)	834
5.教育與研究費	就學補習費 □ (903)元，各項技藝補習費 □ (904)元。托兒所保育費(905)元，幼稚園保育費 □ (906)元，家庭教師費 □ (907)元。子女就學之學雜費、教科書、參考書、講義費____人____元，教學用錄影、音帶及空白磁片元，及其他費用計 □ (908)元。	835
十二、什項消費合計		**840**
1.不屬前述各項之其他財貨	全年購買鐘錶____元，金飾手鐲寶石____元，打火機____元，太陽眼鏡____元，其他各種首飾及修理費____元。	841
2.金融服務	包括與金融機構交易往來之各種手續費支出、匯費、經紀人佣金，以及投資之諮商等費用，申購股票處理費____元。	842
3.人身保養及整潔	牙膏、牙粉、牙刷、牙線平均每月__元，洗髮精(粉)、潤絲精平均每月__元，化妝用品如口紅、乳液、化妝水、粉餅、滋養霜、指甲油等全年__元，香皂每月__塊，每塊__元，衛生紙、衛生棉、紙尿布每月__包，每包__元，刮鬍刀__元，髮油(男女)__元。	843
4.理髮及沐浴	男士理、燙髮一年____次，每次____元，洗髮一個月____次，每次____元，小孩理髮____元，其他有關費用如按摩費____元。女士理、燙髮一年____次，每次____元，洗髮一個月____次，每次____元，修指甲費每次____元，美容費____元。	844
5.餐館舞廳等場所食品飲料菸草	平均每月花費於餐館、咖啡廳、茶館、舞廳、酒家、旅館等場所之各項支出(包括食物、點心、菸酒飲料等，但不包括因旅遊而發生餐飲及住宿費)____元。	845
6.婚生壽慶喪祭費(不包括食品費)	媒人禮___元，道士、僧尼、相卜之禮金___元，因婚生壽慶喪祭而發生之各種費用如交通費___元，臨時雇用之傭工費___元，結婚證書費___元，法院證婚費___元，死亡診斷書費___元，婚喪登報費、因婚生喪祭壽宴支付之雜項支出___元，棺材墓碑墓地購買費___元，埋葬或火葬費___元，金銀紙、線香、爆燭___元。	846
7.其他什項費用	印名片費，各項證明文件相片費及其申報登記費___元，代書費___元，訴訟費___元，各種賠償費___元。印鑑證明、各種證明書費___元，登報費以及不屬其他科目之雜項支出___元。	847
8.其他非儲蓄性保費支出	定期壽險保費___元，藝術品意外損失險保費___元，其它非儲蓄性保險保費___元。	848
消費支出總計		**800**
經常性支出總計		**＝600＋800**

七、資本損益

資本性收益	有價證券交易利得、出售資產、不動產交易盈餘	**806**	**資本性損失**	有價證券交易損失、出售資產、不動產交易及意外災害損失	**807**

八、資本移轉收支

資本移轉收入	遺產、固定資本設備捐贈、各種災難重建之補助或救濟收入	**808**	**資本移轉支出**	遺產、固定資本設備捐贈、各種災難重建之補助或救濟支出	**809**

九、特殊項目記錄：最近三個月購買生鮮食品(含蔬菜、水果、魚介、肉類)之場所比率：(請取整數)

場所	傳統市場		超級市場		蔬果量販店		其他		比率
品名	編號	比率%	編號	比率%	編號	比率%	編號	比率%	合計
蔬果	923		924		925		926		100
魚肉	927		928		929		930		100

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