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Seminar on Socioeconomic Impact of Demographic Transition in Selected Asian Countries

인구구조 변화의 사회경제적 영향에 관한 국제 세미나

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Contents

I. SUMMARY

BACKGROUND

Korea is standing at a juncture in the history of demographic aging, a world phenomenon that is as much inevitable and irreversible as globalization. The speed of demographic aging is faster in Korea than it has been in any other OECD countries. Also, Korea's total fertility rate is way below the replacement level of 2.1, and it will not be long until Korea enters the group of aged societies where those aged 65 and over take up more than 14 percent of the population. Under these circumstances, it would be impossible to over-emphasize the importance of discussing what impact demographic changes would have on our society and economy.

Demographic change means a lot more than just numbers and statistics. The problem of demographic aging will not go away by expanding health and welfare programs for the elderly population, because aging is intricately interwoven with poverty, employment and social insurance, just to mention a few.

Improving programs for the elderly population is a hard task. But no less difficult is addressing the urgent need for to keep the economy buoyant, promote fertility, and encourage elderly people to participate in the labor market.

In this regard, the Korea Institute for Health invited experts from home and abroad to: discuss and share experiences with regard to the issue the socioeconomic impact of demographic transition; elaborate on the relationship between population and the quality of life and; create a forum for finding implications and policy strategies for future course of action.

II. OPENING CEREMONY

Welcoming Remarks

Dr. Soon-il Bark
President
Korea Institute Health and Social Affairs

발표자, 토론자, 내외귀빈 여러분,

먼저, 한해를 마무리하는 중요한 시기에 아까운 시간을 할애하시어 이 자리에 나와 주신 여러분께 깊은 감사를 드립니다.
Especially, I want to deliver special thanks for foreign experts who came from remote countries to present their excellent papers.

오늘 세미나는 한국보건사회연구원과 결연관계에 있는 외국기관의 연구자들을 초청해 인구고령화 및 저출산과 관련된 사회경제적 문제점을 논의하고 지혜를 모아 제도 개선에 도움이 될 시사점을 숙고하기 위해 마련된 자리입니다.
오늘날 세계화를 두고 흔히들 누구도 거스를 수 없는 현상이라고 하시는데 인구고령화 또한 누구에게나 필연적인 인류공동의 세계적 현실입니다.

12 월 6 일자 Newsweek 지는 60 세 이상 세계 인구는 현재의 6 억 6 백만명에서 2050 년 20 억명으로 3 배 이상 증가한다고 보도하였습니다. 노인의 수가 아이들의 수보다 많아져 노인사회가 된다는 것입니다.

우리나라에서 고령화 문제가 예고된 것도 오래 전 일입니다. 아마 90 년대가 시작되기 전이 아닐까 싶습니다. 주지하시다시피, 우리나라의 출산율은 2003 년 1.19 로 인구 대체수준을 밑돌아도 한참 밑돕니다. 여기에 더해 계속해서 늘어나는 기대여명이 더해져 우리나라는 지금껏 그 어느 국가가 경험한 것보다도 빠른 속도로 고령화되어 가는 실정입니다. 이 속도로 볼 때 한국이 고령화 사회 대열에서 벗어나 전체 인구의 14 퍼센트 이상이 65 세 이상 인구라는 고령사회로 진입하기까지는 그리 멀지 않습니다. 이런 상황에서 인구고령화 문제에 관한 논의의 중요성은 아무리 강조해도 지나치지 않을 것입니다.

여러분,
인구고령화와 저출산에 대한 대비책을 마련하는 데 있어 인구변화의 패턴을 단순히 수치나 통계로만으로 읽어서는 안 될 것입니다. 고령인구를 위한 의료나 복지제도를 개

선하고 확장한다고 해서 문제가 해결되지는 않습니다. 고령화는 빈곤, 보건, 고용, 사회보험등과 수많은 요소들이 구조적으로 복잡하게 맞물려 있기 때문입니다.

예컨대, 연금 급여 지불 능력의 위기와 같은 보건복지 문제는 물론, 노인에게 적합한 주거 시설, 거리 등의 생활시설과 같은 물리적 환경이 변화할 것입니다. 90%의 노인이 소규모 개량된 주택에서 거주할 것이 예상되므로 이에 따른 주택 산업에도 큰 변화가 예상됩니다. 또한 치매, 시력 및 청력의 저하 등에 대응한 의료서비스 산업 중심의 변화, 거동불편노인을 위한 각종 보조기기의 개선 등으로 인해 보건 의료 서비스 및 기기는 새로운 산업으로 발전될 가능성을 보이고 있습니다.

그러나 다른 한편으로는 고령인구를 위한 각종 복지의료 급여에 대한 수요가 늘어나 재정불안이 빚어지는 가운데 국가와 국민의 경제적 부담은 더욱 커지고 세대간 형평성 문제도 더욱 크게 불거질 수밖에 없습니다. 이렇게 보면 사회경제 전반에 걸쳐 긍정적이든 부정적이든 어느 하나 인구고령화와 무관한 것이 없습니다.

우리에게 주어진 일은 경제적 부양력을 유지하기 위해 새로운 인구 현상을 이용하는 동시에, 제도를 착실히 닦아 고령인구의 생활을 지원하고, 고령인구의 노동시장 참여를 촉진해 국가 노동력 약화를 막고, 출산을 장려하는 제도적 장치를 마련하는 것입니다.

존경하는 발표자, 토론자, 그리고 내외귀빈 여러분,
오늘 우리는 우리나라, 중국, 태국, 일본의 여러 전문가를 모시고 인구와 삶의 질 간의 관계를 성찰하고, 서로의 경험을 통해 배우고, 고령화의 난국을 타개해 나갈 지혜와 전략을 나누는 기회를 가질 것입니다.

저는 오늘 하루의 배움이 단숨에 해결책을 제시하리라고는 기대하지 않습니다. 설익은 해법 보다는 배움이라는 장기전에서 겸허하고 신중한 일보 전진을 기대합니다. 그리고 앞으로도 인구고령화 및 관련 분야에서 중국, 태국, 일본과 한국 간의 공동연구와 세미나가 더욱 더 활발해질 수 있기를 기원합니다.

발표자와 토론자는 물론, 방문해주신 귀빈들께서도 아무쪼록 건설적인 의견 많이 내어주셔서 미래 한국을 준비하는 데 더불어 힘을 모아주시길 부탁드립니다.

감사합니다.

III. SESSION I :

THE SOCIOECONOMIC IMPACT OF DEMOGRAPHIC CHANGES IN KOREA

Socioeconomic Impact of Population Aging

Dr. Meesook Kim
Korea Institute for Health and Social Affairs

I. Introduction

Due to the expansion of life expectancy and low fertility rate, Korea faces problems of population aging. Population aging, which means the proportion of people aged 65 and over reaches at a certain level, causes various socio-economic problems.

Korea has become an aging society in 2000, when the proportion of the elderly consists of 7% of the total population. In 2003, the elderly population account for 8.3%, 3.97 million persons. It is expected that in 2019 Korea will become an aged society with the proportion of the elderly being 14% (Korea National Statistical Office, 2002). With the development of high health and medical technology, the speed of Korea's aging will be faster than other developed countries. It is estimated that it will take only 19 years for Korea to advance from aging society to aged society, whereas France took 115 years, the United States, 115 years, Italy, 61 years, and Japan 24 years (Korea National Statistical Office, 2001).

Since Korea is experiencing fast population aging without timely preparation, and even though she can prepare it in advance, the fast population aging brings unprecedented social problems that Korea ever had experienced. Most developed countries had already faced financial shortage of pension funds, high health care costs, and high demand for social care.

What we need to take into account is in that not the size of elderly population itself is a direct cause of social problems, but the proportion of them. As long as the size of the younger generation is not so small, the size of elderly population does not burden society that much. However, low fertility is occuring at the same time of aging of population, social problems aggravates.

Population aging burdens not only elderly themselves, but also society as a whole. Most developed countries has already experienced population aging and its problems 20 to 40 years ago with strategic policies whose success is yet to be evaluated. However, Korea is at the beginning stage of the preparation. In this paper, we discussed Korea's population aging trend, and its impact on society. In doing so, we can come up with some policies by which we can deal with population aging based social impact and shock.

II. Population Aging in Korea

1. Population Aging

Population aging means that the proportion of the elderly is increasing (Park, , 2003). According to OECD, population aging defines as the younger generation becoming older generation (OECD, 1998). The UN defines young society where aged 65 and over consists of 4%, matured society, 4 ~ 7%, and aging society, 7%, and aged society, over 7% (Hauser, 1976). In general, aging society means society where the proportion of the elderly is 7% and over, and aged society, 14% and over.

The United Nations Population Division(2002) summarized the characteristics of world population aging as follows. First, population aging happens unprecedently and brings forth a decrease of the young generation. In 2050, the size of the elderly population will become bigger than the young generation. Second, population aging is worldwide phenomenon. Almost every country experiences the increase of elderly population as well as the increase of proportion to the economically active population. This population aging causes general conflict in dividing the limited social and natural resources.

Third, population aging variously affects society. Economically, it influences economic growth, savings, investments, labor market, pension system, taxation, and generational transfers. Socially, it affects health care system, family structure, housing and moving pattern. Politically, it changes voting behaviors. Finally, population aging is an ongoing phenomenon. It has started in the 20th century, but will continue to exist to the next century.

2. Population Aging Trend

In Korea, the elderly population consists only 2.9% in the 1960s, 3.07% in the 1970s, and 3.82% in the 1980s (See Table 1). In the 1990s, it has reached at 5.12%, and in 2000, 7.2% (3,395,000 persons), becoming aging society.

The elderly population continues to grow, and in 2003 it accounts for 8.3% (3,969,000 persons) of the total population. In 2019, the elderly populations will become 14.4% (7,034,000 persons), by which Korea will be aged society (KNSO, 2001). In 2026, Korea will become a super-aged society, where the elderly population consists of over 20% of the total population (KNSO, 2001).

Table 1. Korea population size by age

(unit: year, persons, %)

Year	Population	0~14		15~65		65+		80+	
		size	rate	size	rate	size	rate	size	rate
1960	25,012	10,588	42.3	14,258	57.0	726	2.9	59	1.2
1970	33,241	13,709	42.5	17,540	54.4	991	3.1	101	1.3
1980	38,124	12,951	34.0	23,717	62.2	1,456	3.8	178	0.5
1990	42,869	10,974	25.6	29,701	69.2	2,195	5.1	302	1.7
1995	45,093	10,537	23.4	31,900	70.7	2,667	5.9	382	0.8
2000	47,008	9,911	21.1	33,702	71.7	3,395	7.2	483	1.0
2010	49,594	8,552	17.2	35,740	72.1	5,302	10.7	957	1.9
2020	50,650	7,034	13.9	35,948	71.0	7,667	15.1	1,805	3.6
2030	50,296	6,217	12.4	32,475	64.6	11,604	23.1	2,571	5.0
2040	48,204	5,522	11.5	28,149	58.4	14,533	30.1	4,241	8.8
2050	44,337	4,650	10.5	24,416	55.1	15,271	34.4	5,591	12.6

Source: KNSO, 『Estimation of the Future Population』, 1996, 2001.

Population aging is revealed in median age. As shown in Table 2, median ages was 18.5 in 1970, 21.8 in 1980, 31.8 in 2000. In the course of 30 years, it has increased by 13.3 years. It is expected that it will keep increasing: in 2010, 37.5, in 2020, 42.8, and in 2030, 47.7.

Table 2. Korea's Median Age

(Unit: years)

	1970	1980	1990	2000	2010	2020	2030
Total	18.5	21.8	27.0	31.8	37.5	42.8	47.7
Male(A)	17.9	21.2	26.3	30.8	36.4	41.4	46.0
Female(B)	19.2	22.4	27.7	32.7	38.6	44.4	49.3
Differece(B-A)	1.3	1.2	1.4	1.9	2.3	3.0	3.3

Source: JNSO, 『Estimation of the Future Population』, 1996, 2002, p50.

The increase of the elderly population is brought by the expansion of life expectancy through the development of state-of-the-art health and medical technology and the low fertility rate. Life expectancy in Korea was only 52.4 in 1960, 63.2, in 1970, 65.8 in 1980, 71.6, in 1990, and 75.9, in 2000 (See Table 3). In 2010, it will increase to 78.8, 80.7 in 2020, 81.5 in 2030, 82.3 in 2040, and

83.2 in 2050.

Table 3. Life Expentancy

	1971	1981	1991	2000	2010	2020	2030	2050
Mean(years)	62.3	66.2	71.7	75.9	78.8	80.7	81.5	83.0
Male(A)	59.0	62.3	67.7	72.1	75.5	77.5	78.4	80.0
Female(B)	66.1	70.5	75.9	79.5	82.2	84.1	84.8	86.2
Difference (B-A)	7.1	8.3	8.2	7.4	6.7	6.5	6.5	6.3

Source: KNSO, 『Estimation of the Future Population』, 2001, p51.

The total fertility rate (TFR) was 6.0 in 1960, but decreased to 3.0 in 1970 and 2.0 in 1990 due to the Korea government's successful family planning (see Table 4). In 2003, it is now 1.19, which is much lower than several OECD countries such as Germany (1.34) and Japan (1.34) whose TFR is lower than most of other OECD countries, as shown in Table 5. It is expected that in the future Korea's TFR will slightly increase but remain at the level of 1.3, which is far below the population substitution level, 2.08.

Table 4. TFR Trend

구분	1960	1974	1982	1990	1999	2000	2005	2010	2020
TFR	6.0	3.6	2.7	1.6	1.42	1.47	1.37	1.36	1.37

Source: Kim, 『The Impact of Low Fertility on Socio-economic situation and Policy Issues』, KIHASA, 2002.; KNSO, 『Estimation of the Future Population』, 2001.

Table 5. TFR in several OECD countries

contry (year)	Korea ('99)	Germany ('98)	France ('98)	Sweden ('98)	Japan ('99)	U.K. ('98)	Canada ('96)	US ('98)	Australia ('98)
TFR	1.42	1.34	1.75	1.51	1.34	1.72	1.66	2.06	1.76

Source : KNSO, 『Annual Review on Population』, 1999.

Korea's population aging speed is much faster than any other developed countries. As seen in Table 6, it took 115 years for France where population aging has already reached as early as in the 1900s to advance from aging society to aged society, for Italy, 61 years, for UK, 47 years, for Germany 40 years. As for Korea, it will take only 19 years to turn from aging society into aged society. This

aging speed is faster than that of Japan by 5 years whose aging speed is believed to be fastest in the world.

Table 6. OECD Countries' Speed of Population Aging

(unit: years)

Country		Year		Duration	
country	7%	14%	20%	7%→14%	14%→20%
country	(aging society)	(aged society)	(super aged society)	7%→14%	14%→20%
Korea	2000	2019	2026	19	7
Japan	1970	1994	2006	24	12
France	1864	1979	2020	115	41
Germany	1932	1972	2012	40	40
U.K.	1929	1976	2021	47	45
Italy	1927	1988	2007	61	19
U.S.	1942	2013	2028	71	15

Source: KNSO, 『Estimation of the Future Population』, 2001.

III. The Impact of Population Aging

Population aging gives challenged to the whole sectors of society. This social strain takes place not only at the micro level but also at the macro level (Suh, 1998, Park, 2003). What we need to pay attention here is not the increase absolute number of the elderly, but the increase of proportion of the elderly in the population pyramid. Since population aging and the low fertility rate change population structure, the portion of economically active population is getting smaller, imposing socio-economic burden on the society as a whole. Figure 1 summarizes social tasks in the era of population aging.

First, in the micro level, population aging affect individual and family's quality of life. At the macro level, we can divide it into three sectors: social, economic, and political. In the next section each level's tasks are discussed in detail.

1. Individual and Family Sector

Population aging may mean more burden not only to the aged themselves but also to the families who support them. To be vital in their old age, elderly individuals must be healthy and able to use their leisure time in a productive manner. Increases in the elderly population bring increases in very

old population. The number of those aged 80 and over in the elderly population has increased from 101 thousand in 1970 to 178 thousand in 1980, to 302 thousand in 1990 and to 483 thousand in 2000. The number is expected to rise to 957 thousand by 2010, 1.805 million by 2020, and 2.571 million by 2030. Not only do very old people have health problems but their sex ratio is unbalanced due to the difference in life expectancy between men and women. In short, the problem of aging is more prominent for women than for men. The sex ratio of male-to-female elderly population in 1970 was 50.3: 100, 33.6: 100 in 1980, 35.8: 100 in 1990 and 42.1 in 2000. The ratio is expected to increase to 49.5 by 2020 and 53.6 by 2030, with increases in life expectancy among men.

Figure 1. Tasks of the Aging Society by Dimension

Dimension	Sector	Tasks
Micro Dimension	Individual and Family Sector	■ Maintaining healthy life ■ Economic security after retirement ■ Active aging ■ Elder care and economic support ■ Intimate generational relations
Macro Dimension	Social Sector	■ Minimization of Generation Gap ■ Securing Productive population
Macro Dimension		
Macro Dimension	Economic Sector	■ Proper spending on social welfare and preparing the budget ■ Sustaining economic growth
Macro Dimension		
Macro Dimension	Political Sector	■ Ensuring the legitimacy of welfare state: minimization of political crisis due to welfare expenditure

Table 7. Sex Ratio of the Elderly by Age

(Unit: thousand, %, person)

Year	65 and over			70 and over			80 and over		
year	Popula-tion	percent	Sex ratio	Popula-tion	percent	sex ratio	Popula-tion	percent	Sex ratio
1970	991	3.1	70.0	563	1.7	68.8	101	0.3	50.3
1980	1,456	3.8	59.7	832	2.2	51.0	178	0.5	33.6
1990	2,195	5.1	59.8	1,294	3.0	52.6	302	0.7	35.8
2000	3,395	7.2	62.0	2,014	4.3	53.8	483	1.0	39.1
2010	5,302	10.7	69.7	3,514	7.1	62.1	957	1.9	42.1
2020	7,667	15.1	75.2	5,100	10.1	67.9	1,805	3.6	49.5
2030	11,604	23.1	78.3	7,892	15.7	72.4	2,571	5.1	53.6

Source: KNSO, 『Estimation of the Future Population』, 2001.

Note: Sex Ratio: (Number of male/Number of Female) × 100

Caregiving for elderly people is the responsibility of family members, among whom women— spouse (wife), daughter, daughter-in-law— predominate. However, while the number of very old people in need of family care is increasing, the function of family care is at risk due to the increase in women's economic participation. As aforementioned, Korea's fertility rate has been on the decline for quite sometime now, and many Korean families have either only one or two children, making it more difficult to provide care for elderly members in need of family care. Increase in the labor participation of married women and family nuclearization are making it more difficult to provide family care for elderly members.

During the last 30 years between 1970 and 2000, Korea has experienced rapid changes in its socioeconomic conditions. As to the change of family structure during this period, there was a steep increase in the number of couple-only families while the number of extended families decreased rapidly, as shown in Table 8. On the other hand, the percentage of households consisting of a couple with unmarried children remained more or less the same throughout the period. The employment rate among women increased dramatically from barely 36.3% in 1963 to 39.3% in 1970, 42.8% in 1980, 47.0% in 1980 and 48.3% in 2000. In the case of married women in particular, the employment rate increased from 40.0% in 1980 to 48.7% in 2000. Now that almost half of married women are engaged in economic activities, family care is likely to be put at risk.

Table 8. Household Structure Change

(Unit: %)

Year	Nuclear Family			Extended Family		Other types	Total
year	couple	couple with unmarried children	single parents with children	couple and parents	couple, parent, and children	Other types	Total
1970	5.4	55.5	10.6	1.4	17.4	9.7	100.0
1975	5.0	55.6	10.1	0.5	10.9	17.9	100.0
1980	6.5	57.4	10.1	0.6	10.6	14.8	100.0
1985	7.8	57.8	9.7	0.8	9.9	14.0	100.0
1990	9.3	58.0	8.7	0.9	9.4	13.8	100.0
1995	12.6	58.6	8.6	1.1	8.0	11.2	100.0
2000	14.8	57.8	9.4	1.1	6.8	10.1	100.0

Source: KNSO, 『Social Indicators in Korea』, 2001, p123.

As shown in Table 9, the percentage of extended families with three generations living together is expected to undergo rapid decreases from 7.3% in 2005 to 6.4% in 2010 and 4.7% in 2020, while proportion of single-person households is projected to increase sharply from 15.5% in 2000 to 21.5% in 2020.

Beside the problem of elderly people in general, there is also the problem of elderly people living alone. The households of elderly individuals living alone as a percentage of single-person households, 22.4% (554 thousand households) in 2000, is expected to rise to 29.4% (787 thousand households) in 2005, 33.6% (1.044 million households) in 2010, 36.9% (1.289 million households) in 2015, and 40.5% (1.578 million households) in 2020. (National Statistical Office, 2001).

Table 9. Estimation of Future Household Structure

(unit: %)

year	couple	couple+ children	single father+ children	single mother+ children	extended family	single	others	Total
2000	12.3	48.2	1.5	6.3	8.4	15.5	7.7	100.0
2001	12.6	48.0	1.5	6.3	8.1	15.8	7.6	100.0
2002	12.9	47.8	1.5	6.3	7.9	16.1	7.4	100.0
2003	13.2	47.5	1.5	6.4	7.7	16.4	7.3	100.0
2004	13.5	47.3	1.5	6.4	7.5	16.7	7.0	100.0
2005	13.8	47.1	1.5	6.4	7.3	17.0	6.0	100.0
2006	14.1	46.8	1.5	6.4	7.1	17.2	6.8	100.0
2007	14.5	46.5	1.6	6.4	6.9	17.5	6.7	100.0
2008	14.8	46.1	1.6	6.4	6.7	17.8	6.5	100.0
2009	15.1	45.8	1.6	6.4	6.5	18.1	6.5	100.0
2010	15.4	45.5	1.6	6.4	6.4	18.4	6.4	100.0
2011	15.7	45.1	1.6	6.4	6.2	18.7	6.3	100.0
2012	16.0	44.8	1.6	6.4	6.0	19.0	6.2	100.0
2013	16.3	44.5	1.6	6.4	5.8	19.3	6.1	100.0
2014	16.7	44.1	1.6	6.3	5.7	19.6	6.0	100.0
2015	17.0	43.8	1.6	6.3	5.5	19.9	6.0	100.0
2016	17.4	43.3	1.6	6.3	5.3	20.2	5.9	100.0
2017	17.7	42.9	1.6	6.3	5.2	20.5	5.9	100.0
2018	18.1	42.4	1.6	6.3	5.0	20.8	5.8	100.0
2019	18.5	42.0	1.6	6.2	4.8	21.1	5.8	100.0
2020	18.9	41.5	1.6	6.2	4.7	21.5	5.6	100.0

Source: KNSO, 『Estimation of the Future Household』, 2002, p190 ~ 202.

Table 10. Females' Labor Force Participation Rate

(unit: %)

year	male			female		
year	Total	Married	Unmarried	Total	Married	Unmarried
1963	76.4	-	-	36.3	-	-
1970	77.9	-	-	39.3	-	-
1980	76.4	88.9	52.4	42.8	40.0	50.8
1990	74.0	88.2	43.2	47.0	46.8	45.6
2000	74.0	84.3	50.2	48.3	48.7	47.0

Source: KNSO, 『Annual Report on Labor Force Participation』, Each yare since 1980.
KWDI, 『Annual Report on Statistics on Female』, 2001 (before 1970).

Table 11. Single Family Rate by Age

(unit: thousand households, %)

age	2000		2005		2010		2015		2020	
age	number	percent	number	percent	number	percent	number	percent	number	percent
below 25	248	10.9	246	9.2	233	7.2	251	7.2	237	6.1
25 ~ 64	1,468	64.7	1,644	61.4	1,842	59.2	1,953	55.9	2,082	53.4
65 and over	554	24.4	787	29.4	1,044	33.6	1,289	36.9	1,578	40.5
Total	2,270	100.0	2,677	100.0	3,109	100.0	3,493	100.0	3,897	100.0

Source: KNSO, 『Estimation of the Future Population』, 2001, p29.

Increases both in elderly people living alone and in older people mean an increase in those in need of social welfare services. According to Sunwoo et al. (2001), the number of elderly people in need of long-term care (home and community care and institutional care) in 2001 was 741 thousand, accounting for 20.9 percent of total elderly population. Among the elderly people aged 65 and over, 18.9% were in need of home and community care while 2.0% were in need of institutional care. This suggests that 90.5% of those in need of long-term care falls under the category of home and community care, and the remaining 9.5% under institutional care.

Table 12. Estimation of the Number of the Elderly in need of Social Service

(unit: persons, %)

	Home and Community Care		Institutional Care		Total	
	Severely Disabled	Disabled	Slightly Disabled	Sub-total	Institutional Care	Total
Total	59,704	70,971	539,955	670,630	70,333	740,962
Percentage of Long-term care Need Elderly	8.1	9.6	72.9	90.5	9.5	100.0
Percentage of the Elderly	1.7	2.0	15.3	18.9	2.0	20.9

Source: Sunwoo et al., 『A Survey on Long-term Care Demand and Policy Issues』, MOHW-KIHASA, 2001, p373.

Table 13 is a projection of the number of elderly people who will need long-term care. The proportion of those in need of long-term care is expected to be 20% (the ratio of those in need of home and community care to those in need of institutional care is 9 to 1) (Sunwoo et al., 2001). This is tantamount to saying that the number of elderly people in need of long-term care will increase by 40 thousand every year, from 741 thousand in 2001 to 911 thousand in 2005 and to 1.105 million in 2010.

Sunwoo et at. (2001) estimated the expenditure on elderly long-term care would rise in line with the increasing number of those in need of long-term care, from 6 trillion and 800 million won in 2001 to 10.1 trillion won in 2010 and to 14.6 trillion won in 2020.

Table 13. Estimation of Long-term Care Need

(Units: persons, %)

year	Home and community care				Institutional Care	Total	number of the elderly	percent of LTC
	Severely Disabled	Disabled	Slightly Disabled	sub-total				
2001	59,704	70,971	539,955	670,630	70,333	740,962	3,579,213	20.7
2002	63,558	75,554	574,816	713,928	74,364	788,292	3,772,454	20.9
2003	66,878	79,500	604,837	751,215	77,836	829,051	3,969,036	20.9
2004	70,281	83,544	635,617	789,442	81,398	870,840	4,171,016	20.9
2005	73,568	87,451	665,335	826,354	84,838	911,192	4,365,963	20.9
2006	77,082	91,618	697,032	865,722	88,454	954,176	4,573,965	20.9
2007	80,745	95,984	730,253	906,982	92,347	999,329	4,792,429	20.9
2008	83,980	99,830	759,512	943,322	95,732	1,039,054	4,983,750	20.8
2009	86,744	103,114	784,503	974,361	98,624	1,072,985	5,148,224	20.8
2010	89,339	106,199	807,973	1,003,511	101,338	1,104,849	5,302,095	20.8
2011	92,288	109,705	834,640	1,036,633	104,423	1,141,056	5,476,731	20.8

Source: Sunwoo et al., 『A Survey on Long-term Care Demand and Policy Issues』 MOHW·KIHASA, 2001.

KNSO, 『Estimation of the Future Population』, 2001 p60 (65 years old and over).

Table 14. Estimation of Institutional and Home Care Costs

(unit: million won, %)

Year	Institutional care	Home care	Frail elderly	Total	Percent
2001	655,884	2,392,867	3,761,275	6,810,026	100
2002	693,757	2,547,359	4,004,108	7,245,224	106
2003	726,381	2,680,400	4,213,230	7,620,011	112
2004	759,833	2,816,817	4,427,660	8,004,310	118
2005	792,126	2,948,507	4,634,660	8,375,293	123
2006	826,572	2,948,507	4,855,459	8,630,538	127
2007	862,673	3,088,976	5,086,873	9,038,522	133
2008	894,469	3,365,864	5,290,688	9,551,021	140
2009	921,628	3,476,618	5,464,780	9,863,026	145
2010	947,131	3,580,620	5,628,256	10,156,007	149
2011	976,112	3,698,803	5,814,024	10,488,939	154
2012	1,011,551	3,843,325	6,041,193	10,896,069	160
2013	1,046,143	3,996,625	6,282,161	11,324,929	166
2014	1,085,908	4,146,550	6,517,822	11,750,280	173
2015	1,119,856	4,284,992	6,735,436	12,140,284	178
2016	1,151,652	4,414,657	6,939,251	12,505,560	184
2017	1,192,888	4,582,815	7,203,573	12,979,276	191
2018	1,233,958	4,650,297	7,466,834	13,351,089	196
2019	1,280,327	4,939,392	7,764,063	13,983,782	205
2020	1,338,785	5,177,784	8,138,785	14,655,354	215

Source: Sunwoo et al., 『A Survey on Long-term Care Demand and Policy Issues』, MOHW·KIHASA, 2001

2. Social Sector

In the social sector, our task is to resolve the conflict between the old and young generations. Generational conflict is caused both by the differences in perspectives and values between them and limited resources which have to be divided in one way or the other. This can be resolved through emphasizing on the similarities between them by providing them with frequent contacts (Han, 2002).

In social sector, the more urgent problem resides on the decrease of the proportion of the

economically active population, aged between 15 and 64 years old. As shown in table 15, the proportion of the economically active population will maintain almost the same level, around 71%, until 2020. However, since then it will be decreased: 64.6% in 2030, 58.4%, 2040, 55.1% in 2050. Whereas, the proportion of the population aged between 50 and 64 years will increase to over 30%, that in the near future working people will be getting much older.

Table 15. Proportion Change of the Economically Active Population

(Unit: %)

Year	Total Population			Economically Active Population		
	0 ~ 14	15 ~ 64	65 and over	15 ~ 24	25 ~ 49	50 ~ 64
1970	42.5	54.4	3.1	33.3	52.3	14.4
1980	34.0	62.2	3.8	36.3	49.8	13.9
1990	25.6	69.3	5.1	29.6	54.4	16.1
2000	21.1	71.7	7.2	22.8	58.8	18.4
2010	17.2	72.1	10.7	18.3	56.8	25.0
2020	13.9	71.0	15.1	16.4	50.8	32.9
2030	12.4	64.6	23.1	14.8	49.1	36.0
2040	11.5	58.4	30.1	14.7	49.4	35.9
2050	10.5	55.1	34.4	15.4	47.0	37.6

Source: KNSO, 『The Estimation of the Future Population』, 2001.

The reduction of the economically active population results in low production rate, and burdens society in supporting the elderly. The elderly dependency ratio was 5.7 in 1970, and 10.2 in 2000, but will be 14.8 in 2010, 21.3 in 2020 (see Table 16). That is, the number of people to support one elderly will be continually decreasing. In the 1970s, 17.7 people supported one elderly, in 2000, 9.9, but in 2010 6.7 people will support one elderly, 4.7 in 2020, 2.8, in 2030, 1.9, in 2040, and 1.6, in 2050 Society will have much economic burden to support the elderly.

To supplement the shortages of the labor power, we can utilize available workers such as, elderly workers, foreign workers and female labor power. The labor force participation is active among the aged segment of between 20s to 50s, but it will drastically decrease when people reach at 65. In Korea, the labor force participation of the elderly aged 65 and over is only 39.7% for male and 22.4% for female (KNSO, 2001). According to 1998 a survey by KIHASA, the proportion of the healthy and active elderly was over half of the respondents, 52.3% (KIHASA, 1998). For the healthy and active elderly, opportunities for labor force participation should be expanded, which

will provide the elderly with economically independent life without much social isolation or rolelessness.

Table 16. Elderly Dependency Ratio(1960 ~2050)

(unit: persons)

Year	Child Dependency Ratio	Elderly Dependency Ratio	Total Dependency Ratio	Aging Index	Number of Supporter per elderly
1960	77.3	5.3	82.6	6.9	18.9
1970	78.2	5.7	83.9	7.2	17.7
1980	54.6	6.1	60.7	11.2	16.3
1990	36.9	7.4	44.3	20.0	13.5
1995	33.0	8.3	41.4	25.2	12.0
2000	29.4	10.1	39.5	34.3	9.9
2010	23.9	14.8	38.8	62.0	6.7
2020	19.6	21.3	40.9	109.0	4.7
2030	19.1	35.7	54.9	186.6	2.8
2040	19.6	51.6	71.2	263.2	1.9
2050	19.0	62.5	81.6	328.4	1.6

Source: KNSO, 『The Estimation of the Future Population』, 2001.

In Korea, since workers avoid low waged and unfavorably conditioned industry, where foreign workers are substituted. The number of foreign workers including both legal and illegal, has reached 240 thousand people in 2000 (DOL, 2000). In particular, in the so called 3D industries foreign workers are employed. In the future, the labor power shortage can be more filled by them.

Female can be another source of labor power. Korea woman's labor force participation rate is not as high as that of the developed countries. In Korea woman's childbearing and childrearing period has been shortened due to the low fertility rate, and many women are equipped with high quality human capital of education and skills. However, in society there are still prejudice against women's labor force participation, which lowers their economic participation. With gender equitable values, the women's labor force participation rate can be boosted.

3. Economic Sector

It is expected that population aging brings forth high health care costs and pension fund. The

sickness rate of the elderly is higher than the other age groups, and in the OECD countries the per capital health care spending of the elderly is 2 to 5 times higher than that of the other age groups. In particular, the health spending of the old-old, aged over 75 years, is 5 to 6 times higher than the other age groups. The increase of health care spending may result in financial crisis of the health insurance system. In 2000, health care costs account for 5.4% of GDP, but will increase to 9% in 2020, the same level of the other developed countries (Kim and Chang, 2001).

Moreover, population aging affects both pension revenue and expenditures (Lee, 2001). As population aging proceeds, the proportion of the workers who contribute to pension fund is decreasing. However, due to the increase of the pensioner, it is expected that pension expenditures will be higher than pension revenue.

Table 17. The Estimation National Pension Fund

(unit: 100 million won, thousand persons, %)

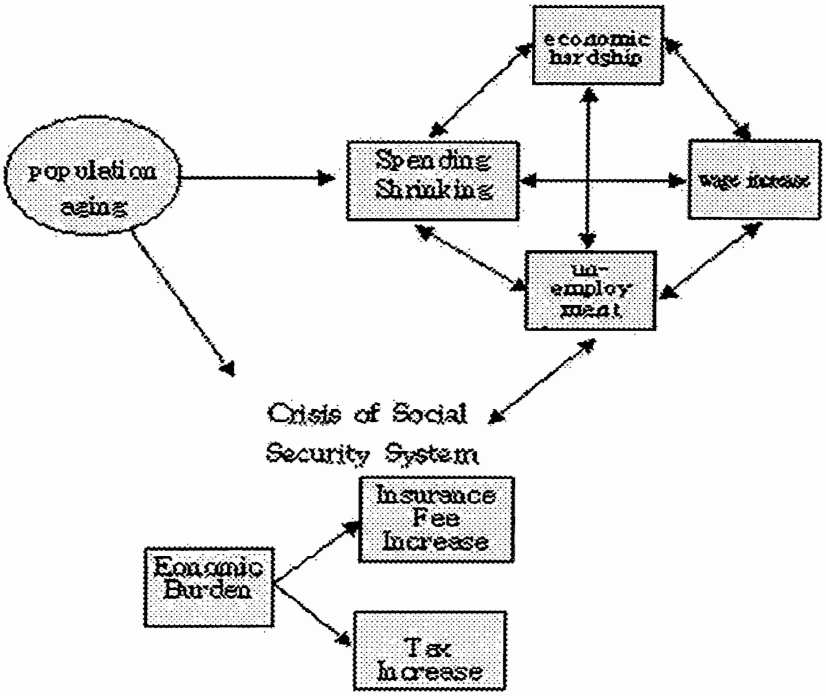
year	fund	revenue	expenditure	differences	Insurer	Pensioner	Rate
2001	746,789	171,504	14,348	157,156	16,035	609	52.0
2010	2,769,592	433,960	87,197	346,762	17,688	2,443	31.8
2020	5,474,491	613,257	222,598	390,659	17,618	4,206	24.6
2030	6,353,141	626,068	528,823	97,245	15,858	6,862	12.0
2040	3,282,093	493,492	955,800	-462,308	13,630	9,292	3.4
2045	-207,124	333,311	1,139,070	-805,759	12,537	10,079	-0.2

Source: MOHW, 『Unpublished Document』, 2002.

Park (2003) explains economic problems of population aging, as shown in figure 2. Population aging reduces numbers of companies due to decrease of spending, which leads to economic difficulties and high unemployment. In addition, economic hardships result in high wages. Meanwhile, government should raise tax in order to cover social security expenditures for the elderly. The government over-spending for the elderly, however, leads to financial and legitimacy crisis of the state. Therefore, to design social policies to cut down on social expenditures for the elderly is the most urgent task of the society.

Population aging brings forth vicious circle of elderly poverty and isolation, lack of labor power, and high health costs and pension fund, and therefore, to tackle these problems are the most urgent social issue in the society.

Figure 2. Economic Impact of Population Aging



Source: Park, 『Aging Society: Already Projected Future』, Seoul: Yuarm Publication Company, 2003, p39.

4. Political Sector

Lastly, population aging causes excessive welfare spending to the elderly. Korea's welfare expenditures for the elderly is as shown in the next table. Expenditures for the elderly have gradually increased 7.7 billion won in 1992, 61 billion won in 1995, and 390 billion won in 2003. The proportion of the expenditures for the elderly to GDP was only 0.003% in 1992, 0.016% in 1995, but has increased to 0.053% in 1998.

Table 18. Budget for Elderly Welfare

(unit: million won, %)

Year	Elderly Welfare Budget	GDP	Social Security Budget	Elderly Welfare Budget to GDP	Elderly Welfare Budget to Social Security Budget
1992	7,715	245,699,646	7,978,940	0.003	0.097
1993	82,654	277,496,544	9,247,898	0.030	0.894
1994	46,203	323,407,094	10,944,081	0.014	0.422
1995	61,226	377,349,800	13,841,750	0.016	0.442
1996	84,665	418,478,988	16,337,813	0.020	0.518
1997	129,972	453,276,389	19,338,865	0.029	0.672
1998	234,592	444,366,540	26,382,333	0.053	0.889
2002	378,726	-	-	-	-
2003	390,353	-	-	-	-

The amount and proportion of the social service expenditure for the elderly, are larger than those of the other social services. In 2002, the welfare expenditures for the elderly was 387.7 billion won, accounting for 36.7% of the total social service expenditures, followed by the welfare expenditures for the disabled, 22.5%, and those for child care, 20.4%. In 2003, it took 32.9% of the total social service expenditures, which were 1.2 trillion won, followed by child care expenditures, 25.2%, and for the disabled, 21.5%. Nonetheless, since the expenditure for the elderly is mainly concentrated on the low class elderly, the expenditures should continue to be expanded in the years to come (Cho et al., 1998).

Because of continuously increasing demand for social service for the elderly, government should enlarge welfare expenditures for the elderly. In the U.S. since high social costs for the elderly gives financial burdens to the government budget, the welfare expenditures for the elderly have been cut down to legitimize financial spending of the government in the 1980s. Not only social service expenditures for the elderly, but also the shortage of pension fund and health care costs presses nations financially, that tax should be raised, which may cause generation conflict and the legitimation crisis of the welfare state (Park, 2003).

Table 19. Social Service Budget by Welfare Fields

(unit: million won, %)

Item	2002 (A)		2003 (B)		Difference (B-A)	
	Amount	Percent	Amount	Percent	Amount	Percent
Total	1,033,180	100.0	1,187,889	100.0	154,709	15.0
Elderly Welfare	378,726	36.7	390,353	32.9	11,627	3.1
Disability Welfare	232,667	22.5	255,484	21.5	22,817	9.8
Child Care	210,280	20.4	299,939	25.2	89,659	42.6
Child Welfare	77,086	7.5	84,297	7.1	7,211	9.4
Family Welfare	18,027	1.7	17,799	1.5	-228	-1.3
Other	116,394	11.3	140,017	11.8	23.623	20.3

Source: MOHW, 『Summary of Social Services Budget』, 2002.

Likewise, without proper social policies, the whole society may confront with a crisis. Although in the several developed countries population aging proceeded gradually, since they could not respond to the social problems properly, they experienced high unemployment, economic difficulties, shortages of pension fund, and high health care costs. In order not to follow suit of those countries, Korea has to devise active and practical policies in the era of population aging.

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Population Aging and Economic Growth

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1. The Economic Impact of Population Aging

It is not at all a simple task to draw from the existing literature an answer to the question as to what impact population aging will have on economic growth. Also, the results of such estimation may vary widely depending on whether population aging is taken as an exogenous or endogenous variable.

Two perspectives are prominent in previous studies devoted to understanding what impact population aging would have on economic growth. The first perspective sees the process of population aging as a factor that may hinder economic growth. If this assumption is true, then the amount of resources available to each individual will be less in the future than it is today. This may be referred to as a problem attributable to population aging. The second perspective views population aging as a cause of intergenerational distribution. Available evidence is not enough to prove whether aging-induced intergenerational distribution is good or bad. Suffice it to say that intergenerational distribution, if caused by population aging, is a socioeconomic concern(Kyungsoo Choi, 2003)[1].

There is a widespread belief that population aging impedes savings, reduces labor supply and aggravates the national finance, thereby increasing taxes, slowing down economic growth. But previous studies concerning population aging and economic growth are not in agreement as to whether population aging indeed is inimical to economic growth.

2. Theoretical backgrounds

Previous studies on the relationship between population aging and economic growth can be classified into two categories, depending on their respective theoretical basis.

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[1] Population Aging in Korea: Economic Impacts and Policy Issues」, Korea Development Institute, 2003.

1) Theory of Exogenous Growth and Population Aging

This theory is based on a neoclassical overlapping generations model, according to which population aging, coupled with decreasing fertility and accompanied by a reduction in the share of economically productive population, will lower economic growth via a decrease in savings. The life cycle theory of saving, which in effect says that there is a significant correlation between saving and demographic structure, lends some validity to the theory of exogenous growth. According to the life cycle theory of saving, the higher the proportion of children and elderly people, who show stronger consumption behavior than overall population, the lower the saving rate and the growth rate. This is the very foundation for the belief that population aging leads to low economic growth.

2) Theory of Endogenous Growth and Population Aging

According to studies that propound this theory, both demographic structure and economic growth are endogenously determined by a third factor (such institutional factor as the protection of property right or the opening of the market). Imagine a situation where there is a possible tradeoff between the number of children and the quality of each child. In this case, change of economic environment into one in which parents can expect higher return on investment in the quality of a child (human capital) will lead to an increase in the rate of economic growth and a decrease in fertility rate at the same time. According to this view, then, population aging is not necessarily attended with a lowering of economic growth.

Lucas (2002) claims that in countries equipped with such institutional components as the protection of property rights, fertility rate declines while parental investment in children's human capital increases[2]. This in turn brings demographic transition and sustained economic growth. In contrast, countries with weak institutional frameworks will not undergo much change in the structure of parental decisions regarding the tradeoff between the number of children and the quality of each child. Under these circumstances, the demographic structure will remain relatively unchanged over time and, consequently, economic growth will not be sustained. What this theory translates into is that high economic growth rates will not necessarily be brought down by population aging alone.

3. Evident-based Analysis

As explained earlier, the two components, population aging and economic growth, are correlated in the overlapping generation model that is based on the lifecycle theory of savings. This is to say that the higher the percentage of elderly population, the lower the economic growth. This forms a basis for the argument that population aging will hinder economic growth. On the other hand, however, no significant correlation is expected between economic growth and population aging in the

2 「Lectures on Economic Growth」, Harvard University Press, 2002.

endogenous model.

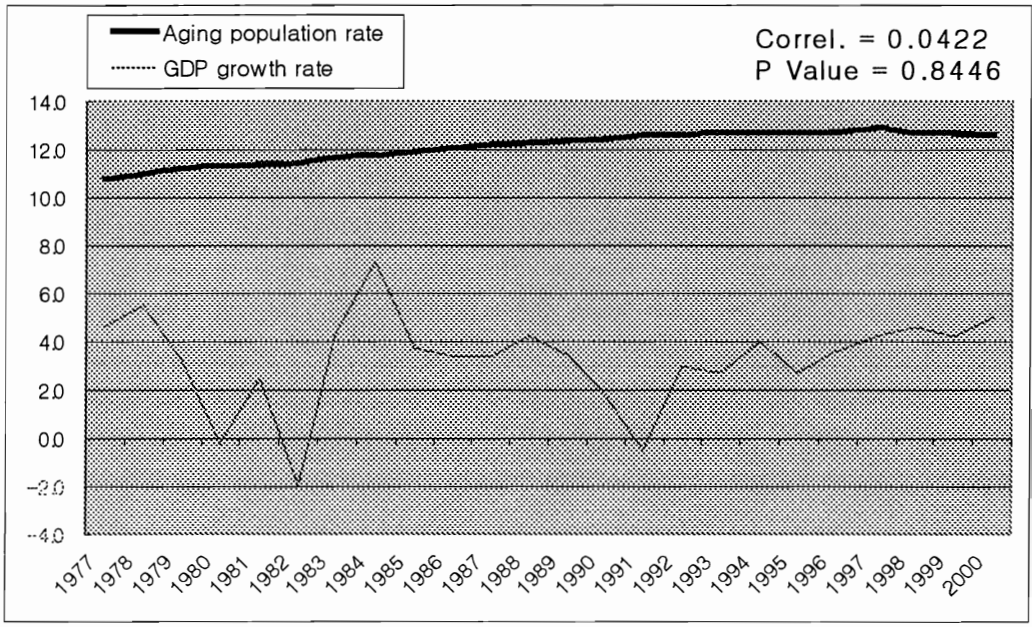
If there exists a significant correlation between population aging and economic growth, then this would mean that the exogenous theory is corroborated to some extent. To the contrary, if there is no significant correlation between the two factors, then what is suggested in the endogenous theory, the idea that population aging does not necessarily hinder economic growth will be corroborated.

An examination of whether the experiences advanced countries have had over the past decades support these theories will provide a picture of how the future of Korea's economic growth will look like as the aging of its population proceeds. If the result of the present analysis corroborates the exogenous theory, this means that Korea's economic growth may slow down as the country's population ages. If, on the other hand, the experiences of advanced countries support the endogenous theory, then the implication is that Korea's economic growth rates will not change much by the process of population aging alone. In other words, if the other factors responsible for Korea's rapid economic growth and demographic transition remain more or less constant, then population aging itself is not much of a threat to the Korean economy(Chin Hee Hahn, 2003)[3].

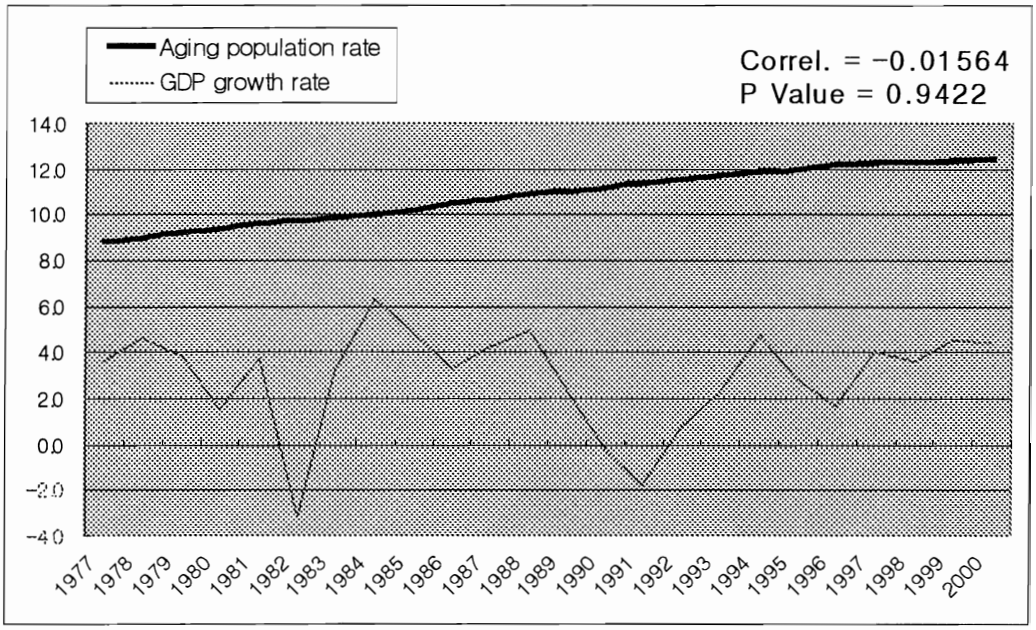
This study examined the relation between population aging and economic growth based on experiences a number of advanced countries had during the last 30 years, by using simple correlation analysis.

3 「Population Aging in Korea: Economic Impacts and Policy Issues」, Korea Development Institute, 2003.

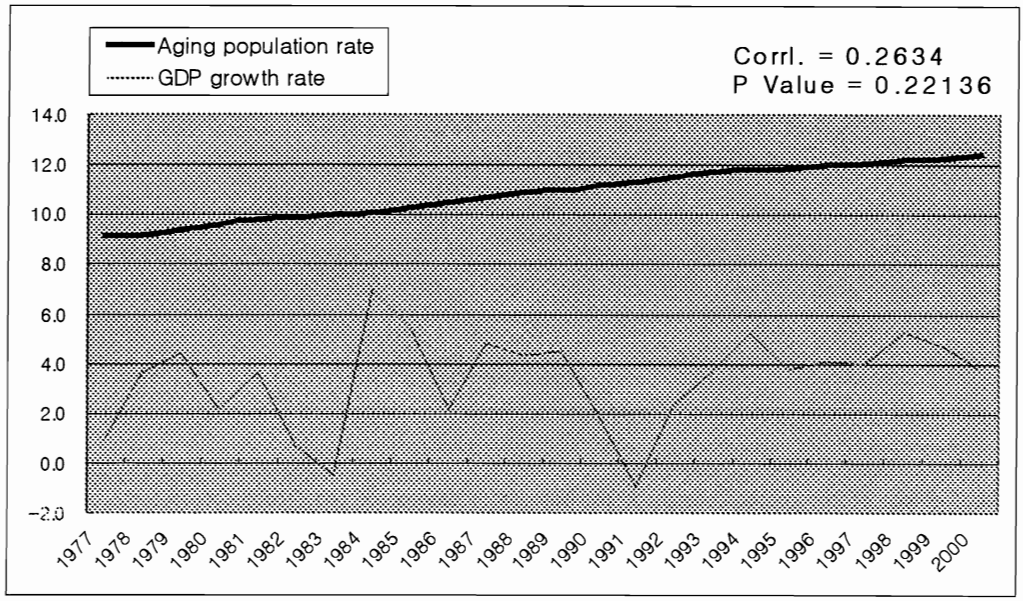
1) Case of the United States



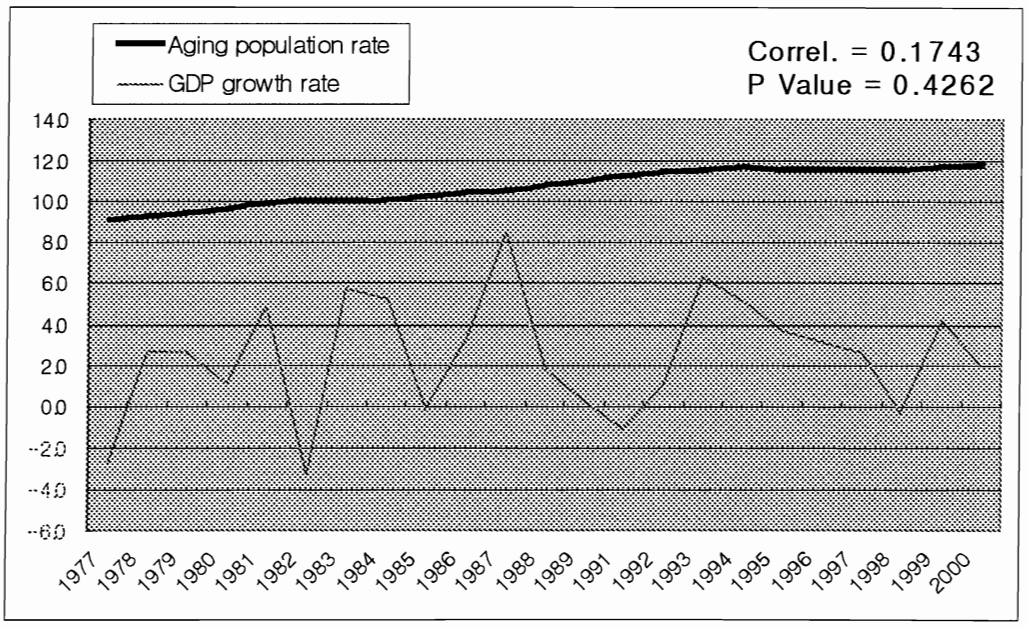
2) Case of Canada



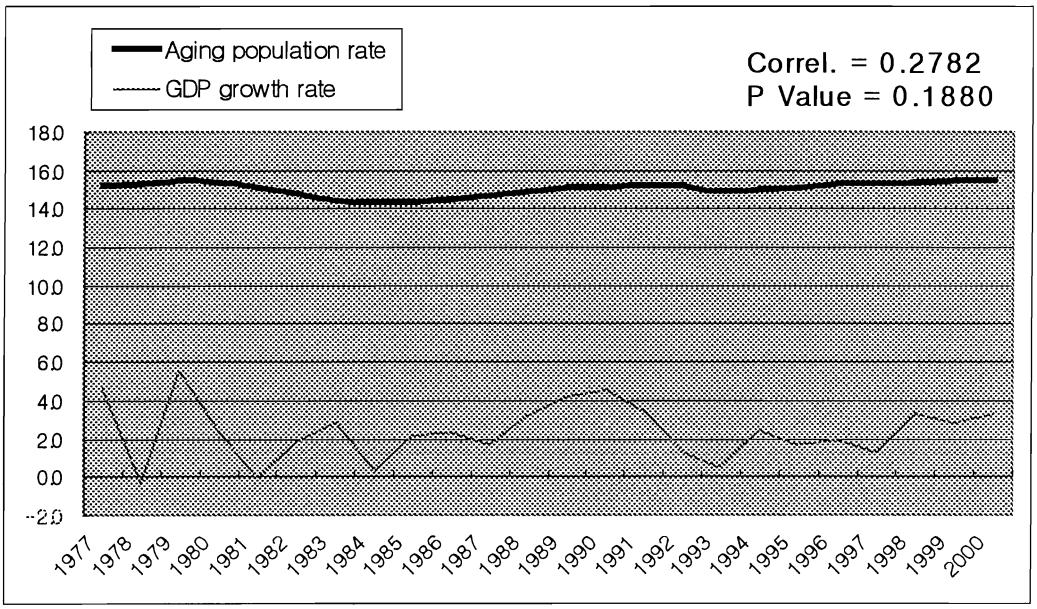
3) Case of Australia



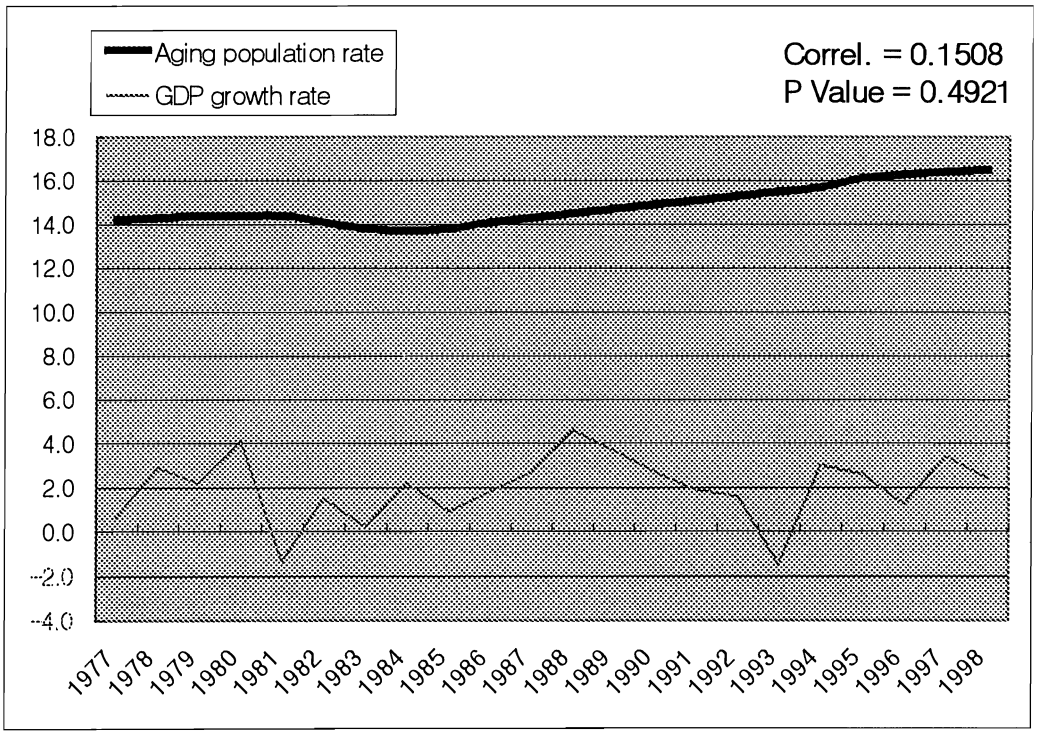
4) Case of New Zealand



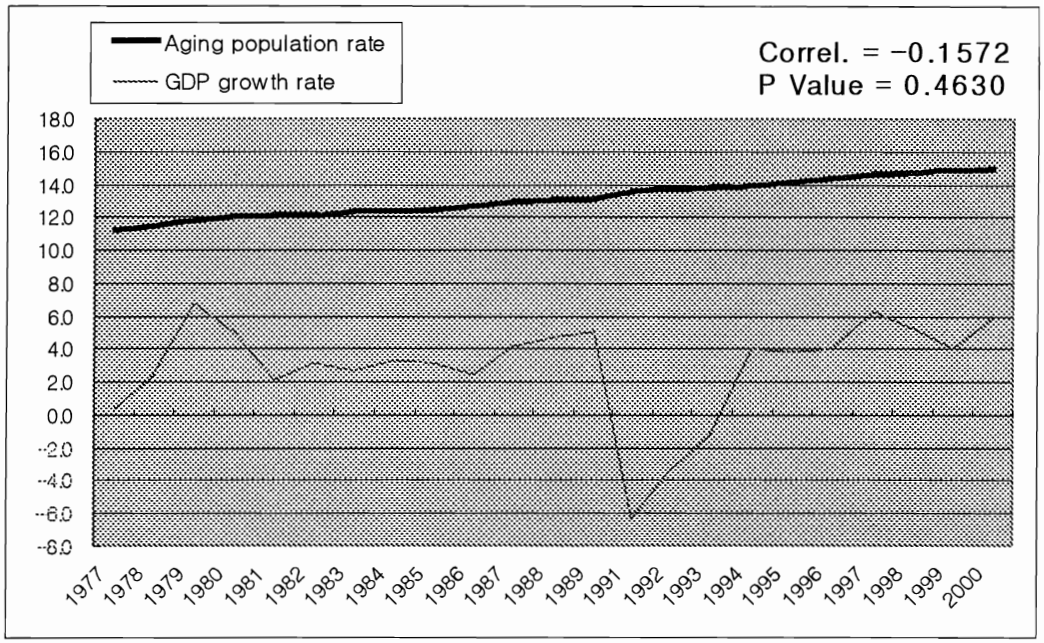
5) Case of Austria



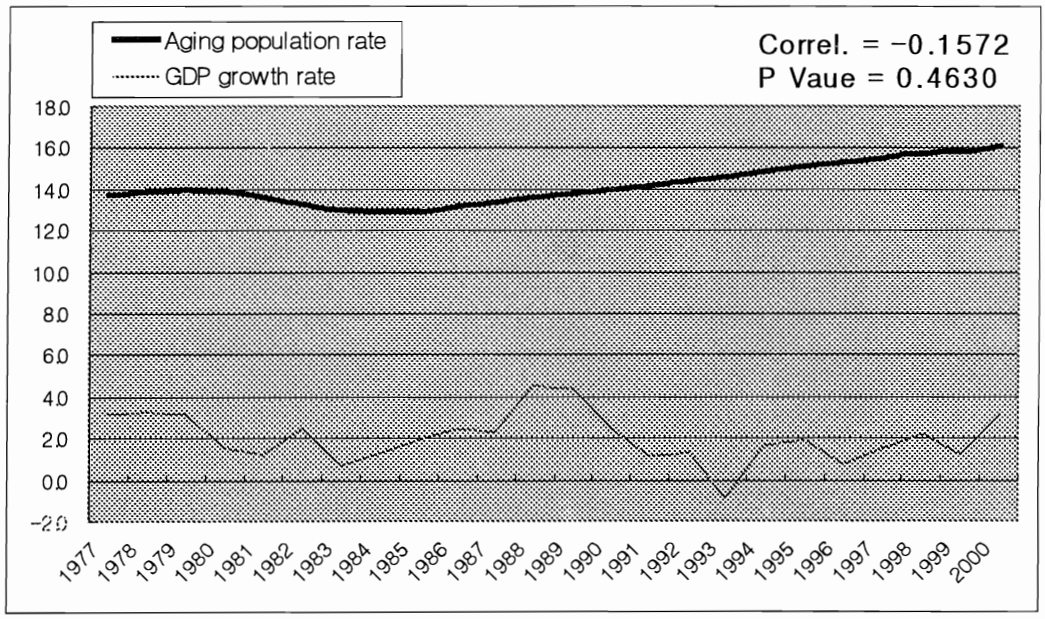
6) Case of Belgium



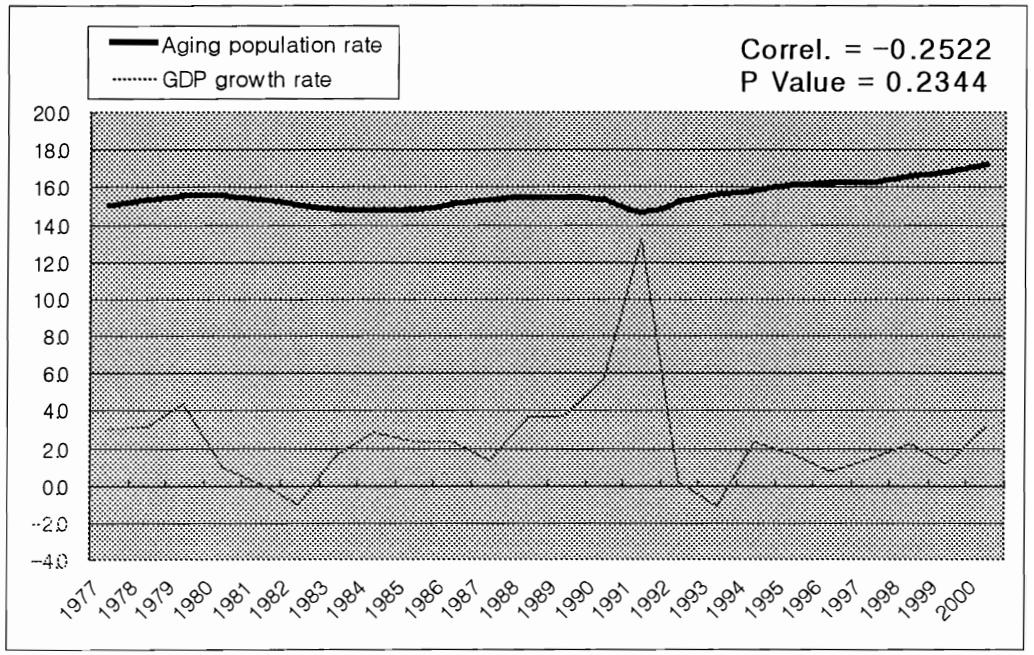
7) Case of Finland



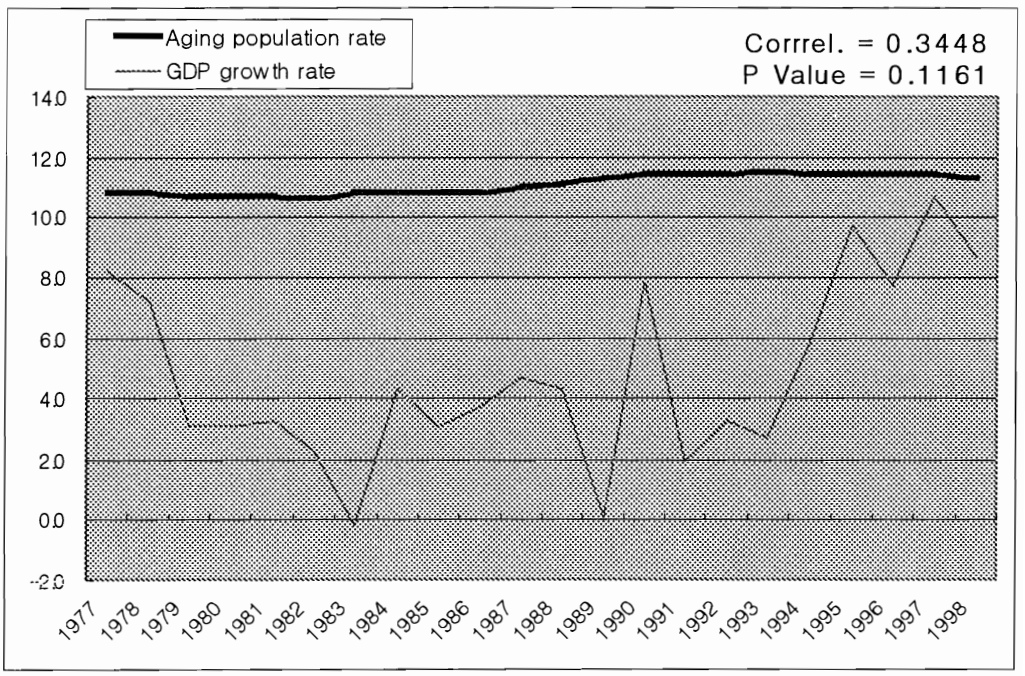
8) Case of France



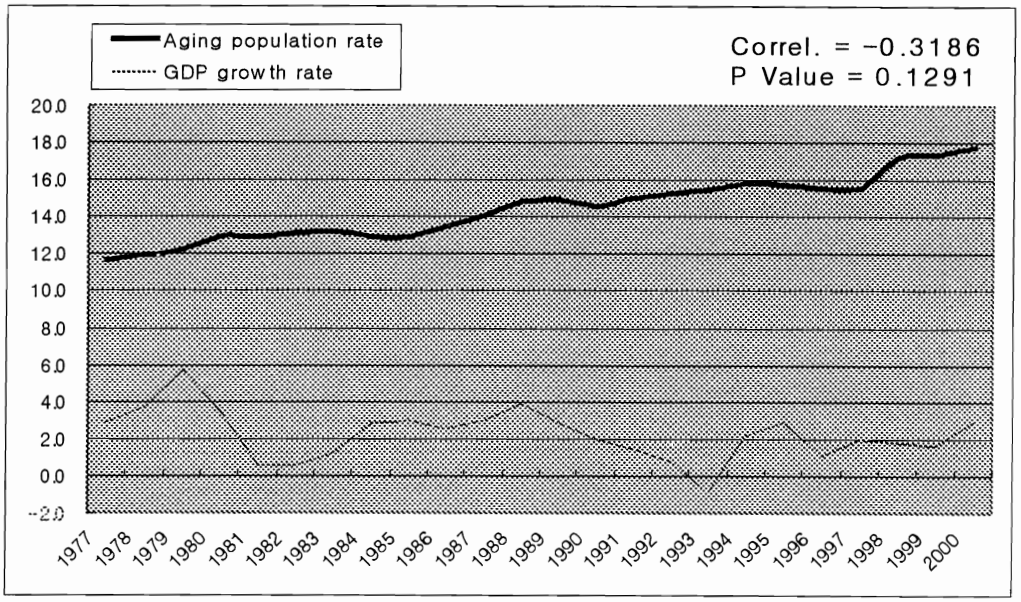
9) Case of Germany



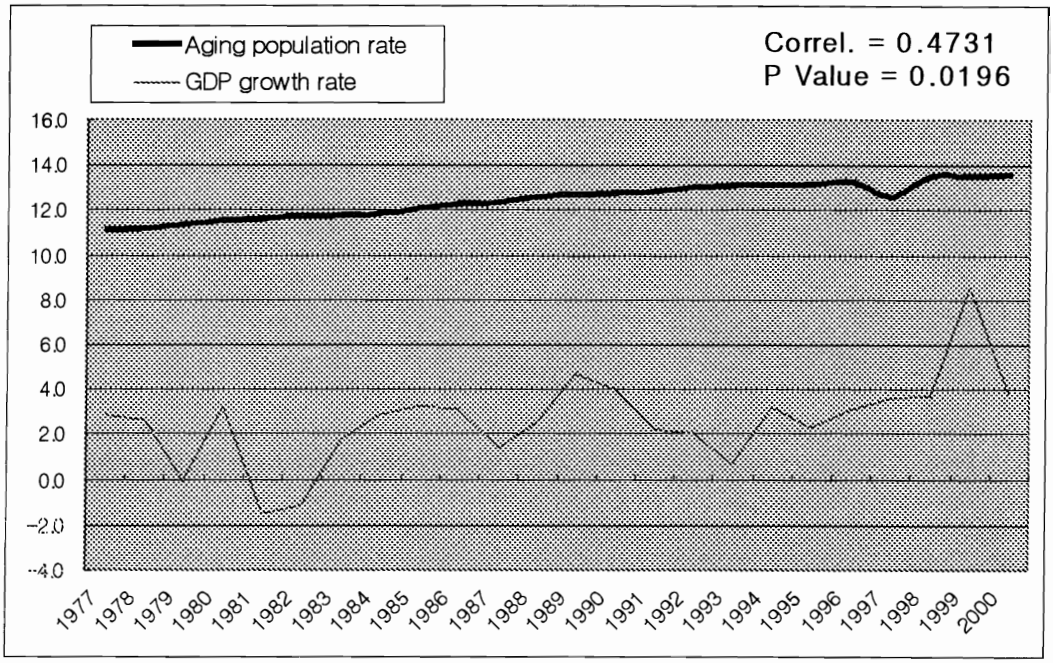
10) Case of Ireland



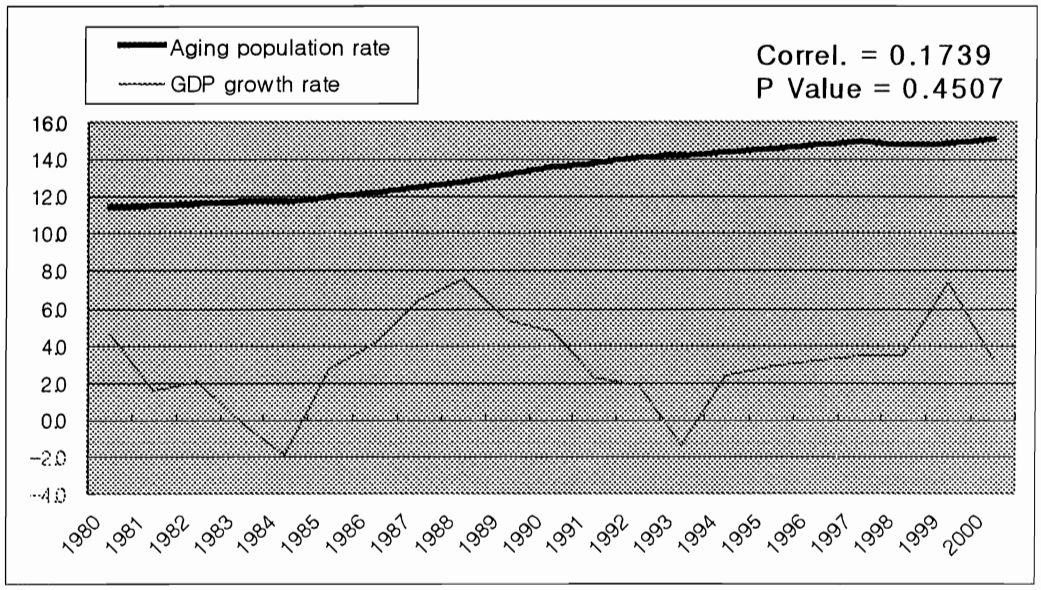
11) Case of Italy



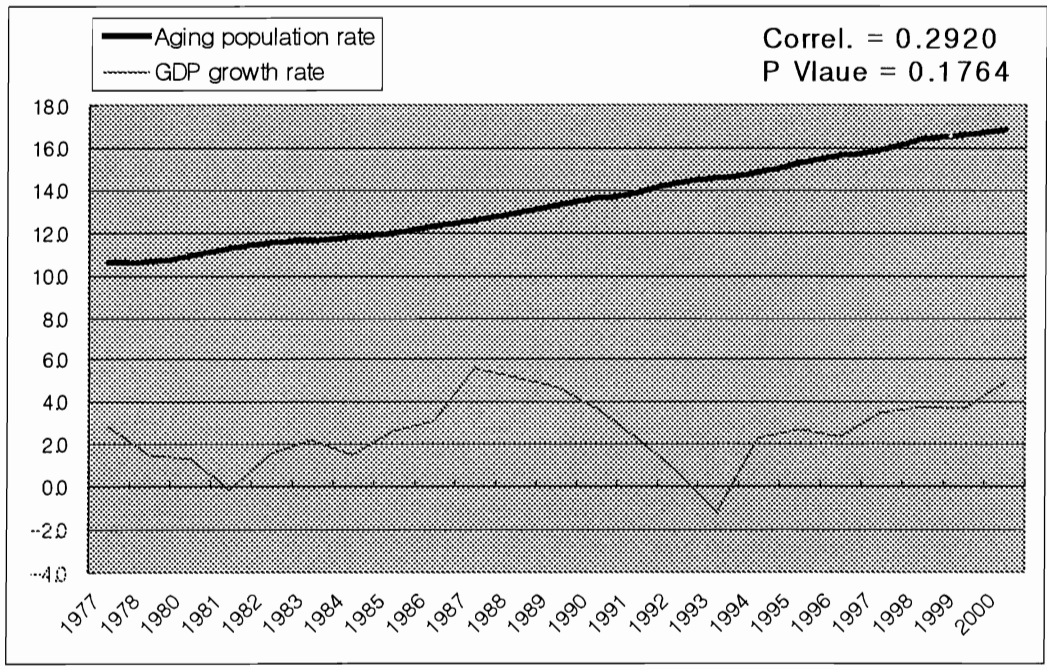
12) Case of Netherlands



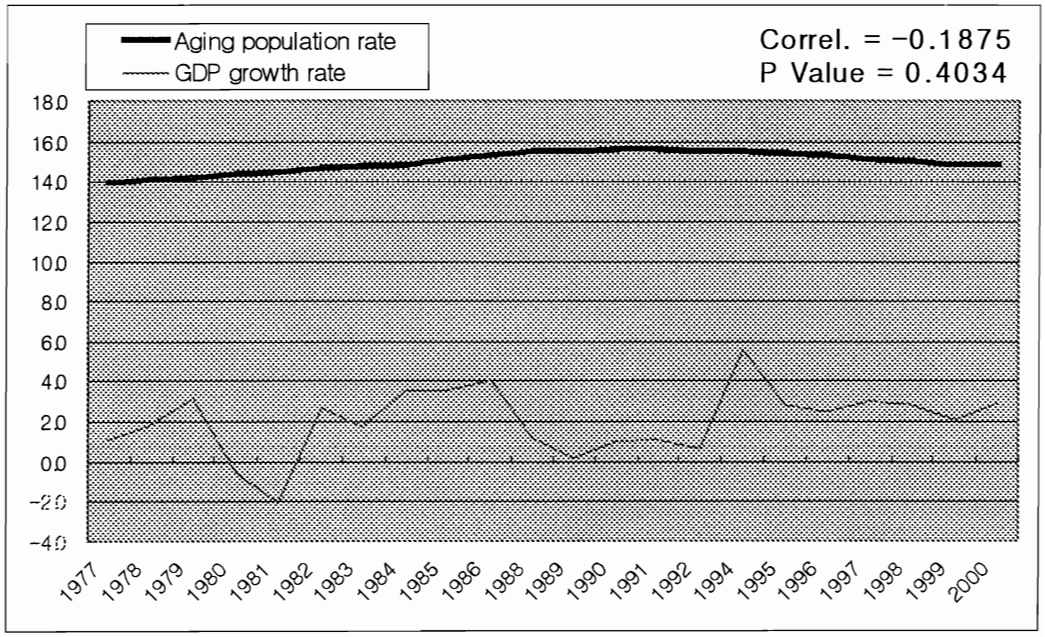
13) Case of Portugal



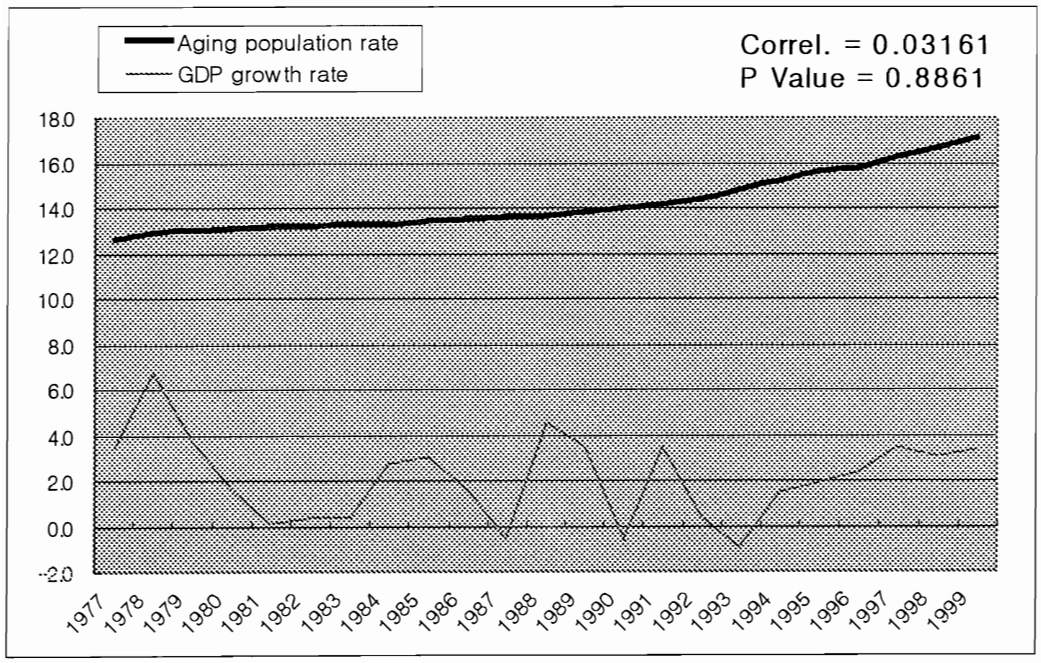
14) Case of Spain



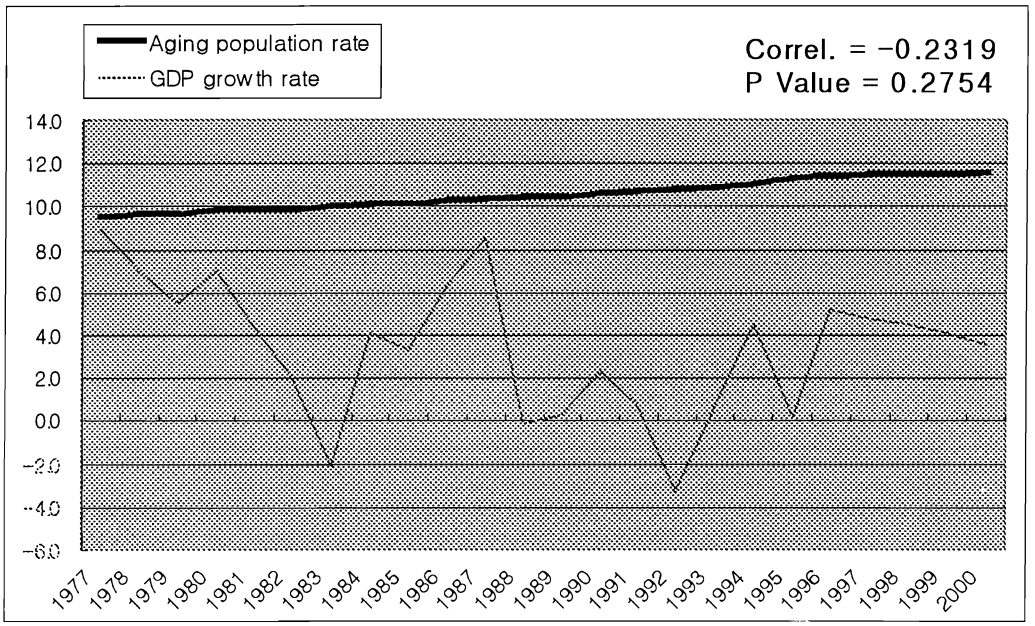
15) Case of Denmark



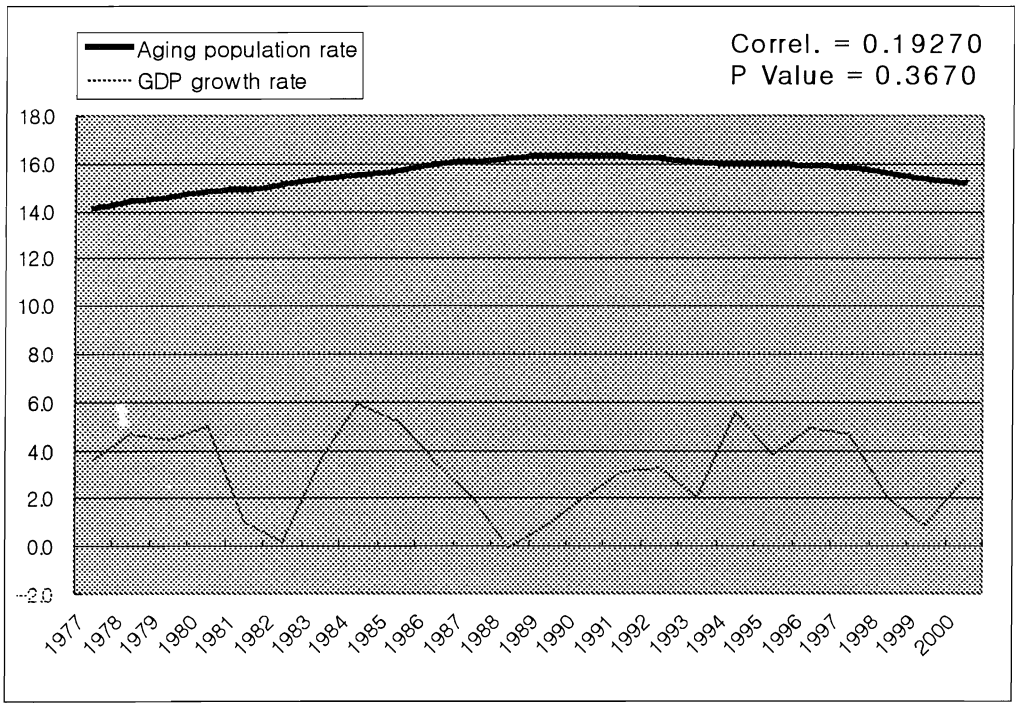
16) Case of Greece



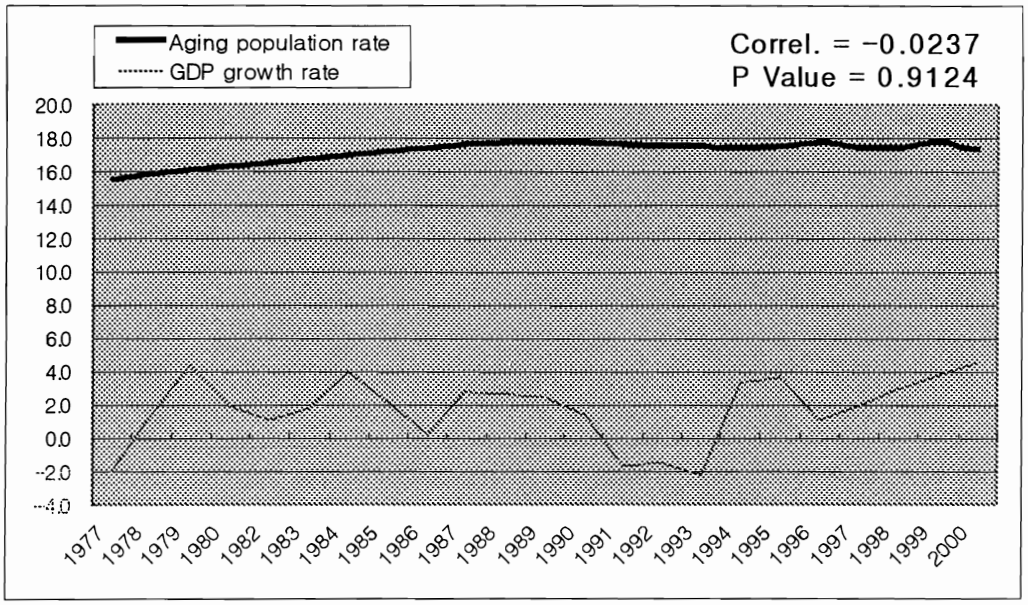
17) Case of Iceland



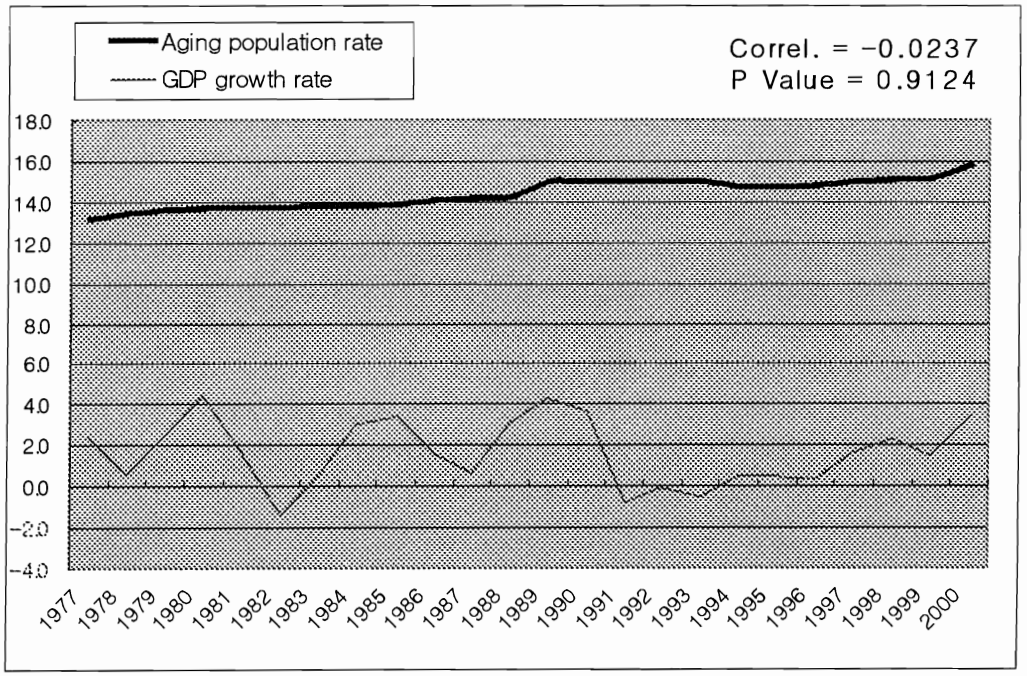
18) Case of Norway



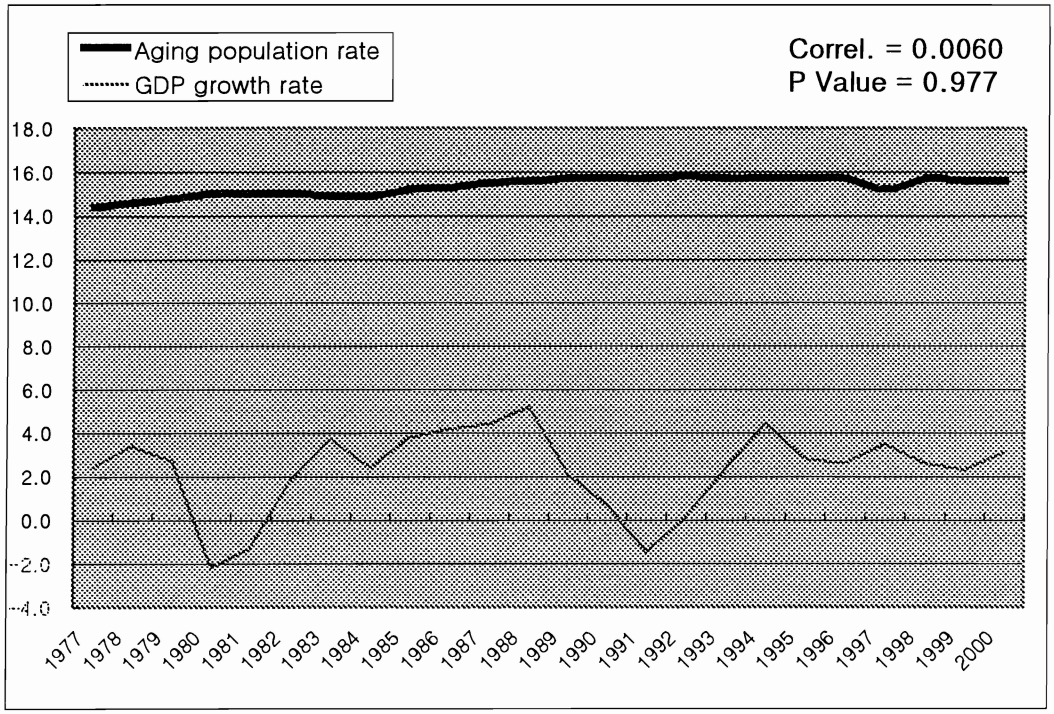
19) Case of Sweden



20) Case of Switzerland



21) Case of the United Kingdom



4. Conclusion

This study examined the relationship between economic growth and population aging, based on data on the economic growth and population aging of selected advanced countries. For the analysis of correlation, we used the two contrasting models: the model of overlapping generations, which is based on the life cycle theory of savings, and the theory of endogenous demographic transition and economic growth. These two theories offer varying implications on the relationship between population aging and economic growth. The exogenous model implies that population aging will cut economic growth. The endogenous model suggests that population aging is one of the many aspects of industrialization, not a factor that disturbs economic growth.

The simple correlation analysis shows that there is no significant correlation between population aging and economic growth, which is in line with the endogenous theory. However, this study is limited by the fact that it does not take into account the institutional components of each surveyed country. This calls for future studies to explore further into these components. Its limited scope

notwithstanding, the result of this study can be taken as corroboration for the hypothesis that population aging may not be a threatening factor to economic growth. What this suggests is that implementing population policies in a bid to slow down the process of aging would not be much of a panacea.

DISCUSSION

Dr. Chang Jin Moon
Deputy Minister, Social Welfare Policy Office
Ministry of Health and Welfare, Korea

I think this seminar is very meaningful and timely, because population ageing is one of the top issues in Korea and it will be major policy agenda in Korean government. So I would like to express my special thanks to the organizer of this seminar.

제가 본 세미나에 참석한 이유는 두 가지입니다. 첫째는 공식적인 이유에서 입니다. 보건복지부가 인구정책을 주관하고 있으며, 제가 현재 그 업무를 담당하고 있습니다. 두 번째는 개인적인 이유에서 입니다. 저는 20 년 전에는 출산율 억제를 위한 정책을 위해서 일했었고, 지금은 반대로 출산율을 장려해야 하는 상황에 처해 있습니다. 덧붙여 말씀 드리면, 저는 미국 시카고 대학 사회학과에서 인구 문제에 관해 공부를 한 적이 있기 때문에 학문적으로도 이 분야에 큰 관심을 가지고 있습니다.

두 분의 발표 잘 들었습니다. 김미숙 박사님께서는 우리나라 인구 노령화 정책 전반에 대해 말씀해주셨고, 홍석표 박사님께서는 인구고령화가 경제전반에 미치는 영향에 대해서 낙관론과 비관론의 견해를 언급하셨는데, 낙관론의 가능성은 상당히 인상적이었습니다. 두 분의 발표내용에 대해 구체적으로 언급할 생각은 없습니다. 가능하다면 현재 정부에서 추진하고 있는 인구고령화 정책의 개요에 대해 말씀을 드리고, 시간이 허락한다면 고령화와 저 출산 문제에 대한 개인적인 의견을 말씀 드리고 싶습니다.

먼저 한국 정부의 고령화 정책 추진 현황에 대해 간략히 언급하겠습니다. 우리나라의 고령화가 매우 빠른 속도로 진행되고 있는 것은 사실입니다. 다만 한가지 말씀 드리고 싶은 것은, 홍박사님이 소개한 국가들 중에서 선진국은 고령화가 완만히 이루어져왔고, 어느 정도 경제성장을 달성하고 나서 고령화 문제에 직면한 반면, 우리나라는 일만 불 시대에는 이미 접어들었지만 현재 거기서 크게 개선되지 않은 상태에서 고령화 사회로 접어들었기 때문에 서방 국가들과는 경제적 여건이 다르지 않나 생각합니다. 그리고 삼성경제연구소는 우리나라가 고령화로 인해 당분간 경제성장이 적어도 1%이상 마이너스의 영향을 받을 것이라고 분석하고 있습니다. 그렇다면 정부의 고령화 대책은 어떻게 진행되고 있느냐고 질문하실 수 있습니다. 이미 상당히 늦었다고 지적을 받고 있습니다만 고령화와 인구대책을 범 정부적인 차원에서 추진해야겠다는 생각을 하고 있습

니다. 또한 일본의 성공 및 실패 사례를 참조하고 있습니다. 그래서 저 출산과 고령화를 한대 묶어서 대처할 수 있는 그러한 법을 준비하고 있습니다. 노인의료나 복지, 주거, 고용, 교육, 문화, 정보격차 그리고 출산안정 문제까지 포함한 종합적인 법을 준비하고 있으며, 이법은 현재 국회에 제출된 상태이며, 금년 말 통과될 것으로 예상됩니다. 첫 단계로 고령화의 기본계획을 내년에 수립해서 2006 년부터 시행하도록 구상하고 있습니다. 워낙 관련된 분야가 많기 때문에 범 정부적인 협력체계를 구축하기 위해 위원회를 구성하기로 하였고, 그 위원회는 정부의 수반인 대통령이 위원장을 맡고, 복지부 장관이 간사를 맡기로 되어 있습니다. 또한 고령화와 관련된 몇 가지 제도를 보건복지부에서 구상하고 있는데 그 중 중요한 것 하나가 노인요양보장제도 입니다. 현재 노인인구의 15% 정도가 노인요양이 필요한 상황입니다. 이것 역시 일본이 먼저 시행한 노인요양보장제도의 틀을 참고하여 한국 실정에 맞는 제도를 구상하기 위해 현재 연구 중입니다. 이 모델을 만들기 위해 현재 보건복지부 담당 자문기구로 위원회를 구성해서 실시방안을 연구 중입니다. 정부의 잠정적인 계획으로는 내년 7 월에 시범사업을 실시해서 한 2 년간 운영한 뒤 본격적인 요양제도를 실시할 예정입니다. 그러나 재정부담이 일시에 크게 증대될 수 있기 때문에 실시하는 속도는 단계적으로 하는 등 완만하게 가는 방식을 생각 중입니다. 정부에서는 노인요양보장제도가 두 가지 효과가 있다고 기대하고 있습니다. 첫째, 순수한 노인 복지 효과입니다. 둘째, 유효수요를 창출해서 사회적 고용효과를 유발할 것으로 생각하고 있습니다. 서방 국가들이 보건복지부분에 일자리를 만들어 복지문제를 극복하고 새로운 성장을 이룩한 사례들을 참고하고 있습니다.

다음으로 실버 산업 진흥법 재정을 검토하고 있습니다. 재산이나 소득능력이 있는 노인 계층을 소비의 주체로 파악해서 내수시장을 활성화할 수 있고, 이는 또한 경제 발전에도 큰 도움이 될 것입니다. 민간 연구소의 추계로는 실버 산업의 규모가 약 40~50 조라고 하는데, 이는 우리나라 농림업의 규모와 유사할 만큼 아주 큰 규모로 농림업을 대체할 수 있는 새로운 산업으로써의 역할을 하리라 기대하고 있습니다.

우리나라의 출산안정정책에 대해서는 지금 출산을 장려하는 방향으로 구상을 하고 있습니다. 출산이라는 것이 당장은 고령화 속도에 영향을 줄 수 없겠지만, 장기적으로는 고령화 속도를 늦추고 인구구조를 안정시키는데 기여할 수 있다고 생각해서 출산안정정책을 같이 시행하려고 하고 있습니다. 다만 이를 시행함에 있어 국내에 찬반론이 있습니다. 반대론자들은 여성은 출산의 도구가 아니기 때문에 여성에게 무리하게 출산을 장려하지 말라고 주장합니다. 또한 출산을 통해 고령화 문제를 해결하기 보다는 이민정책을 통해서 고령화 문제를 해결할 수 있다고 하여, 미국, 프랑스를 모델로 하자라는 새로운 의견이 제시되고 있습니다. 또한 생산성 혁명이나 지식사회의 특성을 고려하면 여성인력과 노인만으로도 충분히 경제성장을 유지할 수 있다라는 시각도 있습니다. 그

러나 제가 보기에는 우리 국민들의 정서로 보아 이러한 것을 받아들이는 것은 조금 어렵지 않나 생각합니다. 일본도 국내입양은 잘 되고 있지만 이민 정책에 대해서는 상당히 소극적이라고 알고 있습니다. 그런데 우리나라는 국내입양도 잘 되지 않는 실정입니다. 혈통을 중시하는 한국의 문화를 생각하면, 과연 이민을 통해 고령화 문제를 해결할 수 있을지는 미지수입니다.

저 출산, 고령화에 대한 낙관론과 비관론이 있는데 낙관론도 나름대로 설득력을 가지고 있지만 우리의 경제 상황을 고려할 때 낙관론을 선택하는 것은 어려운 것이 사실입니다. 그러나 비관론을 받아들일 경우 우리는 극복해야 할 과제가 상당히 많이 있습니다. 그래서 고령화 문제에 있어서는 범 정부적인 차원의 추진이 필요합니다만 민간의 협조 없이는 효과가 나타나기는 어렵습니다. 이 문제 역시 사회정책만으로 해결되는 것이 아니고 경제정책까지 고려한 종합적인 접근방식이 필요하다고 생각합니다. 앞으로 모든 정책은 출산 친화적이고 노인 친화적으로 실행될 필요가 있습니다. 어떻게 보면 고령화에 잘 적응하는 것이 국내 산업을 진작시키고 지속 가능한 경제발전에 도움을 주는 계기를 마련할 수 있으리라 봅니다. 그런 면에서는 낙관론의 견해를 일부 수용할 수 있지 않나 싶습니다.

IV. SESSION I I :

THE TREND OF FAMILY PLANNING PRACTICE AND IMPACT OF ECONOMIC BURST ON FERTILITY

The Trend of Family Planning Practice and Impact of Economic Burst on Fertility

Dr. Kenji Hayashi
National Institute of Public Health, Japan

Total Fertility Rate has kept declining since 1973 that fell on the year of oil crisis. Government including industrial sectors has been seriously concerned with possible consequences of low fertility these years. Adverse consequences are referred to maintenance of pension program, universal health insurance program, program for the elderly care and so on. In the mean times, social determinants related to fertility decline have been extensively studied. Many studies have come to conclude that delay of marriage is principal factor affecting low fertility. Delay of marriage is regarded as response to change of views towards marital life among young people on one hand while it is presumed the response to the living cost on the other hand. For the latter case, the term " Parasite Single " was even coined to imply that the single young may prefer staying home with parents for comfortable life to entering marital life with meager income (1). A study estimated 10 million of the young lead the life as such.

Since the drop of marital fertility had been marginal for the past decades, its contribution to lowering total fertility was considered minimal. During the past years, however, cohort fertility studies manifested birth space is widening between parities, in particular, between parity one and two (2,3). If the trend continues, the consequence induced by the combination of marriage delay and widening birth space will accelerate the fertility decline. For the biological limitation of reproductive capability due to aging of woman, many couples would be hard to expect a child.

The current poll counts 25th round since its inception in 1950 with two-year interval each. The great efforts have been made by Mainicchi-Shimbun to continue the surveys. The invaluable materials have been piled up, with which the wake of family planning practice of Japanese population since soon after war can be traced. In commemoration of the 25th anniversary of the survey, the trend of family planning practice for the past decades will be briefly reviewed first in this chapter.

In the current survey (25th round), the drastic increase of withdrawal practice for contraception purpose was observed. The rapid changing pattern of reproductive behavior like this rarely takes place unless revolutionary shift in the views towards society. The study group of the current survey

decided to explore further for the details in this aspect. In this connection subsequent description in this chapter will be allocated to report if there is any change of reproductive behavior by analyzing the data structure of the current survey in comparison with that of previous one. With regard to lengthening birth space, it will be documented elsewhere in this report. In here, proximate determinants such as abortion and contraceptives use in association with birth spacing will be focused. In the final section, the feasible policies to recover the fertility decline supported by the married women will be illustrated according to the degree affected by economic burst. Readers should note that the description in this chapter is exclusively referred to married women otherwise stated.

1. Review of the trend of family planning practice

During the period of 1950 through 1965, contraception prevalence had increased sharply from 20% to 55% marking the epoch of the introduction of modern family planning practice after world war two. It had kept stable level at around 50% through 1971 that was two years prior to oil crisis. Contraception prevalence resumed its gains after 1973 reaching 60% level by 1980. Retrospective observation indicated that the year of 1973 was the turning point of Japanese society in various aspects including shift of social values as well as economic development. Since then the contraception practice rate among the married has fixed at 55-60 % level up to the present.

Talking about the time point when women begin the contraception practice related to their reproductive life in 1950s, most of the then respondents answered they started contraception after having had two children. From early 1960s through late 1980s, the majority starting contraception shifted to " after having one child " and again shifted to " at point getting married ". In 1992 survey, an item of " starting contraception before getting married " was first included in the questionnaire when it recorded 12 % among married women. For the current survey it comes up with as high as 25% implicating accelerating premarital sexual activities. As the matter of fact, the data referred to the unmarried group revealed that 50% admitted they had experienced love-making before.

Condom is the contraceptive as popular as ever nowadays. In early 1950s, the prevalence was only 34 %. Nevertheless, the prevalence at the time is even higher than any country in the modern world. It is amazing to see the prevalence recorded 75 % and higher after 1980s. Rhythm method was once as popular as condom by 1969 while it is almost negligible as low as 7% in the present survey. By contrast, " Withdrawal " has never turned up popular in the history of Mainichi-surveys. The current poll surprisingly indicated 27% of withdrawal practice jumping from 7 % in the previous survey, which was conducted two years ago in 1998. It should be noted that instead of " withdrawal ", the Japanese term of " coitus interruptus " had been used in the questionnaire for many years until the

previous survey. The replacement of the term is likely to affect the responding rate specific to the question between the surveys.

2. Analysis of drastic Increase of withdrawal practice

In the questionnaire listed were ten types of contraception method from which one or two in use were requested to choose. Current survey revealed that 611 (67%) out of 910 respondents chose only one in use and 299 (33%) chose two respectively (Table 1). The former is defined here as " Single Method Users (SMUs) " and the latter as " Combination Method Users (CMSs) ". Among SMUs condom was above all most popular (72%) followed by withdrawal (11%). For CMSs, number of response will be double of respondents because each one chose two in use. Taking the number of respondents for the denominator, condom accounted for as high as 87% followed by withdrawal (61%). Overall withdrawal practice recorded 27% when taking the total number of respondents for the denominator.

The corresponding tabulation was displayed for the last survey in Table 2. The number of respondents totaled 810, which was less by 100 than current survey. The number of SMUs totaled 672, which was more by 61. By contrast the number of CMUs was 138, which was less by 161. So tangible is the drastic increase of CMUs in the current survey. In other words, the remarkable increase of choosing a pair of items for contraception practice characterized the current survey.

Among SMUs in the previous survey, condom use was also most popular contraception practice standing at 79%. By contrast coitus interruptus practice accounted for no more than 4%. For CMUs, condom marked 88%, which was as high as current survey when taking the number of respondents for the denominator. Coitus interruptus in CMU accounted for 25%, which immediately follows the rhythm method at 36% and subsequent BBT method at 37%. Overall, condom ranked the top at 80% followed by rhythm (Ogino method), BBT and lastly coitus interruptus at 7-8% level. Coitus interruptus revealed itself the lowest as the whole simply because the majority of SMUs had scarcely selected it.

In summary proportional increase of CMUs in current survey is evident. In addition, most of the CMUs are very likely to choose withdrawal for the combination. To verify if there is any change of pattern in contraception practice, the manner of combination needs to be further explored.

As shown in Table 3 for the current survey, rhythm, BBT, withdrawal and condom were exclusive methods out of ten for the secondary choice in CMUs group. 244 out of 299 among CMUs selected

condom for the primary choice. In the group of 244 condom users, 145 (60%) adapted withdrawal, 62 (25%) selected BBT and 37 (15%) chose rhythm for the secondary choice. Overall it is obvious that the combination of condom and withdrawal was most predominant among CMUs.
Looking at Table 4 for the previous survey, overwhelming 106 out of 138 CMUs again chose condom for the primary choice. Among these 106 condom users, 23 (22%) selected coitus interruptus, 43 (41%) BBT and 40 (38%) rhythm as the secondary choice respectively. Obviously coitus interruptus was less favored for the secondary choice in CMUs group.

Based on the results so far obtained, we are likely to conclude the gain of withdrawal may result from the proportional increase of secondary choice, among them condom combining withdrawal practice was most favored. To confirm the conclusion we need to go further to compare the attributes of sample subjects between two surveys for sure.

With regard to age distribution and educational attainment, no significant differences were observed between the two surveys (Table 5,6). In Table 7 and 8, proportion withdrawal by age and educational attainment between the surveys were computed respectively. Although the current survey indicated higher proportion withdrawal for every age group than previous one, there was no difference within age category in respective survey. The distribution of educational attainment related to the withdrawal was basically similar to that of age. However, there was a small difference observed in junior high school category. The difference was statistically not significant. In addition, sample size of junior high school category is so small that its difference can be neglected.

From the observation mentioned above, it might be safe to conclude the gain of withdrawal in the current survey mainly resulted from the replacement of the term in the questionnaire. In other words, the respondents are supposed to be much familiar with term " withdrawal (Chitsugai-shasei in Japanese) " rather than " coitus interrptus (Seikou-Chuzetsu in Japanese) ". In turn the figure obtained for " withdrawal " should reflect the current prevalence in this country.

A survey conducted by National Institute of Population Problem and Social Security in 1997 may underpin the inference made above (4). The questionnaire used the term " coitus interruptus " together with " withdrawal " by putting the latter in the bracket to indicate that both words are synonymous. In the report the prevalence of "coitus interruptus " (withdrawal) recorded 20%, which was much higher than the figure obtained (7.7%) in Mainichi-survey in 1998 and by far closer to the figure obtained in the current survey.

Presuming the prevalence of withdrawal remained unchanged between two rounds of survey, what

is the proportion not gripping the connotation of the term " coitus interruptus "? According to my estimation, 74% may missed the connotation ! ! The translation of " interruptus " into Japanese is identical to that of " abortion ", Chu-zetsu. As such, " coitus interruptus " may sound like either withdrawal or post-coital abortion.

It is well known that combination of condom and withdrawal practice tends to fail for contraception purpose. Couples may use condom around the self-estimated ovulation period that is usually not certain in most cases. They may practice withdrawal when they perceive the time close to critical period. As proved in Table 9, 40% of withdrawal practitioners experienced abortion as compared to 25% who never practice withdrawal. Odds Ratio (OR) was computed to be 2.02 with 95% confidence interval ranging from 1.46 to 2.79.

3. How economic burst affect fertility?

In other chapter, widening of birth space these years between first born and second born will be described. Widening of birth space can be physically achieved by abstinence, employing reliable contraceptives and undergoing abortion in theory. In modern social setting, abstinence will not be persuading as the means to control birth space, in particular, among married couples. As for contraception, we confirmed earlier that condom oriented contraception pattern remained unchanged for the past two decades. The prevalence of IUD, oral pill and sterilization has been as low as almost negligible. Therefore, abortion could be the only means to lengthen birth space.

In the current survey, economic burst was referred to a question by asking " Do you control the timing of birth or the number of children due to economic difficulties affected by economic burst or restructuring of the company you work for ? " Hence the term " economic burst " will be used in this context hereinafter.

30%(472) of total respondents (1566) admitted economic burst had affected their reproductive behavior. And 32% of the affected confessed they had undergone abortion against 24% of the unaffected (Table 10). It should be noted age and the number of children are among confounding factors in assessment of abortion affected by economic burt. Abortion experiences by age were illustrated in Table 11. 16% in age group 20-24, 15% in 25-29, 17% in 30-34, 24% in 35-39, 28% in 40-44 and 39% in 45-49 answered they had abortion before respectively. The age-abortion relationship is almost linear. Number of children and abortion relationship manifested itself basically similar to the pattern describing the age-abortion relationship (Table 12). It is interesting to examine another question related to attitude toward abortion. 43% affected told abortion is acceptable when household economy is difficult. The figure was higher than that of the unaffected by 13% (Table 13).

The degree of impact of economic burst on abortion was assessed with logistic regression analysis. Age and number of children was entered into model to adjust the major explanatory variable — economic burst affected—. The model computed odds ratio of 1.49 with 95% confidence interval ranging from 1.31 to 1.68. It seems almost safe to conclude economic burst exercise critical impact on reproductive behavior leading to abortion among married women.

4. Who were affected by economic burst?

The background of married women affected by economic burst will be explored. As indicated in Table 14, 20% of women being affected answered they wish to have one more child against 16% unaffected. As shown in Table 15, 34% affected were in most reproductive age bracket under 34 of age compared to 29% unaffected in the corresponding age bracket. In Table 16 that illustrated working hours by economic burst, 49% affected responded they work less than 35 hours weekly against 45% unaffected working in the same category. The affected were more likely to be factory workers or on temporary job. The annual income of the affected is less than that of the unaffected (Table 17).

In terms of household economy, husband's income is supposed to be much susceptible to economic burst. To begin with, husband working at factory and self-employee were more likely to be affected. For annual income 23% of the affected earned less than 3 million Yen compared to 11% of the unaffected. 56% of the affected earned 3-6 million Yen against 49% of the unaffected (Table 18).

To assess the extent of impact of economic burst on husband's income, logistic regression analysis was employed again by adjusting related variables (Table 19). The most fitted model revealed that odds ratio for less than 3 million Yen bracket amounts to 3.4 (95% CI: 2.2-5.3) and that for 3-6 million Yen bracket 2.3(95% CI: 1.6-3.2) with reference income category of over 6 million Yen. Odds ratio for the working hours of women was significant again. Odds ratio for women working less than 35 hours was computed 1.4 (95% CI: 1.03-1.9); for over 49 hours bracket 1.3 (95% CI: 0.8-2.0). Odds ratio for age of women represents 1.1 but not statistically significant (95% CI: 0.95-1.29) with marginal difference.

Based on the analysis above-mentioned, the scenario beginning with outbreak of economic burst up to the consequence of birth spacing can be illustrated in sequence as shown in Fig.1. The story can be told in such a way as " along with economic burst, husbands working in manufacturing sector or self-employed were hard pressed. The wives who had lost permanent job were driven to make a living on part-time job resulting in reduction of income as well as the working hours. In compensation of worsening household economy, couples had come to accept the idea of abortion

before long when becoming pregnant. Eventually they may undergo abortion to lengthen birth space even if they wished to have one more child. "

5. The economic burst affected demand effective government policy

Listed in the questionnaire were five items of government policy under discussion to tackle fertility declining. For each item, respondents were asked if the implementation of the policy is promising enough to recover the fertility. Those items are shown below as follows:

Ⅰ. Double children allowance and provide the benefit up to age of sixteen.
Ⅱ. One- year maternity leaves with 80% income compensation.
Ⅲ. Halve nursery fee in accredited nursery schools.
Ⅳ. Rescheduling college scholarship available to all the requiring students.
Ⅴ. Increase the elderly pension according to the number of children they have grown.

As shown in Table 20, the responding rate for each favoring policy was presented. Overall 63% answered the policy of reducing nursery fee by half will be effective to increase the fertility, followed by compensated maternity leaves (60%), children allowance raising (48%), pension reallocation (47%) and scholarship rescheduling (35%) in that order. It seems that married women regard the immediate benefits are more important rather than those available in the future. Both the economic burst affected and the unaffected responded in the similar direction in terms of rank order although higher responding rates were observed on the side of the affected for all policy items. The lower the policy ranked, the greater the discrepancy was between the affected and the unaffected. For scholarship, the discrepancy amounted to 11 points which was followed by pension and children allowance, 9.6 points respectively, nursery fee 6.4 points and maternity leaves 4.5% between the affected and the unaffected.

On condition that the state budget is constrained, the policy priority needs to be set. For example, benefits of nursery fee reduction and maternity leave compensation could be allocated to both the affected and the unaffected. However, raising of children allowance, pension increase according to the number of children and scholarship rescheduling could be exclusively awarded to low income household earning less than 6 million Yen, if difficult, less than 3 million Yen. Assuming the implementation of these policies is sufficient enough to reduce the burden of household economy, then to what extent the fertility could be recovered?

6. Potential fertility recovery

As shown in Table 21, current survey manifested the most seriously affected was age group of

20-24 (37%) and the least affected was 40-44 (27%) age bracket. For the purpose of estimating the number affected across the country in 2000, the number of women married by age in the country is needed in the first place. Occasionally, the figures necessary were projected by National Institute of Population and Social Security Research (5). Now it become feasible to compute the number affected by economic burst across the country since the ratio against the unaffected is available from the current survey. Resultantly the number affected output 4,822,868 as shown in the Table.

On the basis of the estimated number affected by economic burst, excess abortion due to economic burst is ready to be computed, as shown in Table 22. From the current survey, the accumulated abortions per woman by age and by economic burst category can be derived. The accumulated abortions per woman affected were more than that of the unaffected. Noteworthy is double times discrepancy between the affected and the unaffected in age bracket of 35-39, and 2.4 times in age bracket of 20-29. Women aged 35-39 had been in most reproductive period ten years before when economy had burst. The relatively large discrepancy in women aged 20-29 may imply the continuing effect of collapsing economy since they are supposed to be susceptible in terms of income generating.

Here explains the process of computing excess abortion. The estimated population of the affected multiplies the accumulated abortions per woman in the corresponding category outputs total accumulated abortions that women of the category had in her life. It amounts to 2,126,498 cases of abortion, which can be derived from (1) × (2) as shown in Table 22. Population affected would have followed the probability of abortion for the population unaffected, if they had not been affected. Total assumptive abortions output 1,560,746, which can be derived from (1) × (3) as shown in Table. Accordingly, the difference of the two estimates the excess abortions due to the economic burst.

During the past decade since economy had burst in 1990, the excess abortions estimated 565,752 averaging 56,575 annually. The number of birth in 1999 was recorded 1,177,663. Had it bot been for economic burst, overall births would have been 1,234,238 when adding annual averaging excess abortions. The assumed number of birth almost corresponds that took place in 1989, the immediate previous year of economic burst. The figure is the size of births we can expect in case policy implementation would compensate the income lost.

Among the determinants of fertility decline, it is known the delay of marriage has been most crucial since 1973 when oil crisis broke out (2). While the welfare policies mentioned earlier might create the favorable environment for child rearing, they would not encourage unmarried women directly to enter into marital life because a variety of factors involved.

Obviously the direct means to recover the fertility decline of married women is to resume the economic prosperity. The resumption is so tough at the moment that the alternative policies are under consideration. Assuming the implementation of these welfare policies might compensate the negative effect of continuing economic stagnation, married women would not have to regulate the birth space by means of abortion when they wish to have more children. In that case, the annual increase of 56,000 births would be able to be expected. Ten years has passed since economic collapse. We have lost 560,000 children who would be currently under 10 years of age if they were alive. The figure is too sizable to be neglected.

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Figure.1 The Process Leading to Birth Space Regulation Due to Economic Burst

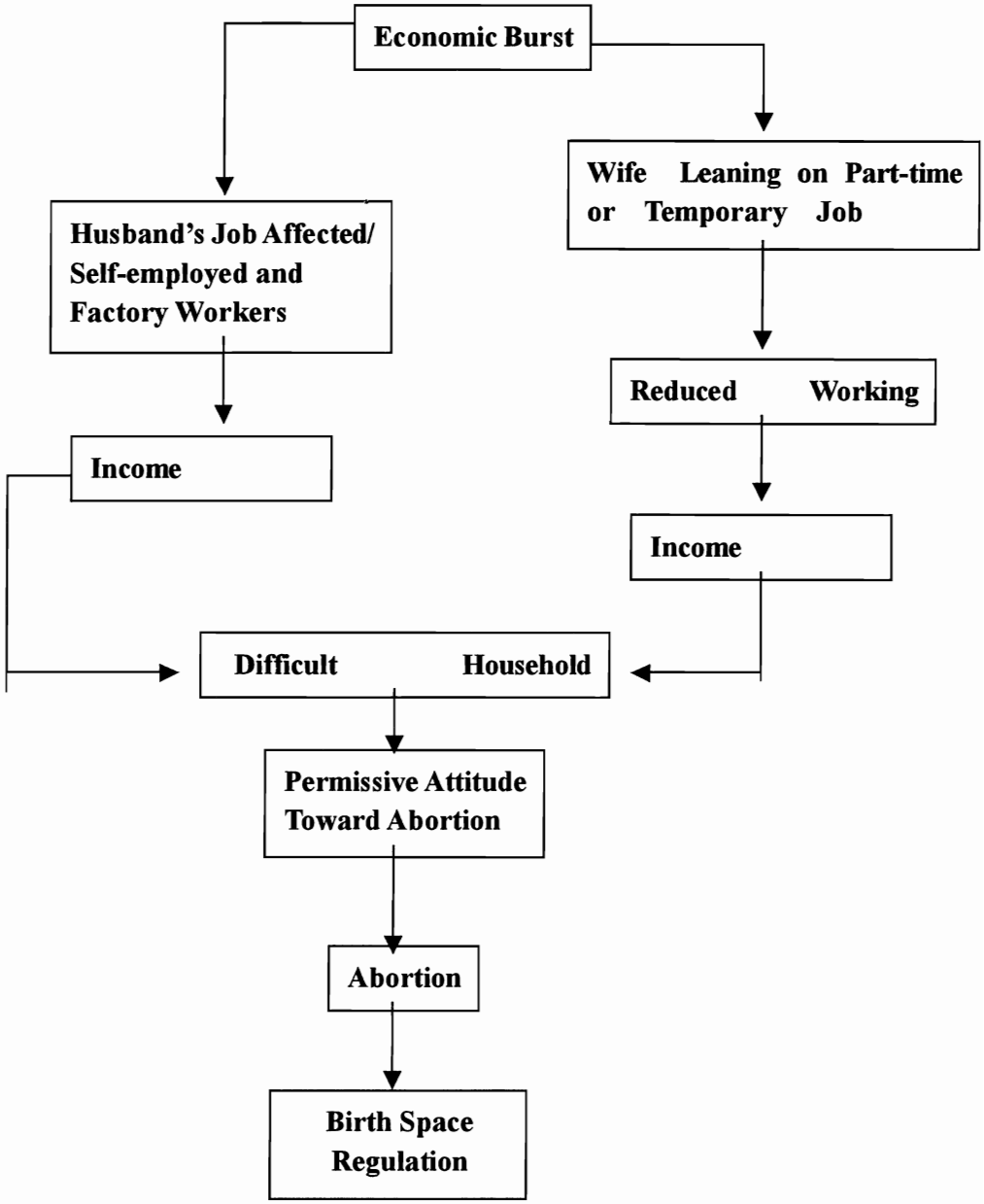

Table 1. Proportion Contraception Practice by Method (25th Round Survey)

	Single Method Users (%)	Combination Methods Users (%)	All Users (%)
Ogino method	8 (1.3)	53 (17.7)	61 (6.7)
BBT	9 (1.5)	82 (27.4)	91 (10.0)
Withdrawal	66 (10.8)	182 (60.9)	248 (27.3)
Condom	442 (72.3)	260 (86.9)	702 (77.1)
Douching	1 (0.2)	3 (1.0)	4 (0.4)
Jelly&Tablets	2 (0.3)	3 (1.0)	5 (0.5)
IUD	17 (2.8)	8 (2.7)	25 (2.7)
Oral Pill	7 (1.1)	7 (2.3)	14 (1.5)
Sterilization(Female)	49 (8.0)	0 (0.0)	49 (5.4)
Sterilization(Male)	10 (1.6)	0 (0.0)	10 (1.1)
Tot. Number Practice	611 (100.0)	299	

Table 2. Proportion Contraception Practice by Method (24th Round Survey)

	Single Method Users (%)	Combination Methods Users (%)	All Users (%)
Ogino method	20 (3.0)	50 (36.2)	70 (8.6)
BBT	17 (2.5)	51 (37.0)	68 (8.4)
Coitus Interruptus	27 (4.0)	35 (25.4)	62 (7.7)
Condom	528 (78.6)	121 (87.7)	649 (80.1)
Douching	4 (0.5)	5 (3.6)	9 (1.1)
Jelly&Tablets	2 (0.3)	5 (3.6)	7 (0.9)
IUD	20 (2.9)	6 (4.3)	26 (3.2)
Oral Pill	6 (0.9)	3 (2.2)	9 (1.1)
Sterilization(Female)	38 (5.7)	0 (0.0)	38 (4.7)
Sterilization(Male)	10 (1.5)	0 (0.0)	10 (1.2)
Tot. Number Practice	672 (100.0)	138	810

Table 3. Combination of Contraception Practice (25th Round Survey)

	Secondary Choice				
(Primary Choice)	Ogino method	BBT	Withdrawal	Condom	Total
Ogino method	0	0	0	0	0
BBT	1	0	0	0	1
Withdrawal	14	19	0	0	33
Condom	37	62	145	0	244
Douching	0	0	1	2	3
Jelly&Tablets	0	0	0	3	3
IUD	0	0	2	6	8
Oral Pill	1	0	1	5	7
Sterilization(Female)	0	0	0	0	0
Sterilization(Male)	0	0	0	0	0
Subtotal	53	81	149	16	299
Grand Total					910
Not Responded					22
Number Practice					932

Table 4. Combination of Contraception Practice(24th Round Survey)

		(Secondary Choice)			
(Primary Choice)	Ogino method	BBT	Coitus Interruptus	Condom	Total
Ogino method	0	0	0	0	0
BBT	3	0	0	0	3
Coitus Interruptus	5	5	0	0	10
Condom	40	43	23	0	106
Douching	1	0	0	4	5
Jelly&Tablets	1	0	0	4	5
IUD	0	0	2	4	6
Oral Pill	0	0	0	3	3
Sterilization(Female)	0	0	0	0	0
Sterilization(Male)	0	0	0	0	0
Subtotal	50	48	25	15	138
Grand Total					810
Not Responded					24
Number Practice					834

Table 5. Age Distribution of the Married

Age	25th Round Survey (%)	25th Round Survey (%)
20-24	1.9	1.6
25-29	10.8	10
30-34	17.9	17
35-39	20.2	21.8
40-44	22.9	23.4
45-49	26.3	16.3
Total	100%	100%

Table 6. Educational attainment of the Married

Educational Attainment	24th Round Survey (%)	25th Round Survey (%)
Junior High School	4.4	4.5
Senior High School	51.8	51.8
Junior College	34	32.1
College and Higher	9.1	11.6
Not Responded	0.6	0
Total	100%	100%

Table 7. Proportion Practicing Withdrawal by Age

Age	2 4 th Round Survey (%)	2 5 th Round Survey (%)
20 – 29	6/102(5.9)	27/110(24.5)
30 – 39	23/330(7.0)	101/378(26.7)
40 - 49	23/400(5.8)	87/422(20.6)
Total	52/832(6.3)	215/910(23.6)

Table 8. Proportion Practicing Withdrawal by Educational Attainment

Educational	24th Round Survey (%)	25th Round Survey(%)
Attainment		
Junior High School	2/29(6.9)	11/33(33.3)
Senior High School	25/430(5.8)	110/468(23.5)
Junior College	21/288(7.3)	69/297(23.2)
College and Higher	4/85(4.7)	25/107(23.4)
Total	52/832(6.3)	215/905(21.5)

Table 9. Abortion Experiences by Practicing Withdrawal

	Abortion (+) (%)	Abortion (−) (%)	Total
Withdrawal (+)	86(40.0)	129(60.0)	215(100.0%)
Withdrawal (−)	171(24.8)	518(75.2)	689(100.0%)
	OR: 2.02	95%CI : 1.46-2.79	

Table10. Abortion Experiences by Economic Burst

	Abortion(+) (%)	Abortion(-) (%)	Total
Economic Burst Affected	150(31.8)	322(68.2)	472(100.0)
Economic Burst Unaffected	261(23.9)	833(75.2)	1094(100.0)

Table11. Abortion Experiences by Age

Age	Abortion (+) (%)	Abortion (−) (%)	Total
20-24	5 (16.1)	26 (83.9)	31 (100.0)
25-29	25 (14.5)	148 (85.5)	173 (100.0)
30-34	48 (17.0)	235 (83.0)	283 (100.0)
35-39	84 (23.7)	270 (76.3)	354 (100.0)
40-44	101 (27.6)	265 (72.4)	366 (100.0)
45-49	153 (38.9)	240 (61.1)	393 (100.0)

Table12. Abortion Experiences by Number of Children

No.of Children	Abortion (+) (%)	Abortion (−) (%)	Total
0	1(10.0)	9(90.0)	10(100.0)
1	48(17.2)	231(82.8)	279(100.0)
2	202(26.7)	555(73.3)	757(100.0)
3	123(36.8)	211(63.2)	334(100.0)
4	15(31.3)	33(68.8)	48(100.0)
5	4(50.0)	4(50.0)	8(100.0)
6	1(100.0)	0(0.0)	1(100.0)

Table 13. Attitude toward Abortion Affected by Economic Burst
(On what conditions do you think abortion is acceptable?)

	Contraception failure (%)	Living is not easy (%)	Not ready to get married (%)	Total
Economic Burst Affected	35(12.5%)	120(43.0)	124(44.4)	279 (100.0)
Economic Burst Unaffected	89(14.0%)	194(30.6)	352(55.4)	635 (100.0)

Table 14. Additional Children Needed by Economic Burst Affected

	Already enough (%)	Wish one more (%)	Wish two more (%)	Total
Economic Burst Affected	332(77.2)	84(19.5)	14(3.2)	430(100.0)
Economic Burst Unaffected	786(78.7)	163(16.3)	50(5.0)	939(100.0)

Table 15. Age and Economic Burst Affected

Age	20-34 (%)	35 and over (%)	Total
Economic Burst Affected	163(33.5)	324(66.5)	487(100.0)
Economic Burst Unaffected	333(29.4)	800(70.6)	1133(100.0)

Table 16. Working Hours per Week and Economic Burst Affected

Working hours weekly	<35hrs (%)	35-43hrs (%)	43hrs< (%)	Total
Economic Burst Affected	148(48.5)	67(22.0)	90(29.5)	305(100.0)
Economic Burst Unaffected	301(44.7)	183(27.2)	190(28.2)	674(100.0)

Table 17. Wife's Income and Economic Burst Affected

Wife's income	Less than 2mil Yen (%)	2mil Yen and over (%)	Total
Economic Burst Affected	222(73.0)	82(27.0)	304(100.0)
Economic Burst Unaffected	415(62.4)	250(37.6)	665(100.0)

Table 18. Husband's Income and Economic Burst Affected

Husband"s income	Less than 3mil Yen (%)	3-6mil Yen (%)	6mil Yen and over	Total
Economic Burst Affected	107(22.8%)	263(56.0)	99(21.1)	469(100.0)
Economic Burst Unaffected	124(11.3)	540(49.3)	431(39.4)	1095(100.0)

Table 19. Explanatory Factors of the Economic Burst Affected (Logistic Regression Analysis)

	Odds Ratio	95%CI
Husband's income		
6mil Yen and over	1	
3-6mil Yen	2.3	1.6-3.2
Less than 3mil Yen	3.4	2.2-5.3
Wife's working hours		
4 3 hrs<	1	
35-43hrs	1.3	0.8-2.0
<35hrs	1.4	1.03-1.9
Age of wife	1.1	0.95-1.2

Table 20 Policy Request to Government against Lowering Fertility

	Policy 1 (%)	Policy 2 (%)	Policy 3 (%)	Policy 4 (%)	Policy 5 (%)
Economic Burst Affected	55	63.1	67.6	42.3	53.4
Economic Burst Unaffected	45.4	58.6	61.2	31.3	43.8
Proportion Difference	9.6	4.5	6.4	11	9.6
Proportion Favoring Policy	48.3	59.9	63.1	34.6	46.7

Policy 1. Double Children Allowance up to 16 Years of age
Policy 2. 80% Income Compensation for One-Year Maternity Leaves
Policy 3. Halve the Nursery Fee at Accredited Nursery Schools
Policy 4. Building up Scholarship at College
Policy 5. Pension According to Number of Children

Table 21. Estimated Number of Married Women Affected by Economic Burst across the Country

Age	State's estimates of married women(x 1000)	Proportion women married affected by economic burst at current survey	Estimeted number of married women affected by economic burst across the country
20-24	498	0.367	182,766
25-29	2155	0.31	668,050
30-34	3054	0.336	1,026,144
35-39	3210	0.282	905,220
40-44	3250	0.268	871,000
45-49	3749	0.312	1,169,688
Total	15,916,000		4,822,868

Table 22. Estimated Excess Abortions due to Economic Burst across the Country

Age	Estimated number of married women affected by economic burst across the country(1)	Accumulated abortions per women affected(2)	Accumulated abortions per women unaffected(3)	Total abortions estimated of the affected(1)x(2)	Total abortions assuming the affected were free from economic burst(1)x(3)
20-29	850,816	0.3016	0.125	256,606	106,352
30-34	1,026,144	0.2917	0.212	299,326	217,543
35-39	905,220	0.5052	0.254	457,317	229,926
40-49	2,040,788	0.5455	0.4934	1,113,249	1,006,925
Total	4,822,868			2,126,498	1,560,746

Excess abortions due to economic burst = 2,126,498 - 1,560,746
= 565,752

DISCUSSION

Dr. Sam Sik Lee
Korea Institute for Health and Social Affairs

Dr. Hayashi 의 페이퍼가 상당히 인상적입니다. 출산행위와 경기라는 거시적인 접근을 연계해서 분석하셨는데, 우리나라도 향후 이와 같은 분석을 심도 있게 할 필요가 있다고 생각합니다. 위 연구는 현재 우리나라의 저 출산 현황과 깊은 관계를 가지고 있다고 봅니다. 세션 I 에서 발표하신 발표자들은 주로 저 출산, 인구고령화가 경제에 미치는 영향에 대해 발표하셨고, 이와는 반대로 Dr. Hayashi 는 경제상황이 출산에 미치는 영향에 대한 연구를 하셨습니다. 우리는 이 두 가지 측면을 모두 고려해야 합니다. 실제로 외국의 정책 연구를 보면, 과거 수십년 동안 경기와 출산이 상관관계를 가지고 변화하고 있다는 연구결과가 많이 나와있습니다. 스웨덴의 경우 출산율의 변동과 경기 흐름이 상당히 밀접한 관련이 있습니다. 그 이유는 여성의 경제 활동 참가 비율이 상당히 높고 또한 여성의 수입이 가계수입의 상당 부분을 차지하기 때문에 직접적인 경기불안은 출산이 집중된 저 연령층 여성에게 집중적으로 영향을 주기 때문입니다. 그래서 결국은 이들이 자녀양육에 대한 비용부담으로 출산을 연기하거나 중단하기 때문에 전체적인 출산율이 낮아지게 되는 것입니다. 이는 우리나라에도 유사하게 적용될 수 있으리라 생각합니다.

최근에 발표된 것처럼 일본이 '잃어버린 10 년' 을 거의 통과한 것으로 볼 때, 향후 경기 불황이 출산에 미치는 영향이 일본은 좀 더 낙관적이지 않나 라는 생각이 듭니다. 우리나라는 경기 불황이 좀 더 지속될 거라는 전망이 나오고 있는 가운데, 경기와 출산의 관계를 볼 때 일본보다 좀 더 비관적이지 않나 싶습니다. 다시 말해 저 출산 경향이 적어도 당분간은 지속되지 않을까 하는 우려가 있습니다. 페이퍼에서 5 가지 정책 옵션을 가지고 의식조사를 하셨는데, 그 결과가 우리에게 시사하는 바가 크다고 할 수 있습니다. 예를 들어 보육료, 육아 휴직, 아동 수당 등의 순으로 정책선호도가 나타나고 있습니다.

대통령자문위원회로 있는 고령화 미래 사회 위원회와 KDI 에서 현재의 저 출산, 인구고령화가 향후 우리나라의 장기적인 경제성장에 어느 정도 영향을 미칠 것인가에 대한 최근의 연구가 나와있습니다. 저도 미래사회위원회 회의와 KDI 회의에 참석했는데, 저 출산, 고령화가 장기적 경제성장을 둔화시킬 것이라는 연구 결과가 나와 있습니다. 우리나라도 저 출산, 고령화를 대비하지 않으면 앞으로 상당히 어려운 문제에 직면하게

될 것이라고 이러한 연구결과는 시사하고 있습니다. 일본의 연구결과 중에서, 미혼인구의 결혼연령이 저 출산에 미치는 영향이 크다고 했는데, 이와 같은 미혼인구에 대한 연구 또한 정책선호도에 고려되어야 한다고 생각합니다. 제가 깜짝 놀란 것이 하나 있는데, 일본에서 콘돔이 피임 방법 중 차지 하는 비율이 약 70%로 상당히 높은 것으로 드러났습니다. 이에 반해 우리나라는 10~15%로 상당한 차이가 있습니다. 일본에서는 여성을 보호하는 쪽으로 피임방법이 발전된 반면, 우리는 아직까지 여성보다는 남성위주의 피임방법으로 여성의 희생을 강요하고 있습니다. 이런 점은 우리에게 시사하는 바가 크다고 생각합니다.

V. SESSION III :

THE DEMOGRAPHIC CHANGE AND LABOR SUPPLY TREND IN CHINA

Demographic Change and the Trend of Labor Supply in China

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I. Rapid Demographic Transition and Consequences

As the most populous country in the world, China was also one of the countries with a fast rate of growing population just like the other the developing countries not many years ago. However, the successful enforcement of the family planning policy seems to accelerate the demographic transition to a great extent. Coupled with rapid social and economic development, the total fertility rate in China has declined dramatically, and has remained below the replacement level since early 1990s. As the only developing country, China entered the era of low fertility, which was generally achieved by the developed countries. It is estimated that around 300 million people were not born due to the implementation of the population policy. And for less than thirty years, China has gone through the process of demographic transition that generally took hundreds of years for the developed countries. As a result, the share of Chinese population in the world has reduced by one percent, and the share of annual increment of population in the world decreased by more than 4% in less than three decades.

It is true that the rapid demographic transition in China has created a very sound demographic environment, in which the rich labor supply has greatly contributed to the sustained economic growth for the last more than 20 years. However, China should also undertake the costs of rapid demographic transition too. As the consequences of rapid demographic transition, China has to face the severe challenges of many structural population problems such as the fast aging of population and a distorted sex ratio at births.

China now is experiencing the fast growing of the aged population. The statistics from various census data show that the population aged 65 and above as a percentage of total population is 4.4% in 1953, 3.6% in 1964, 4.9% in 1982, 5.6% in 1990, but it soon increases to as high as 7.0% in 2000, and to 8.2% in 2002. China now is definitely one of the aged countries in the world. In terms of speed, population aging in China is well comparable to that in Japan, the country with the fastest speed of population aging over the world. It is estimated that it will take China 16 years for the aged population over 65 as a percentage of total population increase from 7% to 10%, compared with 15

years for Japan; from 10% to 14%, 11 years for China, compared with 9 years for Japan. It is estimated that the percentage of the aged over 65 would be more than 10.42% in 2017, to 13.59% in 2025, 16.59% in 2030, 20.13% in 2035 in China.

With fast speed, the process of aging in China is featured by many other characteristics too. First, the size of the aged is larger than any other country in the world. For example, there were only 7 million aged people in Japan when the ratio of the aged population reached 7%, and only 18 million when ratio of the aged population reached 14%. In contrast, the aged population right now has more than 90 million, and will surpass 130 million by 2015, which is a little more than total population in Japan. Second, the aged population is coupled with a relatively less developed economy. For example, GDP per capita in Japan was 1967 USD, 11335 USD, 38555 USD respectively when the aged population reached 7%, 10%, and 14%. Moreover, due to migration from rural to urban areas, the degree of population aging is even more severe in rural than in urban areas. Based on the statistics from the 2000 census, the percentage of the aged over 65 in rural areas is 8.1%, in comparison with 6.0% in towns, and 6.7% in cities.

The challenges of rapid population aging are arising mostly from the lack or incompletion of the social security systems for the aged in China. In rural areas, there is no establishment of social security system for the aged at all, but in urban areas, the ongoing social security system for the aged only covers a small part of population. Although the coverage of the social security for the aged has increased quickly in recent years, there is still a large part of urban population who are not covered. By 2002, there is only 84.1% of the retired who are paid with the pension, and 44.9% of the employed who are eligible for the pension. The low coverage of the pension seems to be a great restriction to its function in securing basic living for the retired. Another problem of the urban pension system is that the funds seem not sustainable. With around 150 million urban residents being covered, the funds are still enjoying a small surplus, and the accumulated surplus of the funds is around 220 billion RMB yuan by 2003. But with a faster growing of retirees, the funds are expected to run a deficit soon. Without any reform on the pension system, it is estimated that the deficit of the pension funds would accumulate to as many as 1200 billion RMB yuan by the year 2020. There is a great pressure in reform on the pension system.

Another consequence from the rapid demographic transition in China is the problem of unbalanced sex ratio. Under the pressures in reducing births, families in particular in rural areas tends to choose the sex of children they are going to have. As the preference for sons prevailed in most of China, the sex ratio has departed from normal since 1980s. In China, the sex ratio reached 117 in 2000, and 119 in 2003, and it reaches as high as more than 130 in some specific provinces. Such a distorted sex ratio is certainly to result in some severe social problems in the future. It is estimated that marriage of the males will be highly crowded after the year 2005, and there would be as many as 30 million males who are not matched with females for the age group 20-45 by the year 2020.

China seems successfully tackled the problem of rapid population growth. But what the success has done is no more than the change of nature of the population problems. Now, China has to face a more severe structural population problem. China today has not only continued to be perplexed with population problems, but the problems are even more compounded and more difficult to deal with than several decades ago. With acceleration of population aging in China, its most comparative advantage, the cheap labor, is certain to decline rapidly. The change in labor supply will definitely affect the long term economic growth in this country.

II. Overall Trend of Labor Supply

The demographic transition in China is so fast that many people are still doubt the results from the latest population census in 2000. The census data reported that the total population of China is 1 242 610 thousand, and the total fertility rate (TFR) is only 1.22, all of them are well below what had been projected before. As a result, many people think that the results of the Census have probably underestimated the real population of China and believe that the population at young age especially the new births were under-reported in the Census. So , it is still difficult to accurately know there are how many people and what is the real level of total fertility rate given the results from the 2000 census,, and people are continuing to debate on the trends of population in China. Even we believe the underreporting and would rather correct the TFR to its upper bound value as high as 1.8 based on an estimated underreporting rate around 1.8%, the number is still well below the population replacement rate of TFR 2.1. At any rate, China now is in the phrase of low fertility.

To project the population growth, we assume three scenarios to reflect the uncertainty about the total fertility rate. Scenario one assumes that the total fertility rate remains as low as 1.55, scenario two assumes TFR is 1.8, and scenario three assumes TFR is 2.14, a level equivalent to the replacement rate in China. Table 1 summarizes the results of the three scenario of population projection in China.

Table 1: Population Projection in China 2000–2020 (100 millions, ‰)

	High		Middle		Low	
Year	Total	Growth Rate	Total	Growth Rate	Total	Growth Rate
2001	12.76	6.92	12.76	6.92	12.76	6.92
2002	12.85	6.45	12.85	6.45	12.85	6.45
2003	12.97	9.86	12.94	7.27	12.91	5.36
2004	13.10	9.52	13.03	7.01	12.98	5.15
2005	13.22	9.26	13.12	6.80	13.05	4.96
2006	13.34	9.13	13.21	6.70	13.11	4.88
2007	13.46	9.08	13.30	6.67	13.17	4.85
2008	13.59	9.13	13.38	6.71	13.24	4.89
2009	13.71	9.23	13.48	6.81	13.30	4.97
2010	13.84	9.36	13.57	6.93	13.37	5.08
2011	13.97	9.36	13.66	6.92	13.44	5.07
2012	14.10	9.24	13.76	6.83	13.51	4.99
2013	14.23	8.86	13.85	6.51	13.57	4.71
2014	14.34	8.36	13.93	6.09	13.63	4.33
2015	14.46	7.71	14.01	5.52	13.68	3.83
2016	14.56	7.04	14.08	4.93	13.73	3.30
2017	14.65	6.44	14.14	4.42	13.77	2.84
2018	14.74	5.85	14.20	3.89	13.80	2.36
2019	14.82	5.26	14.24	3.37	13.82	1.88
2020	14.89	4.81	14.29	2.97	13.85	1.52

Source: Zhang Weimin, Cui Hongyan et.al, 2003, the National Statistical Bureau

It seems that the population in China will continue to grow in another 20-30 years. By 2020, the total population will reach 1489 million, 1429 million, 1385 million based on the different scenarios above respectively. Considering the under-reporting problems in the census, it seems not possible for the total fertility rate in China now to be more than 1.8. So, the results from the middle scenario seems to be more reliable. Based on this trend, China's population is very likely to reach its peak in the year 2035, with total number of 1480 million, which is well below what had been projected many years ago, which was around 1600 million.

Based on the projection of the middle scenario, the growth of population at working age will stop sooner than the total population. Table 2 summarizes the projected changes of population at working age and the dependent ratio.

Table 2: Projection for Population at Working Age and the Change for Dependent Ratio

	Annual Growth (ten thousand)		Dependent Ratio		
Year	15—64	15-59	Children	Elderly	Total
2003	1325.40	1323.00	33.45	10.66	44.11
2004	1259.59	1185.22	32.34	10.73	43.07
2005	1208.33	1113.06	31.29	10.81	42.10
2006	1248.83	1129.62	30.18	10.90	41.07
2007	956.24	763.21	29.48	11.01	40.50
2008	920.05	670.35	28.88	11.09	39.98
2009	885.01	624.69	28.31	11.21	39.52
2010	820.64	397.95	27.82	11.36	39.18
2011	758.65	457.95	27.38	11.55	38.93
2012	681.34	251.76	26.99	11.81	38.80
2013	593.84	175.04	26.68	12.10	38.77
2014	453.91	-6.82	26.49	12.44	38.93
2015	190.34	-165.67	26.42	12.99	39.41
2020	-264.27	160.74	26.45	16.45	42.91
2025	197.84	-691.70	25.74	19.13	44.87
2030	-640.94	-815.58	24.43	23.40	47.84

From the table, we can see that the population at working age group 15-64 years will increase by around 10 million annually from 2001 to 2006, and the growth trend seems not to stop till 2016, but the annual increment will decrease annually. If we define the working population is at age between 15 and 60 years, then, the growth trend can stop as early as by 2013. As far as the total quantity is concerned, the working population at age 15-64 will reach its peak in 2016, with a total number of 997 million, and the working population at age 15-59 will reach its peak in 2013, with a total number of 921 million. Therefore from the point view of labor supply, the comparative advantage in abundance of labor force would be able to sustain for another 10-15 years. Will China, the most populous country, face labor shortage someday in the future?

III. Will China Be Facing Labor Shortages?

Economists generally believe that economic globalization and trade liberalization will lead to more efficient allocation of resources worldwide. As a result, countries would use their comparative advantages more efficiently. The most comparative advantage of China lies in its huge cheap labor force. And it seems that such a comparative advantage will be further intensified in the era of WTO because that the labor mobility is still strictly restricted while the other productive factors such as

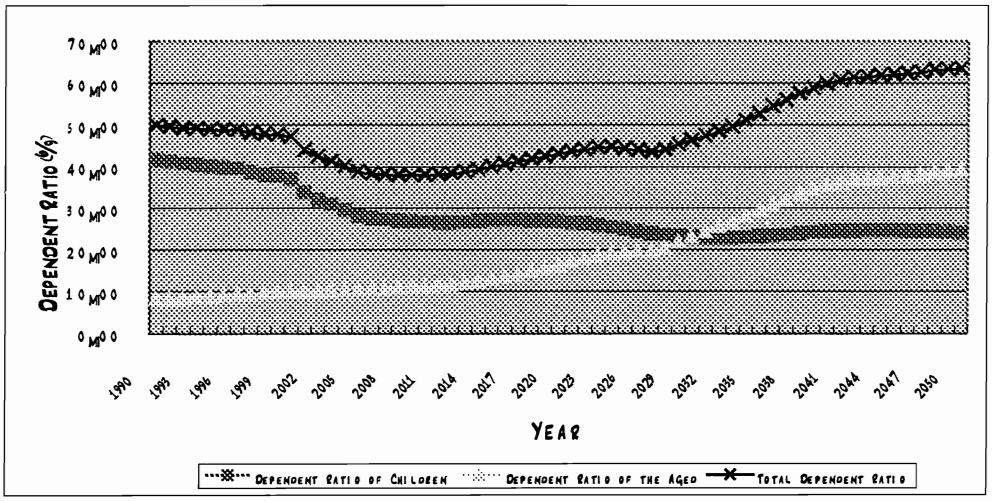
physical capital, technology, and management skills etc. can move across boarders more freely according to the rules of WTO.

Will China be facing a shortage of labor supply? This is not just a mater of the number of labors. To answer this question, it also needs to investigate the costs and productivity of labors.

How cheap are Chinese labors? In 1991, the wage rate of Chinese labors in manufacturing industry accounted for only 1.7% of that of their US counterparts. With a growing trend, this number increased to 3.7% by 2000. And the Chinese labor costs increased by more than two times for the ten years. This probably says nothing about the competitiveness of Chinese industry without looking at the change of labor productivity. In 1991, a US manufacturing worker was 40 times more productive than a Chinese worker. In 2000, a US manufacturing worker was only 10 times more productive than a Chinese worker in 2000. And the productivity of Chinese labors increased by 4 times in the same ten years. The faster growing of labor productivity than that of labor costs means a wider gap between them, and this indicates the competitive advantage of Chinese industry has been strengthened. As a result, the low costs relative to productivity have given great incentives for foreign investment in China. This is why we see that the foreign direct investment has been flooding into China and the cheapest goods 'Made in China' are sold everywhere in the world.

There is no doubt that the decrease trend of labor supply will push the costs of labors to increase. The projection of population suggests that dependent ratio for labors would begin to increase after reaching its lowest at the year 2013 (see figure 1). This means that the 'demographic bonus', which has placed a very favorable demographic environment to China's sustained economic growth in the past over 20 years, will decline gradually.

Figure 1. Change of Dependent Ratio of Working Age Population (1990–2050)
Note: Number after 2001 is projected based on the 2000 Census



With acceleration of population aging in China, its most comparative advantage, the cheap labor, is certain to decline rapidly, which will further undermine the foundation of economic growth. If the increase of labor productivity will not be able to catch up the rising of the costs, the comparative advantages of labors will certainly to decline and will be exhausted up gradually. The labor shortage in China might occur when the marginal productivity of labors will not able to cover the full costs of labors.

DISCUSSION

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저는 토론보다는 질문을 하겠습니다. 먼저 남아선호사상에 대해 말씀 드리겠습니다. 중국도 한국과 같이 남아선호사상으로 성비 불균형 현상이 있습니다. 한국에서 남아선호사상은 1980 년에 후반에 생성되었고, 중국은 1990 년대에 생성된 걸로 알고 있습니다. 이로 인한 문제로 낙태 문제도 있었지만 missing girl, 즉 농촌지역에서 여아를 낳은 경우 신고를 하지 않는 것으로 알고 있습니다. 이것은 발표자가 말한 TFR 에 관련된 것은 아닌가 하고 여쭤보고 싶습니다.

둘째, 한국도 1985 년 후반~1990 년부터 성비 불균형 현상이 나타나기 시작해, 앞으로 10 년 후에는 5~6 명중 1 명은 장가를 못 가는 상황이 생길 것입니다. 중국도 똑 같은 상황인데, 여기에 대한 중국의 의견을 묻고 싶습니다.
제가 보기에 고령화 대책은 동서양이 다른 것 같습니다. 제가 알기로 중국은 다른 동양국가들과 달리 자체적으로 중국 고유의 해결책을 찾은 나라인 걸로 알고 있습니다. 과연 사회보장제도도 얼만큼 해결했는지요? 농촌과 도시 지역은 부모와 자식 관계가 다릅니다. 아직 농촌은 공통체정신이 살아있습니다. 중국이 노후보장제도를 어떻게 준비하고 있는지 궁금합니다.

마지막으로 프린트가 잘못된 것 같은데 사회보장제도가 낮다라고 했는데, 26 페이지에 84.1%가 퇴직연금을 받고, 44%의 피고용인이 연금을 받을 자격이 있다라고 나와있습니다. 이것은 연금수혜자 비율이 조금 높은 편인데, 잘못된 것 같아서 질문 드립니다.

Mr. Zhang Juwei
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For the first question, I think it's only in the presentation. I didn't prove sexual issues on the paper. I skip some side effects. China knows that it has an unbalanced sexual problem, something so serious. I think all of the countries even the world leader concern about this problem. From the latest census 2000, the sex ratio is as high as 117. In some province, it's around 130. As you can see, it's so huge and serious problem. This will be the same problem for the marriage. I agree with that those kinds of sexual unbalance directly related to the marriage problem. But it's something that there are more

males than females. For the reason, I think you also say that sex preference is the most important reason. But if you compare China with Korea, they are different. Korea doesn't have strong implementation of family planning policy. But China has these kinds of policy. I think those kinds of policy have some pressure on sex selection. If you reduce the number of family, especially in the rural areas, people will choose their sex. That's substitution between sex and the number of the family. I think this is problematic in most regions in China. We have those kinds of unbalanced sexual issue.

Another question is also the statistical review. It's some kind of survey, which contributed to statistical problem that some girl is not reported and not registered, especially in the rural areas. We have a survey, which found out that if you compare school children aged 6 to 10, those children in the school are more than census figure. That's some kind of underreporting problem. If you look at the difference, females tend to be more underreported than males. This is the brief answer for that question.

The second question is Asian problem. You see that we have different perspective between Asian countries like China and Korea and western countries. For the living of Asian people, I agree with that we have a tradition that young generation is living with old generation. It's our tradition, probably same in Korea. But this kind of trend will be seriously affected by the dramatic decline of fertility rate. People have less and less children. Economically, people cannot able to afford those kinds of living arrangement. This is not something that we want or not. It's something that we can't. It's sort of social security problem. You can see the numbers in the paper. Probably, the number is not for the whole country. I think the number is correct, but only for the urban areas. In the rural areas, China doesn't have any social security system at all. This figure is only for the urban residents. What's the number of urban residents? That is only more than 250 million, which is one fourth of the total population of China. The coverage of the pension system is around 115 million people. It's the small part of the population who are in the system. Even, we have some different tradition to support old people compared with western countries. If you look at this economically, this is a problem. Probably we don't have other choices, which is different from western countries. We have to go further to have some solutions for the Asian problem. We have to establish good social security system. Otherwise we will see this problem turn into the sort of crisis.

VI. SESSION IV-1 :

ECONOMIC GROWTH AND AGING-INDUCED CHANGE IN HEALTH AND SOCIAL EXPENDITURES OF THAILAND

Economic Growth and Aging-induced Change in Health and Social Expenditures of Thailand

Dr. Kusol Soonthorndhada
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Introduction

The age structural transition is an integral part of demographic transition where it trajectories are determined by nature and process of mortality and fertility declines. When the baby boom cohort reaches the old age, then the old age dependency ratio increases. The age structure transition is likely to have various implications for social and economic development in the country. It was shown that shift in the age structure of the population influence the age pattern expenditure in education, health and pensions and therefore leads to major problems in terms of resource allocation (Navaneetham, 2003:1). An increase in the elderly population both in absolute and proportional terms is likely to have an impact on the sustainable social security system.

Thailand used to be a country with population structure looks like a pagoda shape with small portion of aging population on the top. The population structure is now changing with an increasing of aging population. Although, old age population is likely to increase significantly after the year 2020, the old age dependency ratio will start increasing from the year 2000 onwards and will surpass the young dependency ratio in 2035(United Nations, 2002). This means that there will be more old people per adult compare to children. It is therefore essential that the country must get ready to face with the changing situation, especially the increasing of health care expenditure.

The impact of population aging on the macro-economy is now considerable of both developed and developing countries' interest, especially a major issue on health and social expenditures. As older people require more health care consumption due to a significant level of disabilities and chronic morbidities (Jitapunkul, 2000). The persistent morbidity obviously reflects an actual need for health care utilization and expenditure. Mayhew's work (2000) on health care expenditure showed that it was around six times more expensive to treat older than younger people so that almost inevitably, as aging proceeds and technological advances significantly greater share of GDP will be absorbed by health care activities. Thailand is one of the most rapidly aging countries in

South East Asia after Singapore and so the way it is approaching the aging issue, especially the nature of current reforms to its health care system, is wider of interest.

This paper try to present age structural transition, health expenditure and GDP growth in Thailand, and to examine the long term impact of Thai aging on health and social expenditures before and after implementing the Universal Coverage Policy in 2001 by using secondary data from many sources, especially from the Ministry of public health, National Statistical Office, IPSR Mahidol University, the Ministry of Finance and international organizations. It is too early to project health expenditure of aging population because this policy is implementing among the changes of public organization restructure, the development of quality assurance of health care providers and the trial period of Thai's road map to universal coverage that we learned from international experiences to prevent future failure of unequal to access health care and families without health insurance including improving quality of care.

Aging Population Transition in Thailand

Age structural transition is a constituent of comprehensive demographic transition frameworks, integrated with fertility and mortality transitions (Prasartkul et.al., 2004). As the age distribution of population is determine by the past fertility and mortality, the age structural transition is a process in which a country changes its age structure of population from broad young age group to old age group. During the transition, there could be "disorder of cohort flow" due to combination of nature of fertility and mortality declines. This cohort flows will have varying implications in social economic and health as the progress from young to old age.

In South East Asia, Singapore had the highest fertility decline followed by Thailand. Between 1950 and 1995, Singapore total fertility rate has declined from 6.4 children per women to 1.8 children, around 72% declines in the span of 40 years. Similarly, Thailand's fertility has dramatically declined from 6.6 children per women in 1950-1955 to 1.9 children per women in 1990-1995 (a decline of 71%). Rapid fertility decline started only in 1965-70 and reach below replacement level in 1990-1995.

Population projection of Thailand had been done by many organizations such as the United Nations (1999), the National Statistical Office (2000), the Health system Research Institute and the Institute for Population and Social Research (2003). These sources showed the population transition trend by age profiles in 1960, 1980, 2000 and projected profiles in 2020, 2040 and 2050. These age profiles depict changes in population structure from pyramid of Thai pagoda shape in 1960 towards a bell shape in 2000 and vast shape in 2020 onwards.

Table 1 and Figure 1 gives age structural transition of Thailand from 1960-2020 which shows the different pattern and trends of age structural transition of three age groups (total, young age, working age and old). It was noted that young age population (0-14 years) remarkable increased before 1970 and has started to decline since 1970 after the implementation of the National Family Planning Program. It has sharply declined in the period of 1970-2000 according to the success of this program. While the working age population (15-59 years) has slightly started declining in 1985, this will have implication for the labor market due to the lower proportion of population entering into labor market. The evidence of labor migration from neighboring countries showed the sign of Thai labor scarcity in some sectors.

Trends in the size and growth rate of aging population (aged 60 and above) are also remarkable. The aging population is growing faster than the growth of total population. The rapid increase in the proportion of the aging population implies a sharp increase in the size of aging population. The number of aging population has continued to increase from about 2.445 million in 1980 to 5.870 million and 12.389 in 2000 and 2020, respectively. The size of the aging population is doubling times of about 20 years. Based on this projection, old age population is likely to increase significantly before the year 2020 at the growth rate about 5 %. So Thailand will be the aging society in the next 20 years (Prasartkul et. al., 2004).

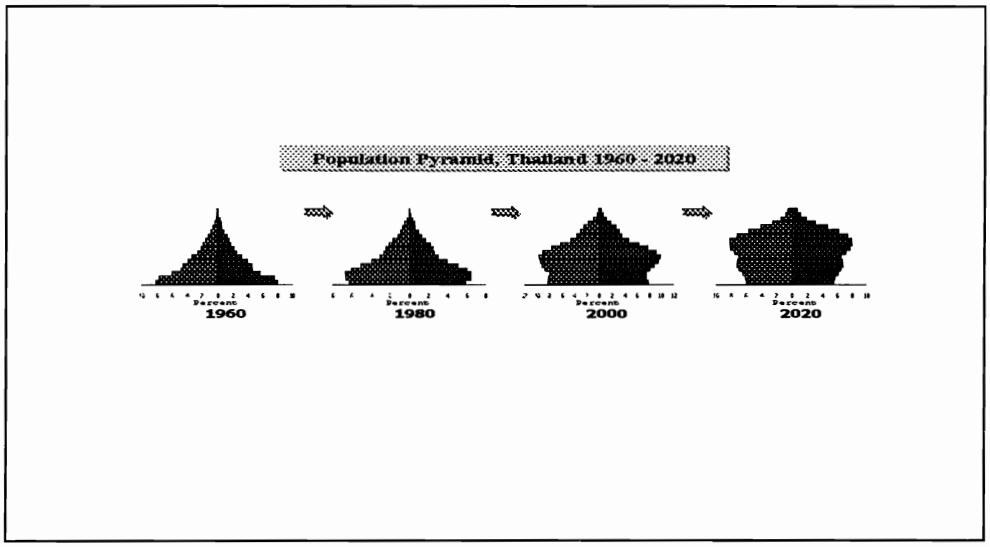
If we look at the Thai population projection after 2020 done by Navaneetham (2003: 28), the picture in Figure 2 shows that Thai old age population is likely to increase significantly after the year 2020. The old age dependency ratio will start increasing from the year 2000 onwards and will surpass the young dependency ratio in 2035. This means that there will be more old people per adult compare to children.

Table 1. Trend in Selected Demographic Measures of the Total and Aging Population in Thailand, 1960–2020

	1960	1980	2000	2020
1) Population (million)				
Total	26.202	44.824	61.770	69.410
0-14 years	11.319	17.165	15.104	12.737
15-59 years	13.675	25.213	40.796	44.284
60+ years	1.208	2.445	5.870	12.389
2) Total Fertility Rate	6.3	3.0	1.8	1.7
3) Population Growth Rate				
Total	3.1	2.1	0.9	0.5
Aging (60+)	3.9	5.0	4.8	4.9
4) Percent of total population aged:				
0-14 years	43.2	38.3	24.5	18.4
15-49 years	52.2	56.2	66.0	63.8
60+ years	4.6	5.5	9.5	16.7
5) Median Age	18.6	19.9	28.7	36.0
6) Life Expectancy Male			67.1	73.0
Female			74.8	78.9
7) Dependency Ratio (number of young + old/ number of working age)				
Total	85.2	72.0	44.3	43.6
Young-age (0-14 years)	80.0	65.9	35.3	26.4
Old-age (60+ years)	5.2	6.1	9.0	17.3
8) Aging Index (Number of old 60+ years per 100 young 0-14 years)	10.0	14.0	39.0	120.0
9) Potential Support Ratio (Number of population aged 15-64 years/ number of aging population aged 65+)	19.3	16.4	11.1	5.8

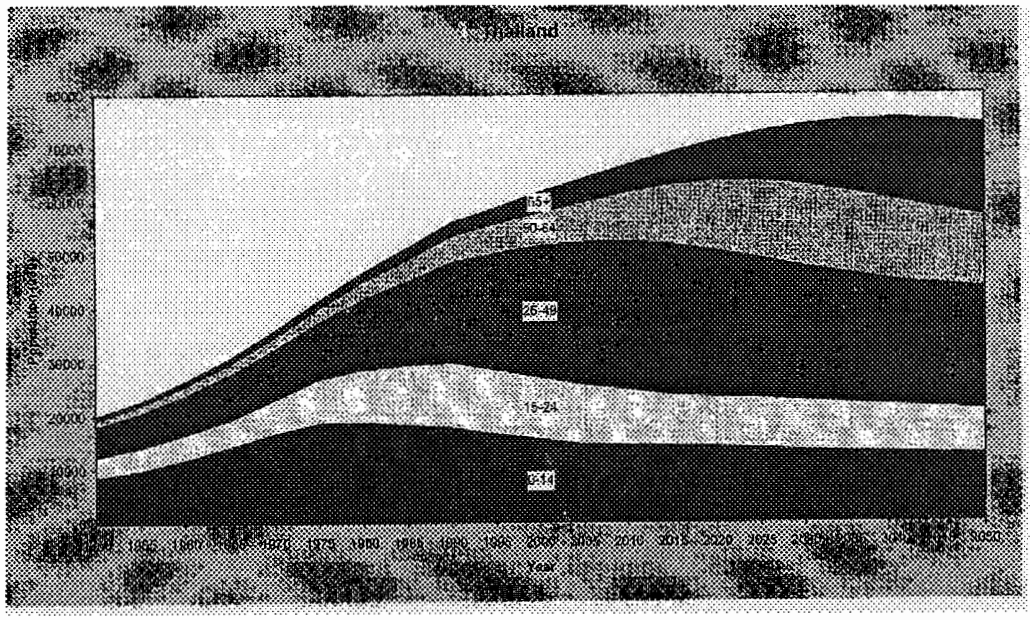
Source: Prasatkul et. al. 2004 " Aged Population of Thailand 1960-2020"

Figure 1. Thailand Population Transition



Source:Institute for Population and Social Research (IPSR) and Health System Institute (HRI), 2003

Figure 2. Age Structural Transition of Thailand



Source: Nevaneetham, 2003

To measure the level of population aging, demographers often use the index of aging. The value of this index in 1960-2000 is currently below 100, thus indicate that the number of children exceeds that of elderly persons. But in the next 20 years, the aging index is projected to exceed the100-level which means that the number of elderly persons will dramatically exceed that of children. In addition, life expectancy at birth of female is greater than male, this implies the feminization of the aged population in Thailand as other countries (United Nations, 2002).

Population Aging Compare to Some Countries in Asia

Table 2 shows changes in proportion of the population aged 60 and older among China, Indonesia, Japan, Malaysia, Philippines, Republic of Korea, Singapore, Thailand and Vietnam over the period 1950-2050. A few points emerge from this table. First, in 2000, Japan's population was by far the most aged compare to other countries; 23.2 percent of its population was aged 60 and older. China, Republic of Korea and Singapore a bit exceeded a level of 10 percent. Malaysia, Philippines, Thailand and Vietnam were lower than 10 percent, ranging from 5.5 per cent for Philippines to 8.1 percent for Thailand. Second, it is interesting to observe that in 2000 Japan and Republic of Korea' aging level were nearly double than that of the year 1975. This showed the speed of population aging was accelerated over the past 25 years and will continue to speed up in the next 50 years, particularly Republic of Korea. Third, it is worth noting that the speed of population aging is likely to accelerate over the next 50 years in China and countries in South East Asia. For instance, Singapore the proportion of the elderly is projected to increase nearly three times between 2000 and 2025, Malaysia, Philippines and Thailand are expected to grow about two times. Fourth, the tempo of the aging of Japanese population is substantially more rapid than that of Western industrialize populations. This is implying that Singapore's aging process may be the fastest in the history of the world, followed by Republic of Korea, Thailand, China and Vietnam (Ogawa and Retherford, 1997:).

In addition, the data from World Population Aging in the year 2000 (United Nations, 2002) showed that sex ratio of the elderly differed markedly from country to country. The predominance of women can be observed in all countries include in table 3 except China at ages lower than 70 years males are more than females. The implications of increasing in the size of the elderly dependant population, and feminization of the elderly population are serious issues with which policy makers and researchers must contend and find urgent solutions, especially in health and social expenditures (Hermalin, 1997, KIHASA and UNFPA, 2000).

Table 2. Change in the Proportion of those aged 60 and older in 1950-2020

Country	Year				
	1950	1975	2000	2025	2050
China	7.5	6.9	10.1	19.5	29.9
Indonesia	6.2	5.4	7.6	12.8	22.3
Japan	7.7	11.7	23.2	35.1	42.3
Malaysia	7.3	5.6	6.6	13.4	20.8
Philippines	5.5	4.9	5.5	10.4	19.5
Republic of Korea	5.4	5.8	11.0	24.1	33.2
Singapore	3.7	6.7	10.6	30.0	35.0
Thailand	4.9	5.0	9.5 *	17.3	27.6
Vietnam	7.0	7.0	7.5	12.6	23.5

Source: World Population Aging, 1950-2050 (United Nation Publication, No. E02.XIII.3)

* Applied from table 2

Economic development and National Health expenditure

Before the economic crisis in mid 1997, the Thai economy grew rapidly at the rate over 5 percent per annum. The economic bubble exploded in the year 1997, the percent of GDP growth was drop to be negative in the year 1996-1997 before slowing to 4-5 percent in 1999-2003.While the growth rate of real GDP per capita fluctuated similarly as real GDP growth. Prior to the economic crisis, per capita health expenditure rapidly increase from 2,186 bath in 1994 to 2,858 baht and 2,924 baht in 1996. After 1997 economic crisis in Thailand, despite fiscal constrain, the government maintained its health budget to provide adequate health safety net to all by increasing the budget to cover the exchange rate in 1998 but in 2000 the public spending on health decreased again due to the limited of government revenue. The percentage of health expenditure compare to GDP was increasing at the rate 3.56 to 3.84 percent from 1994-1998 and dramatically decreased to 3.37 in 2000 as the impact of the economic crisis (Tangcharoensathien et.al. 2003).

Comparing public and private source of expenditure, the figures showed that the private source of finance was decreasing from 51 percent in 1994 to 39 percent in 1998, and slight increased to 43 percent in 2000. As a result of the crisis, the private source shared less than half of health expenditure profile and people change behavior by shifting from using high cost in private sector to cheaper public

sector services due to limited affordability, especially among the middle class (Tangcharoensathien et.al. 2003). This showed that household spending on health played a crucial role in private source of finance. (See Table 3)

Table 3. GDP Growth and National Health Expenditure Profiles: Thailand, 1994–2000 (current year price)

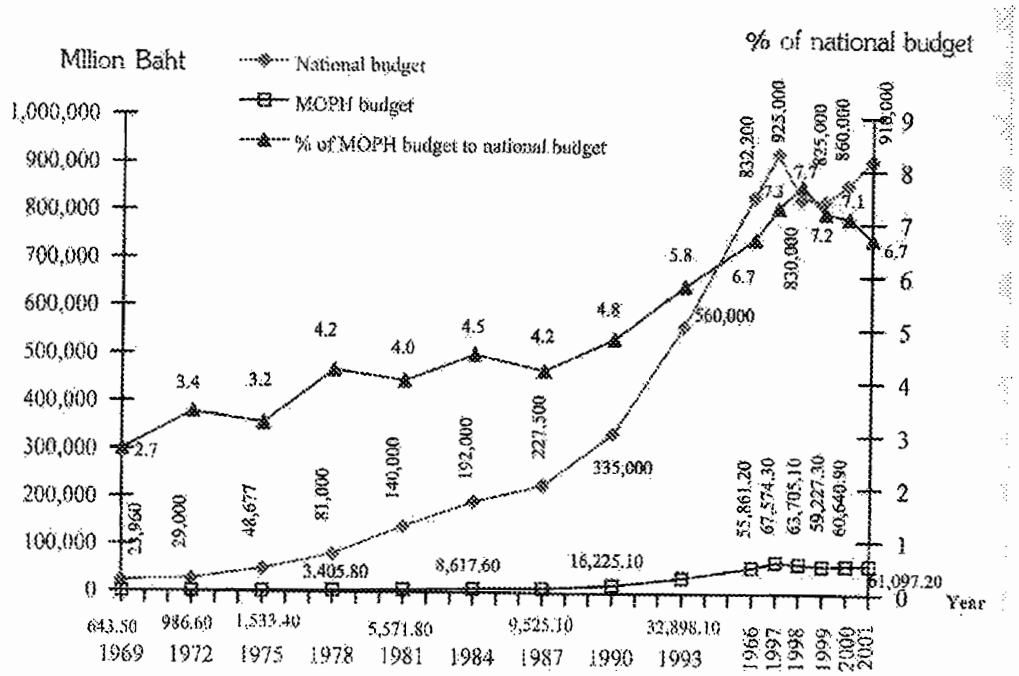
Items	1994	1996	1998	2000	2002
• Real GDP growth (%)*	8.99	5.90	-10.51	4.64	5.40
• Exchange rate of Thai Baht toward US$*	25.04	25.34	41.37	40.16	42.96
• Real GDP per capita (Baht)*	45,867	51,930	44,928	48,147	51,040
• Total health expenditure (million Baht)*	128,305	171,471	179,689	165,317	166,000
• Health expenditure per capita (Baht)** (US$ per capita)	2,186 (87)	2,858 (114)	2,924 (71)	2,672 (64)	2,444 (57)
• Health expenditure growth (%)	-	33.6	4.8	-16.0	0.4
• Health expenditure : GDP** (%)	3.56	3.72	3.84	3.37	3.40
• Public source (%)**	49	53	61	57	n.a
• Private source (%)**	51	47	39	43	n.a

Source : * Bank of Thailand
** Tangchararoensathien et.al., 2003.

The figures in Table 3 showed that health care expenditure grew corresponding to the GDP growth but much higher rate than GDP growth before the crisis in 1997 and the impact of the crisis had a time lag to effect the health budget. In addition, the household spending on health had a crucial role on the mix of pubic and private health expenditure.

Considering health budget allocated to the Ministry of Public Health (MoPH), the main ministry implementing health care services, compared to the national budget. The data showed that that the budget of the MoPH had gradually increased during 1970 to 2001 from 3.4 percent to 7.7 percent of the national budget, or from 0.4 percent to about 2 percent of the GDP (the left was allocated to other ministry such as the Ministry of Defense, the Ministry of Education etc.). Since the economic crisis, the proportion of the budget had been reducing to 6.7 percent (MoPH, 2001). Figure 3 shows the increasing of the national and MoPH budgets corresponding to the economic growth.

Figure 3. MoPH budget in comparison with National Budget (current Price) and its proportion to National Budget, Fiscal Years 1969-2001



Source: Bureau of Health Policy and Plan, MoPH.

Health System in Thailand

Before starting to discuss health expenditure for the elderly, I would like to conclude the health care systems in Thailand. The current health care systems in Thailand depend on modern medical and health technology. While the public sector is the main service providers, the private for profit and not for profit sector participated actively in the pluralistic health service system (Health system Research Institute, 2002). With expansion of modern health care delivery systems both in public and private sector, Thais are moving to toward using more health facilities based services. The use of public health services increased from 15.5 percent in 1970 to 28.9 percent in 1991 and to 44.0 percent in 1996, while the use of private sector services changed from 22.7 percent to 16.1 percent and to 24.3percent during the same period.

Prior to 2002, the government generally subsidized fully or partially 4 health welfare schemes, namely Civil Servant Medical Benefit Scheme (cover only civil servant), Social Security Scheme

(compulsory health insurance for private employee), Low Income Health Card (cover the poor, children< 12 years old, elderly), and Voluntary Health Card (cover those who are not eligible to any public scheme such as people in informal sectors/ in rural areas). Each scheme targeted different segment of the population and had developed at different paces. They vary significantly in terms of benefit package, provider payment methods, financing sources, level of government subsidy, efficiency and quality of care (Tangchareonsatien, et. al., 2003).

Table 4 demonstrates gradually increase in population coverage by health insurance in 1991, 1996, 2000 and 2002. The table shows the universal coverage of health insurance for all Thai population in 2002 after the present government has implemented the policy of universal health insurance since 2001. When the budgetary system and administrative are revised, followed by the over all structural reform of the Ministry of Public Health. The New system focus on the efficiency, quality and equity of health services, including the decentralization of various types of health agencies (MoPH, 2001).

Table 4. Population Coverage and Trends of Health and Welfare Schemes, 1991,1996,2000 and 2002

Scheme	1991*	1996*	2000**	2002**
Social Welfare Scheme	13.6	30.6	37	79
Government Employee Scheme (civil servant)	15.3	12.7	11	11
Social Security Scheme and Workmen	0	5.5	9	10
Voluntary Health Card	1.4	13.2	12	0
Private insurance	3.1	1.2	10	10
Uninsured/ Universal Coverage Scheme	66.6	36.8	30	0
Population, million	55.2	60.1	61.5	62.3

Source : * National Statistical Office, Health and Welfare Survey 1991, 1996.
**National Statistical Office, Household Socio-Economic Survey 2000, 2002.

Health and Social Welfare for the Thai Elderly

Thailand developed the National Long Term Plan for the Elderly (1986-2001) and the second Long Term Plan for the Elderly (2002-2021) which encouraged the support for implementation of government policies on care of older persons and guideline for elderly activities initiated by organizations. The major measures to protect aging from ill health and social welfare to protect financial risk include:

a) Health welfare for the elderly

In 1992, the Thai government declared the Public Health Welfare for all the elderly older than 60

years, the Ministry of Public Health (MOPH) started a free healthcare program for Thai older persons. Since then, older persons are entitled to receive medical care free of charge in all state hospitals and health care centers. (At present, there is no long-stay care service for older persons provided by state health care providers). The 48.5 million baht out of the revenue was allocated to support free health care services for the elderly for the first time. The elderly card was introduced in response to this regulation with the plan of distribution to all the elderly so that they could receive free medical care. Never the less, only 2.2 million cards were distributed due to limited budget and that amount covered only 54.8 percent of the whole elderly population (4.01 million). In 1993, the Ministry of Public Health increased the budget for elderly welfare regarding medical care to 367 million baht to increase the coverage of 66.6 percent of the whole elderly population of 5.3 million.

In conclusion, during the pre-implementing of the Universal Health Insurance Policy "30-baht inclusive health care" in 2001, the provision of health care for the elderly from public sectors was exclusively to a certain group of population from public sectors comprising ;1) state pensioners under the Civil Servant Medical Benefit scheme (CSMBS) which covered 1.6 percent of total population or about 0.99 million persons and only 22 percent were the elderly or state pensioners (about .22 million persons), 2) Medical Welfare Scheme (MWS) or health insurance for the elderly covered about 3.3 million elderly persons, 3) Social Security Scheme (SSS) which covered about 5.9 millions private-sector employees in 2000 but a very limited number(0.38 percent) will receive pension in the next 10 years (the SSS extended coverage for the elderly in 1998). So the public sector could be provided health welfare for the elderly only about 3.54 million persons (about 60 percent of total aging of 5.89 millions) before implementing the universal health policy to all Thais. Since 2001, the current government leads by Prime Minister Taksin Shinnawat, all the elderly have received health welfare free of charge for the poor from MWS and with co-payment of 30 Baht (0.75 US$) per visit/ admission for the last 40 percent from the government. This scheme is mainly financed by general tax plus beneficiary co-payment. So the main health expenditure for the elderly in the future will go to those who will cover by UC and CSMBS.

b) Social Welfare for the Elderly

Since 1979, the Department of Social Welfare (DSW), Ministry of Labor and Social Welfare (now is under the Ministry of Human Security and Social Welfare since 2002) developed 18 social services center for the elderly which mainly provide day care and basic rehabilitation services as well as medical screening & basic treatment, counseling, recreation activities and mobile clinics. Unfortunately, public nursing home for older person is not available yet. In 1993, the government started to expand several social welfare schemes, Thai elderly persons who live in the community and due to mean test of poverty were entitled to receive monthly allowance of 200 Baht per month

from the DSW. This financial support covered only 318,000 persons (~ 45 percent) of the whole 707,336 elderly person with poverty. In 1999, the monthly allowance for the elderly with poverty was raised to 300 Baht and extended the coverage to 400,000 persons (~ 49.8 percent) and fixed to this number until now (Jittapunkul et. al., 2002). Data from DSW Annual Report (2000), estimated that the Thais elderly got the monthly allowance about 5 persons per community by average.

Expenditure on Health and welfare for the Thai Elderly

At present, all elderly persons in Thailand have the security in terms of income and medical services. Those are covered by the CSMBS for civil servants who retire from government services and the Universal Coverage Scheme for the poor and general elderly persons. The government subsidization was 1,202, 1414, 1447 Baht per visit in Fiscal year 2002, 2003, 2004, respectively. The public welfares that are available to some elderly poor such as housing and service center are very limited. Although the government has recent started to provide living allowances to needy-old-aged around country, but the proportion received are less than half of total needy-elderly. Table 5 showed that in the year 2000, all kinds of government expenditure for pension, living allowance and health expenditures was totally about 0.62 percent of GDP or about 30 billion baht (~ 750 million US$). As the trend of GDP growth induced the increasing of the government expenditure, so this study crudely forecasted the government expenditure by using regression function (as shown under Table 5) and assuming the GDP growth at 3 percent. It was estimated that in the year 2010, that government expenditure for the elderly will increase to 1.1 percent of GDP (~ 93 billion or 2 billion US$). It is noted that the percent GDP of pension will increase much higher than living allowance and health expenditure because the government have policy to decrease the number of public servants, so many incentive and non-incentive are was measures use such as early-retirement, productivity and changing organization structure. Social welfare expense allocated through the Department of Public Welfare will not increase proportion in the next five year because the government allocate more money to the community such as support community fund and one-community-one-product (OTOP) to alleviate poverty. Health expenditure for the elderly allocate through the MoPH will increase from 0.08 percent (~ 3.99 billion baht) in 2000 to 0.12 percent of GDP (~ 11 billion baht) in 2010 because of the more accessibility and utilization according to the UC policy. Comparing this analysis to a study of Thailand Development Research Institute (TDRI), it was found that in the year 2000, government expenditure paid through the MoPH, CSMBS and DPW compared to total government expenditure on social protection for all age group were about 6.25, 39.8 and 18.75 percent of the GDP, respectively (Table 5)

Table 5. Proportion of Health and Social Expenditures for the Elderly Compare to GDP, in 1980–2000.

Year	(1) Number Aging (Million)	(2) GDP (Billion Baht)	(3) Pension/ GDP	(4) Living Allowance/ GDP	(5) Health Expenditure of MoPH/GDP	(6) Total
1980	2.445	662	0.33	0.00	n.a.	0.33
1985	3.523	105	0.48	0.00	n.a.	0.48
1990	4.014	2,183	0.40	0.00	n.a.	0.40
1995	5.146	4,190	0.47	0.02	0.04	0.53
2000	5.870	4,990	0.51	0.03	0.08	0.62
2005 *	7.113	5,596	0.58	0.03	0.10	0.72
2010 *	8.381	9,224	0.86	0.03	0.12	1.01

Source : 1) NESDB and Prasartkul et.al., (2003).

2) and 3) from Bureau of Budgetary, Ministry of Finance and Ministry of Public Health.

4) Living allowance expenditure from DPW.

5) Health expenditure for the elderly from MoPH (40% of budget for the poor).

* Projection Function: Expenditure = f (GDP, no. of aging, sex ratio) under the assumption of GDP growth 3% during 2005-2010.

Comparing the proportion of health and social expenditures in Table 5 to a study of Thailand Development Research Institute (TDRI, 2003) found that in the year 2000, the government expenditure paid to the Ministry of Public Health (MoPH), pension for public civil servant (CSMBS) and to the needy elderly persons as welfare for the poor (DPW) compared to the government expenditure for all age group on social protection were about 6.25, 39,8 and 18.75 percent of the GDP, respectively. The trend of total government expenditure on social protection for all age group had a bit change in terms of percent GDP except for health expenditure paid to civil servant through CSMBS. (Table 6)

Table 6. Government Expenditure for Ministry of Public Health (MoPH), Civil Servant (CSMBS) and Development of Social Welfare (DPW) on Social Protection for all age grows.

Year	MoPH	CSMBS	DPW	Private Employees	Private School Teacher	Total
1996	55,861	33,302	3,704	5,078	298	98,242
1997	68,934	101,689	4,334	5,671	317	180,945
1998	63,705	81,879	4,053	3,578	317	153,532
1999	62,787	53,946	3,608	7,490	326	128,157
2000	63,001	63,260	4,435	8,041	469	139,206
2001	61,563	71,367	4,497	8,583	411	146,421
2002	65,467	86,263	4,529	10,127	406	166,791
			% Total Government Expenditure			
1996	6.82	4.07	0.45	0.62	0.04	11.99
1997	7.40	10.91	0.47	0.61	0.03	19.42
1998	7.56	9.71	0.48	0.42	0.04	18.22
1999	7.54	6.48	0.43	0.90	0.04	15.38
2000	7.38	7.41	0.52	0.94	0.05	16.32
2001	6.78	7.85	0.49	0.94	0.05	16.11
2002	6.85	9.03	0.47	1.06	0.04	17.46
			% GDP			
1996	1.21	0.72	0.08	0.11	0.01	2.13
1997	1.46	2.15	0.09	0.12	0.01	3.82
1998	1.38	1.77	0.09	0.08	0.01	3.32
1999	1.35	1.16	0.08	0.16	0.01	2.76
2000	1.28	1.29	0.09	0.16	0.01	2.83
2001	1.20	1.39	0.09	0.17	0.01	2.86
2002	1.20	1.59	0.08	0.19	0.01	3.07

Source : Thailand Development Research Institute (2003).

Conclusion and Discussion

Although the level of population aging in Thailand is relatively low compare to many development countries in Asia (such as Japan and Korea) age share of the population aging (aged 60 and above) is expected to be extremely last in the next 20 years because of rapid fertility decline. The significant increase in population aging after 2020 in Thailand will have implication for health and social expenditure.

This study tried to analyses the secondary data of GDP, health expenditure and social expenditure for Thai aging population. The data showed that the magnitude and direction of health and social welfare expenditures in Thailand were positively associated with gross domestic product (GDP) growth. Although the GDP growth might effect from not only the inflation rate but also the national capacity to raise production in many sectors.

In addition, the results showed that in the past decades all kinds of government expenditures on health and social welfare for aging population (tended to increase slightly) accounted for a small portion of GDP (or less than 1 percent of GDP) of the country. But in the real term, it was a big amount of expenditure, for example in the year 2000, 750 million US$ paid for public pension, health expenditure, and living allowance for needy-aging. It was estimated that in the year 2010, the total government expenditure will increase to 2,000 million US$ for public pension, health expenditure and living allowance, respectively. This showed the number of aging induced change in health and social expenditures.

When Thailand was introduced into its medical care plan in 2001, called "30 Baht inclusive health care". Under this scheme the users pay only 30 Baht (.75 US$) per visit or admission to health care facility, the government will cover additional costs. Because of its low price, this new scheme can be regarded as a virtually universal medical care plan. Prior new plan, only limited segments of the poor elderly population were covered by the Medical Welfare Scheme (MWS). So the elderly population can access and utilize of medical care with pay only a small amount of 30 Baht. This can be decrease the burden of the families in supporting the health of their elderly parents, but it will be more burden of the government to pay for the high cost of hospital use and technology for the care of an increasing elderly population in the near future, especially when Thailand face an aging society in the next 15-20 years. So the government need to find the strategies to cove with the changing situation.

We can conclude that the past decades. Thai aging population made only a small portion of GDP share, but in the near future aging population growth will be more matter for the health and social expenditures, especially pension for the retired civil servant. But it is likely to be conditioned by

other factors such as trend to intensively utilise health care services by aging population, number of aging with chronic illness and disability, technology and drug price. Thus, there remains many uncertainty factors as to precise the government expenditure in the future.

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DISCUSSION

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프리젠테이션 정말 잘 들었습니다. 굉장히 흥미 있는 주제입니다. 대부분의 나라에서 이러한 주제를 가지고 많은 스터디를 했습니다. 태국의 경우, 이에 관한 연구를 통해 앞으로의 전망을 해보고 어떻게 대처할 것인가에 대해 잘 설명해주셨습니다. 이는 참 유용한 연구라고 생각합니다. 다만 이러한 연구를 함에 있어, 제가 생각하기에는, 아직까지 이런 전망이나 추계를 하기에는 태국의 건강제도나 사회복지시스템이 모던화되지 않은 상태여서, 이러한 장래전망을 하는 것이 상당히 힘들다고 생각합니다. 보통 유럽이나 OECD 국가들의 경우 경제성장과 고령화에 따라 보건지출이나 복지지출이 얼마나 증가할 것인가를 전망하는 자료들이 꽤 많이 있습니다. 그런 자료를 보면 소득이 가장 유용한 지표로 나오고 고령화 요인은 그다지 통계적으로 유의하지 않습니다. 2020 년까지 장래전망을 하셨는데, 여기에서 소득탄력성을 어떻게 고려하셨는지 파악하기가 좀 힘듭니다. 그리고 고령화 요인과 관련해서, 고령화 요인은 시간이 경과함에 따라 비노인층에 비해 노인이 쓰는 의료비가 초기엔 2 배가 되다가 갈수록 3 배, 4 배, 5 배로 그 격차가 크게 벌어집니다. 그러한 부분을 고려하면 현재의 추계가 조금 낮게 어림짐작된 것은 아닌가 하고 생각합니다. 보건이나 사회복지제도들이 굉장히 미성숙한 단계입니다. 태국이 계속해서 경제성장을 이룬다고 보고 또한 사회제도도 성숙 된다고 생각할 때, 물론 소득이나 고령화 요인도 있지만 이러한 제도가 완비될 때는 보건지출이나 사회복지 지출이 제도적인 요인에 의해서 크게 증가할 것입니다. 그런데 제도적 요인에 의한 지출증가분을 좀 감가한 것 같은 생각이 듭니다. 그리고 자료에서 출산율을 2000 년에 1.8, 2020 년에는 1.7 로 가정하고 추계를 하였습니다. 출산율이 계속 감소하고 있는 추세에 비추어볼 때, 2002 년의 1.7 은 너무 낙관적인 가정이 아닌가 생각합니다. 또한 2001 년에 health expenditure 쪽에서 universal coverage 를 한다고 되어있는데, health expenditure 의 속성상 coverage 가 계속 확대되어 보편화되면 지출이 굉장히 빨리 증가하는 경향이 있습니다. OECD 국가의 의료비 지출증가 요인 분석을 보면 건강에 대한 사회보험의 적용 확대가 의료비 지출을 증가시키는 요인 중 하나로 나와 있고, 한국의 경험에서도 건강보험제도 도입 이후 의료비가 굉장히 빨리 증가하는 현상을 목격했습니다. 그래서 2001 년의 universal coverage 가 생각보다 빨리 향후 의료비 지출을 증가시킬 가능성이 있습니다. 저는 그런 부분을 지적하고 싶습니다. 특히 복지제도에 있어 정부예산의 약 50%가 공무원과 관련된 복지지출로 나가고 있습니다. 다른 나라와 비교해 보면, 이런 나라는 찾기가 힘듭니다. 공무원외에도 일반 국민을 대상으

로 하는 제도가 앞으로 훨씬 성숙할 가능성이 있지 않나 전망해 봅니다. 그렇게 볼 때 제도적인 요인에 의해서 이러한 지출이 증가할 가능성이 있다는 것을 여러 가지 시나리오를 통해 추계를 해보는 것이 좋을 것 같다는 생각을 합니다.

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I'm not sure that I correctly understand the universal coverage you mentioned. In Thailand, now it's universal. I mean that everybody can be covered by different health insurance schemes. They include the poor and non-poor. As you mentioned, the expenditure on the pension for civil servants is very high compared to other heal expenditures. This is consistent with other countries including Korea, Japan and the developed countries. I think that the part of welfare expenditure is quite low compared to other countries like westerm Europe, where social security scheme's budget allocated from the government is quite high. It's very good point you mentioned. Thank you very much.

VII. SESSION IV-2 :

INTER-GENERATION RELATIONS AND LIVING ARRANGEMENT OF THE ELDERLY IN THAILAND

Intergeneration Relations and Living Arrangements of the Thai Elderly

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Abstract

With rapid decline in coresidence of the Thai elderly, this paper investigates socioeconomic and demographic determinants of living with children of the elderly and the exchanges in materials and services among parents and children in Thailand. The 2002 Survey of Elderly is utilized for this study. The results from the logit technique show that having a spouse or more number of living children has an important effect on coresidence. The results also provide strong support on modernization theory in terms of household ownership and income self- supporting, but not urbanization. Material and services exchanges between children of the elderly and the elderly themselves show that family system of support appears to be functioning in the period of rapid socioeconomic and demographic change.

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Intergeneration Relations and Living Arrangements of the Thai Elderly

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INTRODUCTION

Thailand has experienced demographic and socioeconomic changes over the recent decades. As a result of the decline in fertility and the increase in life expectancy at birth, Thailand has witnessed changes in its demographic structure, particularly the old age group. The older persons aged 60 years and older were 9.5 percent in 2000 and projected to be 20.5 percent in 2025 (Institute of Health System Research and Institute for Population and Social Research (IPSR), 2003)

Despite the rapid social and economic change over the recent decades, a widespread and functional familial system of support and care for the elderly has been maintained in Thailand in terms of living arrangement and material exchanges (Knodel and Chayovan, 1997). Like in many other Asian countries, the majority of Thai older persons aged 60 years and older coresided with their children (Knodel and Debavalaya, 1997). However, the trend is declining particularly in the most recent period. The percent of elderly who coresided with at least one of their children was approximately stable between 1986 and 1995, 77 percent and 71 percent respectively (Knodel and Debavalya, 1997), but the most recent figures show that the figure declined substantially to 55 percent in 2002 (National Statistical Office, 2003).

The modernization theory has argued that the status and well-being of the elderly are closely linked to their living arrangement (Cowgill, 1986). Although family support can be given without living together, coresidence even under circumstances of good health and economic independence of good health and economic independence of elderly is viewed as a form of insurance against future need.

This study, therefore, focuses on family support to the Thai elderly in the present era, as manifested through living arrangements of the elderly, particularly coresidence with children and intergeneration exchanges of both materials and non-materials between the elderly and their children. The elderly in this study are defined as population aged 60 and older.

Data and methodology

The source of data for the present study is the 2002 Survey of Elderly in Thailand carried out by the National Statistical Office. The stratified two-stage sampling covered 43,447 persons aged 50 and over, of whom 24,834 are those aged 60 and over. This elderly

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survey is limited to private households only.[i] The weighted sample is national representative. In the present analysis, all results are weighted.

One noteworthy feature of the survey is that if the elderly targeted for interview was unavailable or unable to answer, another person in or outside the household was interviewed as a proxy. Overall, 73 percent of interviews were conducted with the intended respondent, 24 percent from a member in the household and 3 percent with the proxy outside the household. Exploration of the data shows that there was a sizeable unknown from some answers even for self-report. Proxy interviewers are, therefore, excluded in the analysis.

The simple logit model is applied to investigate the impact of demographic and socioeconomic factors on living with children. The two outcomes are living with children (and anyone else) or not living with children.

Because the option of living with children, no matter what their marital status, is not possible for elderly persons with no surviving offspring, the sample used in this analysis is restricted to those with living children. About 95 percent of the respondents in Thailand had at least one child alive at the time of survey. However, certain questions were frequently left unanswered. The lack of response to various questions in the analysis resulted in a reduction of the number of cases used in the analysis. The total number of elderly aged 60 and older in the analysis, excluding proxy respondents and unknown answers, are 15,276.

Table 1. Percent of the elderly aged 60 and older who have at least one child alive by selected characteristics, Thailand, 2002 (N=15,276)

Variable	Percent	N
Living arrangements		
Alone	6.6	1,005
With spouse only	19.1	2,916
With children (with or without others)	57.4	8,771
With spouse and others	9.0	1,375
With others	7.9	1,209
Age		
60-64	35.1	5,369
65-69	29.1	4,449
70-74	19.2	2,934
75 and over	16.5	2,524
Median	67.0	15,276
Sex		
Male	44.9	6,862
Female	55.1	8,414
Area of residence		
Urban	27.3	4,172
Rural	72.7	11,104
Education		
No education	28.8	4,397
Prathom 4	62.9	9,610
Higher than Prathom 4	8.3	1,269
Homeownership		
Yes	85.9	13,115
No	14.1	2,161
Income self supporting		
Yes	53.6	8,189
No	46.4	7,087
Healthy		
Severe limitation	6.3	960
Some limitation	41.7	6,378
No limitation	52.0	7,939
Spouse alive		
Yes	66.3	10,123
No	33.7	5,153
Mean number of female children alive (*step, adopted and biological*)	2.33	15,276
Mean number of male children alive (*step, adopted and biological*)	2.30	15,276

Source: The 2002 Survey of Elderly in Thailand

Note: The results are weighted using normalised new weight. The figures are, therefore, based on

the observations actually used in the analysis.

Among those with living children, about 57 percent live with at least one living child, 19 percent live with spouse only and 7 percent live alone. There are more female than male respondents. This is not surprising since females live longer than males (life expectancy at births are 75 years for females and 68 for males (IPSR, 2004). Since Thai female elderly are less economically independent than their male counterparts and the higher proportion of widowers, relatively more living with children is expected.

The percent of elderly decrease with an increasing age as expected. It can be expected greater coresidence with higher age. The coresidence represents a flow of resources of children to parents and older age is associated with increasing assistance.

Education, urban residence, home ownership and self-supporting are expected to be negatively associated with living with children based on the modernization theory. If privacy is desired, the elderly with more education, who live in urban area, who own their home and who are self supporting might be able to have independent living arrangement. Most of the Thai elderly have only Prathom 4 (63 percent) or no education (29 percent).[ii] Over 70 percent live in rural area. Over 80 percent owned home by themselves or spouses, and over 60 percent are self-support by income from work, pensions and savings.

The assessment of respondents' ability to perform activities of daily living (ADL) is used as a measure of health. One might expect that low ADL is negatively associated with living with children since they need assistance. The four tasks considered in the assessment are lifting object weight 5 kgs, walking for one kilometer, walking up stair a few steps, traveling by bus or boat alone.[iii] If the elderly can perform all activities, they are assigned to "no limitation" group, if cannot perform all activities, they are assigned to "severe limitation" group. The other combinations are in "some limitation group".

About 66 percent of the respondents had a spouse alive, about 95 percent had a child alive. It was found that sex of children had an impact on living arrangement of the elderly in Thailand (Knodel and Chayovan, 1997). Thus, the number of living male children and female children are used as two separate explanatory variables. They include adopted, step and own biological children. The elderly may also have living children with both sexes. However, an older person has about the same average number of male and female living children (2.3 persons).

Results of logistic regression

Table 2 presents the results of logit analysis of living with children or not. The coefficients should be interpreted as the effects of the variables on the log odds of living with children versus not.

Being male has a negative effect on the log odds as expected, but the effect is not statistically significant different from 0 at the 5 percent level, using a two tailed test. It is surprising that age has a significantly negative effect. That is, being older results in a lower probability of living with children. The expectation is that the older the person, the more assistance he or she might need, and thus the coresidence would increase with age. However, the older the parent, the older on the average will be the children. One possible explanation is that the older children are at a higher risk of moving away through work or marriage.

Level of education has no significant effect, except Prathom 4 which has positive effect on living with children. The explanation is unclear. Being self support or earning income by oneself and a house owner results in a lower probability of living with children. These two findings support modernization theory that with better economic situation the elderly may be able to buy privacy by living in different dwelling unit.

In contrast to modernization theory, living in urban area does not result in a lower probability of living with children. In other words, the Thai elderly living in rural area are less likely to live with children. There are two possible explanation for this finding. First, it's a normal practice in rural area where land is still available that the land is given to the children by parents when they got married. It is often in the same compound as parents' houses so that they can look after their parents. Another possible explanation is that their children moved to work in urban area and left their parents to live at home. In many cases the parents look after their grandchildren at home with the financial support from the children.

Table 2. Results of the logit estimation of living with children or not, Thailand 2002 (N=15,276)

Variable	Coefficient	Standard Error
Age	-0.011	0.003*
Sex		
Female		
Male	-0.006	0.037
Area of residence		
Urban		
Rural	-0.239	0.039*
Education		
No education		
Prathom 4	0.145	0.038*
Higher than Pathom 4	-0.006	0.069
Homeownership		
No		
Income self supporting		
No		
Yes	-0.124	0.036*
Healthy		
Severe limitation		
Some limitation	0.031	0.071
No limitation	-0.051	0.073
Spouse alive		
No		
Yes	-0.219	0.040*
Number of male living children (*biological, adopted and step*)	0.068	0.011*
Number of female living children (*biological, adopted and step*)	0.044	0.011*
Constant	1.286	0.227*
Yes	-0.239	0.051*

Source: The 2002 Survey of Elderly in Thailand

Note: * Significantly different from zero at the 5 percent level, based on two-tailed test

The effect of health on living with children is not statistically significant. This is probably due to the quality of information on ADL.

As expected, having a spouse alive reduces the log odds of living with children and the more

surviving children the older person has raised the log odds of living with children. However, the results show that parents are more likely to live with son than daughter, but not very different. This is probably that the data do not allow us to identify whether son and daughter are married or not. The previous findings show the mixed results depending on marital status of children and whether it is rural or urban phenomenon (Knodel and Chayovan, 1997). The elderly who live with single children are about as likely to live with a son or a daughter. In rural area, Thai elderly persons are more likely to live with an ever-married daughter than an ever-married son. In urban area, there is little difference in the proportion who live with an ever-married son or daughter. This reflects the influence of Chinese ethnicity in urban area.

INTERGENERATIONAL EXCHANGES OF MATERIAL SUPPORT

The levels of coresidence or living with children in the same household discussed so far are based on a narrow definition of household referring to individual dwelling units. In many cases, elderly parents and children live in separate dwelling units but located next door or a related cluster of houses, especially in rural setting (Cowgill and Holmes, 1972), perhaps in economic advance family in urban areas. Even though the trend in coresidence with children is declining dramatically and co-residence with a child offers a better chance of responding to the elderly needs than does other forms of residence (Sung, 1991), it does not necessary mean that the parents are increasingly left behind by their children. Therefore, the results based on only coresidence may mislead the level of social and economic support from their families.

The information on support each child provided and received is available. The data can be broken down whether he or she coresides with their parents or not. Table 3 shows the exchange of food/clothes/daily living and money among children and parents aged 60 and older by the location of children.

Detailed information on exchanges of care and support among the elderly, children and kin is available in the Survey. The questions were asked to an elderly person about the support and care received from and given to other persons including the children. Whether the supporters and receivers lived in the same household as the respondent or not was also collected. About 95 percent of elderly have at least one child alive. Overall, about 57 percent of the elderly live with at least one child, and 43 percent of elderly have at least one non-coresident child.

The familial support system for the elderly in Thailand consists of a lot of exchanges of services and materials among a variety of kin, especially between children and parents. Table 3 shows material

exchanges between parents and children in terms of food and money, and giving assistance in terms of daily living, looking after the house and looking after grandchildren, based on parents as the unit of analysis. The information on services and material exchanges refers to those who *most often* provided or received during the past year. Thus, those who were not the primary actors are left out although they might play a significant role in the exchanges. Since the elderly at risk of the exchange with children outside the household are those who have at least one non-coresident child, the denominator is only those who are at risk of the event. The same principle is also applied to the elderly with at least one co-resident child.

Table 3. Exchange of materials and services between children and parents aged 60 and older who lived with at least one child by the location of the child relative to the parent, Thailand, 2002

Type of support	Location of children	
	Same household	Different household
Percent giving food to parents	58.4	32.7
daily	54.4	12.7
At least weekly*	2.9	14.1
At least half yearly**	0.1	3.5
yearly	-	0.1
Irregularly	1.0	2.4
Percent receiving food from parents	9.6	3.5
daily	7.0	0.7
At least weekly*	1.9	1.1
At least half yearly**	0.1	0.4
yearly	-	0.2
Irregularly	0.6	1.1
Percent giving money to parents	52.4	102.8 [a]
5,000 Baht or less	26.6	46.3
More than 5,000 Baht	25.8	56.5
Percent receiving money from parents	9.4	7.6
5,000 Baht or less	5.4	3.3
More than 5,000 Baht	4.0	4.3
Percent assistance in daily living to parents	54.7	19.8
Daily	47.7	10.4
Occasionally	5.7	6.8
Rarely	0.7	1.9
Irregularly	0.6	0.6
Percent receiving looking after the house from parents	21.3	4.8
daily	3.8	1.4
At least weekly*	4.9	0.8

At least half yearly**	6.6	1.4
yearly	1.8	0.5
Irregularly	4.2	0.8
Percent receiving looking after grandchildren from parents	37.0	8.9
daily	29.1	4.6
At least weekly*	5.3	2.7
At least half yearly**	0.1	0.6
yearly	-	0.1
Irregularly	2.3	0.9

Source: The 2002 Survey of Elderly in Thailand

Notes: The percent of overall support received is more than 80 in each item.

* Including once a week and 2-3 times a week

** Including once a month, once every 2-5 months and once every 6 months

40 Baht was approximately 1 $US in 2002.

[a] May be due to the inconsistency of number of elderly having at least a non-coresident child

In general, substantially higher percents of both coresident and non-coresident children give rather than receive food in exchanges with parents. The extent to which parents also give is not large. The percent assistance in daily living of the parents is also quite high in comparison with food given. The parents also play an important role in looking after the house and looking after the grandchildren.

The probability of any such exchange as well as its frequency is directly associated with the proximity of the households involved. In particular, daily and weekly exchanges of food are limited mainly to the children who live in the same community and especially the children who live next to their parents.

The most striking phenomenon is that the elderly who live with at least one child also receives money from all children who do not live with them in a larger amount than that receives from the children whom they live with.

DISCUSSIONS

The socioeconomic change in the recent periods results in the significant decline in coresidence with children of the Thai elderly. However, the majority of the elderly still live with children (about 57 percent), and the familial support is still functioning. The results of logistic estimations provide understanding the association between living with children and socioeconomic and demographic

factors. Additionally, exchanges materials and services between the elderly and children provide insight into intergeneration relations.

As expected, increased spouse survival decreases the probability of living with children while increased number of living children increases the probability of coresidence.

Hypotheses based on modernization theory in terms of increased ability to buy privacy received strong support among those who earn income themselves and own houses. In Thailand, this strong support may be due to the fact that the elderly do not want to move out from their own houses. Nevertheless, the theory does not support those who live in rural area. Thai rural elderly are less likely to live with children compared with those elderly in urban area. This rather reflects the effect of migration of young generation to work in urban area and leave behind their parents and perhaps their children than the children living nearby. The proportion of received support from children outside the household daily or weekly is very low.

The elderly who live with at least one living child also receive financial support from children who do not coreside with them. The parents also give support to children who both live in the same and different households.

Among the elderly who have at least one living child but do not live with the child (about 43 percent), most of them receive support from their children and kin. For example, about 84 percent of the elderly who do not coreside with their children receive at least 5,000 bahts during the past year from their offspring and kin. The majority of contributors are their children (about 73 percent). All these findings are consistent with the Thai normative obligation for support flows from children to parents.

It could be expected that the trend in coresidence will keep on declining with the further change in socioeconomic conditions. Moreover, as the survival of spouse increases and fertility decreases, less coresidence may also contribute to the decline. Since the role of family is likely to decline in the future, the role of government in providing the safety net for the elderly who cannot look after themselves and do not have family support is increasingly important. The government needs to design appropriate policies in several areas such as health care, day care, pensions, and institutionalisations.

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Endnotes

[1] The number of elderly living in collective households or institutions is not significant.

[1] Compulsory education was four years of schooling until 1978.

[1] There is also information on 5 other ADL including eating, bathing, dressing, bathing/toileting and sitting. More than 90 % of the elderly can do each mentioned activities regardless their age. This is probably there is no question on whether the respondents can do these activities with difficulties and need help. Therefore, the other four activities (lifting object weight 5 kgs, walking for one kilometer, walking up stair a few steps, travelling by bus or boat alone), which can reflect more severe disability whether the elderly need assistance to perform these activities, are selected to represent the health of elderly.

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DISCUSSION

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발표 잘 들었습니다. 발표문을 듣고 반가웠던 것이 여기서 다루고 있는 co-residence 문제는 제가 학위논문에 썼던 내용이고, material exchange 는 제가 얼마 전에 출판한 내용이라 아주 친숙했고, 태국사회에 대해 여러 가지를 배울 수 있는 기회라 아주 좋았습니다. 제가 보기에 아주 심층적으로 분석을 하시려고 노력하신 것 같습니다. 저는 한국사회에 대해서 어느 정도 개념을 파악하고 있는데, 글을 읽으면서 과연 태국에서는 어떤 일이 전개되고 있는지에 대해서 생각을 해보게 되었습니다. 저는 구체적인 코멘트보다는, 만일 이런 정보를 더 얻는다면 글을 읽는데 좀 도움이 되지 않을까 하는 그런 부분과 분석과정에서 우려되는 점 그리고 결론을 도출할 때 논리적인 비약이 있지 않나 라고 생각되는 몇 가지 부분을 언급하고 싶습니다.

첫째, 저를 포함해서 많은 분들이 태국에 대해서는 아직 생소한 감이 없지 않습니다. 좀 전에 Dr. Kusol 도 발표하셨지만 조금 macro 한 측면에서, 즉 사회경제적, 인구학적인 측면에서 어떤 변화가 있었는지요? 특히 가족 부양을 둘러싼 전통적인 가치관이 어떻게 변화되어 왔는지를 보여줄 수 있는 자료들이 제시되었으면 좋았을 것이라는 아쉬움이 있습니다. 그리고 이것이 고령화 인구를 다루는 분야이기 때문에, 고령화 인구 프로파일을 좀 제시해주셨으면 글을 읽는데 도움을 될 것이라 생각합니다. 지금 언급된 연구는 survey 에 기초한 것으로 알고 있습니다. 저는 census 와 같은 정수조사에 기초한 프로파일을 시기별로 제시해주는 것이 태국의 고령화 문제에 대한 명쾌한 아이디어를 얻는데 도움이 될 것 같습니다. 또한 이 글을 읽다 보면 태국이 한국처럼 단일 민족으로 구성된 국가가 아니라 복수 민족으로 구성되어 있다는 느낌을 받습니다. 아마 cultural heritage 가 민족마다 다를 것 같은데요, 인종 구성에 대한 언급이 있었다면 보다 명쾌히 이해하는데 도움이 되었을 것 같습니다.

둘째, 데이터에 관해 저는 많은 고민을 했습니다. 원래 survey 는 2 만 5 천명을 대상으로 했는데, 지금 실제 데이터에서 분석된 것은 1 만 5 천명입니다. 물론 우리가 데이터를 수집하다 보면 사용할 수 없는 그런 데이터가 있기 마련입니다. 하지만 여기서 좀 우려가 되는 것은 약 40%정도를 자르면서 이 중 self reporting 이 가능한 사람들만 선택했다는 것입니다. 보통 self reporting 이 불가능한 사람은 나이가 아주 많거나 혹은

몸이 불편한 사람들인데, 이들을 proxy 케이스로 제외시키면 나중에 분석에 들어가서 많이 혼돈이 생기게 됩니다. 특히 이 분석에서는 응답자의 건강, 연령을 많이 고려하고 있는데 아까 분석에서 보셨듯이, 건강의 효과가 역으로 나오고 ADL limitation 자체가 효과가 없는 것으로 나오는데, 이것은 받아들이기 힘든 결과입니다. 아마 샘플 선택에서 많은 문제가 야기된 것은 아닌가 라고 생각을 해봅니다. 즉 excluded cases 가 규칙적으로 작용했기 때문에 분석결과에 큰 영향을 끼친게 아닌가 생각합니다.

그 다음으로 living arrangement 에 관한 얘기인데, 즉 자녀와 같이 사느냐 혹은 살지 않느냐에 관한 얘기입니다. 이 모델은 지금 많이 사용되고 있는데요, 사실 modernization theory 가 사용될 수 있는 것은 preference 그 자체에 관한 것입니다. 이 모델을 정리를 해보면, 노인들이 자녀와 같이 살기를 원하느냐 아니면 독립해서 살기를 원하느냐와 같은 별거 자체가 아주 기본적인 전제가 됩니다. 만약 노인들이 따로 살기를 원한다면 preference 를 어떻게 충족 시킬 것인가? 거기에 필요한 조건 혹은 자원들은 3 가지가 있는데 바로 경제적 능력, 건강, 자녀 혹은 배우자의 유무에 따라 자기의 선호를 성취할 수 있느냐는 것입니다. 이 모델을 이런 식으로 정리해주셨으면 좋겠고, 무엇보다 중요한 것은 preference 라는 것입니다. 지금 태국 노인들이 자녀와 별거 혹은 동거를 원하느냐라는 부분에 대한 언급이 굉장히 중요한데 그 부분을 교육이란 변수로 대체를 하셨거든요. 그래서 혹시 survey 에 선호를 알아볼 수 있는 항목이 있다면 이 부분을 집중적으로 분석해 보는 것이 어떨까 합니다. 여기서는 저자도 언급했지만, 자녀와 같이 사느냐, 같이 살지 않느냐를 얘기할 때 자녀의 결혼상태가 굉장히 중요한 변수가 될 수 있습니다. 또한 living arrangement 자체가 가구 단위로 하고 있기 때문에 한계가 많습니다. 그 부분은 intergeneration exchange 형태로 언급을 했기 때문에 어느 정도 커버가 된 것 같습니다.

분석 결과 중 이상한 점 하나는 농촌과 도시 비교에서 농촌지역에 사는 사람들이 오히려 자녀와 떨어져 산다는 것입니다. 이는 한국도 마찬가지입니다. 저자는 두 가지 이유를 지적했는데 그 중 하나가 이주 문제입니다. 시골에서 도시로 자녀들이 이주해가기 때문에 농촌에는 노부모가 혼자서 삽니다. 이와 더불어 도시에 살고 있는 노인의 입장도 고려해 볼 만합니다. 왜냐하면 생계비용이 워낙 높기 때문에 세대간 동거라는 것이 도시에서는 힘들게 나타날 것 같습니다. 이 부분을 조금 주의해서 보시면 좋겠습니다.

그 다음 연령이라는 변수가 기대했던 바와는 다르게 나온 것이 아무래도 샘플 선택의 문제인 것 같습니다. Exchange 에 대해 말씀하셨는데 제가 이 글을 읽을 때 혼란스러웠던 것이 누구의 관점이냐는 것입니다. 제 생각에 이것은 노인에 관한 조사이기 때문에 노인이 관점에서 도움을 받고 도움을 준다고 서술하셨으면 조금 더 이해하기가 쉬웠을 것 같습니다. 그 부분이 조금 불확실했다는 점을 지적하고 싶습니다.

그 다음 support 의 내용에서 보통은 emotional, instrumental, financial 과 같이 3 가지로 나누는데, 여기서는 material 과 not material 로 나누고 있습니다. 그런데 사실 not material 이 아니라 instrumental 에 가까운 것 같습니다. 이러한 분류에 대해 좀더 고민해주시면 좋을 듯싶습니다. 이보다 좀 더 고민했던 것이 지금 exchange 가 일어나고 있다, 일어나지 않았느냐를 보고 있는데 사실 이것보다는 도움이 필요한 사람에게 도움이 주어지고 있는지를 봤으면 좋겠습니다. 다시 말해 도움이 필요한 노인 대비 몇 사람이 혹은 어느 정도의 도움을 받고 있는지, 이러한 방법으로 접근을 해야 할 것 같습니다. 가령 60 대 초반의 교육수준이 높고 살만한 사람에게 재정 지원을 할 필요는 없는 것이거든요.

마지막으로 family support 에 대해 말씀하셨는데 이 개념은 어느 시대 어느 사회에나 다 있는 것 같습니다. 다만 그 패턴, 내용, 정도가 사회적 상황에 따라 다르게 나타날 뿐입니다. 특히 중요한 것이 normative aspect 입니다. 어떤 것이 그 사회의 family support 에서 norm 인가 하는 것이 중요합니다. 이를 꼭 material 한 exchange 로 보지 마시고 normative 한 측면도 조금 다루어 주시면 토론이 좀더 풍부하게 될 것이라 생각합니다.

한 가지 걱정되는 것은, 결론을 내실 때 micro 한 수준에서 일어나는 개인들의 행위, preference 에 대한 얘기를 직접적으로 사회적 변화 즉 macro 한 수준으로 끌어올리셨는데 이것은 조금 무리가 있는 것 같습니다. 그 중 하나가 배우자 생존율이 높아지면 co-residence 가 감소할 것이라고 하셨는데, 조금 무리가 있습니다. 아무래도 배우자가 생존하다 보면 노부부가 독립적으로 생활할 가능성이 높아지고 그러다 보면 co-residence 가 떨어진다. 이렇게 하면 논리적으로 얘기가 맞아 떨어지는 것 같습니다. 그럼 이 정도로 토론을 마치겠습니다.

Dr. Rossarin Gray
Institute for Population and Social Research Mahidol University

Thank you for your very useful comments. I like to have discussant who are familiar with the topic. So I've received lots of comments. I'll cover some of the comments. The first one is about data set. I have to mention that I used the secondly data. So the number that included in the analysis is what's available in the survey. I agree with you on the topic of the elderly people whether they want to live with whom. But this one is not available in the data set. Actually, the data set, which is carried out by national statistics office, is the best of the survey of the elderly of the current time. It's nationally representative. It used very strict sampling approach. And you said that I include only self-reported.

Actually I estimated proxy as well. But I don't know what happened to this survey. Normally the quality is very good, but for this proxy one, there are a lot of unknown. So I estimated first and I decided to include only those who are self reported.

For the ethnicity, actually in Thailand, it's quite sensitive issue. We never put ethnicity in the questionnaires. But we ask about religions. Most of the Thais, over 95% are Buddhists and 4% is Muslim. Actually data about religion is available in this data set. At first, I also have looked at it, but this is very small number. It's only 4%. It doesn't tell a lot, so I excluded that. If you read my paper, you see that there is some interface. I have to guess. You also talk about marriage status of children, right? It's also limitation of my data set. That's not available in the date set. Myself and our team also think that it do have weak points. We depend very much on macro level. So we plan to carry out focus group discussion and in-depth interview, when we go back to Thailand. So then I can summit a paper and have a publication like yours. Thank you very much.

VIII. WRAP UP :

IMPLICATION AND POSSIBLE OPTIONS FOR THE FUTURE

Dr. Nam-Hoon Cho
Director, Health Promotion Fund Project Assistance Corps
Moderator

오후 2 시부터 4 개국에서 6 개 발표를 해주셨는데, 발표를 듣고 보니 역시 출산수준이나 고령화 정도는 나라마다 차이가 있겠지만 그 증상은 비슷하다는 생각을 했습니다. 일본은 이미 출산율을 촉진시키고 고령화에 대한 대책을 80 년대부터 준비해왔고, 한국은 지금부터 열심히 하려고 노력하고 있으며, 중국은 아직까지 강력한 인구억제정책을 추진하고 있기 때문에 아마 이를 빨리 전환해서 한국처럼 복지정책으로 전환해야 할 시기가 아닌가 싶습니다. 태국은 아직 출산 수준이 높고 고령화 빈도도 여유가 있기 때문에 조금 느긋한 입장인 것 같지만, 제가 보기에는 태국도 지난 20~30 년 동안 가족계획 중심의 강력한 인구억제정책을 추진해 왔기 때문에 출산율이 떨어지고 고령화 진행이 다른 나라보다 빨리 진척되리라 생각됩니다. 이와 같이 4 개국이 거의 똑같은 정책을 추구해야 할 시점에 와 있습니다. 일본, 한국의 경우 워낙 출산율이 낮기 때문에 출산 촉진책을 사용하고 있고 고령화에 대비해 각종 사회제도를 고치고 있습니다. 그렇다면 인구정책은 어떻습니까? 한편으로는 한국, 일본과 같이 출산율을 높이는 것입니다. 노령화가 진행됨에 따라 의료비가 많이 들어가고, 약 20 년 후에는 연금도 마찬가지 상황이 되어 수당을 받는 사람만 있고 보험료를 내는 사람은 줄어들 것입니다. 그렇기 때문에 재정이 파탄이 나는 건 당연한 일입니다. 이를 모면하기 위해서는 어떻게 해야 하겠습니까? 일본의 경우를 보더라도 정부에서 아무리 출산율 촉진책을 쓰더라고 출산율은 올라가지 않고 계속 떨어집니다. 그런 상황에서 무엇을 어떻게 해야 할까요? 출산율이 떨어지는 것은, 즉 인구구조가 변하는 것을 숙명적으로 받아들이고 거기에 맞게 사회, 경제 제도를 뜯어고치는 수밖에 방법이 없습니다. 그래서 제가 알기로 일본도 작년부터 정부에서 연금 수령액을 줄였습니다. 한국도 그러한 정책이 국회에 계류중인 걸로 알고 있습니다. 그러한 식으로 사회, 경제 제도를 바꿀 수 밖에 없는 것입니다. 하지만 그것이 그리 쉽지는 않습니다. 보건복지부의 문 박사님께서 말씀하셨듯이 정부의 4 대 과제 중 첫 번째가 인구가족정책, 즉 인구 안정화인데 쉽지 않은 일입니다. 두 번째는 고용인력 정책입니다. 앞으로 평균수명 또는 건강 수명이 자꾸 증가하는데 50 년 전에 만들어진 정년퇴직연령을 그대로 유지할 것입니까? 아닙니다. 그것을 계속 연장시켜야 합니다. 그래서 일본, 미국에서는 연령차별금지법을 만들었는데 우리나라도 4 대 과제에 이것이 포함되어 있는 걸로 알고 있습니다. 셋째는 보건복지정책으로 안정적인 소득보장을 해주겠다는 것입니다. 특히 저소득층과 노인계층을 대상으로 합니다. 여기에는 실버 산업도 포함되어 있습니다. 이런 식으로 해서 내년에는 강력한 대책이 강구될 것으로 알고 있으며, 앞으로 정책대안은 이런 식으로 강구되어야 합니다. 아직 뚜렷이 무슨 대책이 도입된다고는 말할 수 없지만 오늘 토론한 내용을 중심으로 저 출산, 고령화 사회에 대비하기 위해서는 인구정책이 어떤 방향으로 추진되어야 할 것인

지, 정책 옵션이나 방향에 대해 도움이 될 수 있는 발언을 부탁 드리면서 종합토론을 이것으로 대신하겠습니다. 제일 먼저 Dr. Hayashi 께서 말씀하시겠습니다.

Dr. Kenji Hayashi
National Institute of Public Health, Japan

Frankly speaking, raising fertility rate is not easy. Even if we have some optional policy, it may cost a lot of money, which government cannot afford. On the other hand, supporting the elderly in terms of living arrangement maybe much easier for government to do. As you may know, Japan developed health insurance programs about 15 years ago and then it followed by long-term insurance program. However, government tried to merge long-term care insurance program with health insurance. This means that government intended to use money effectively. If we separate the program, we may waste money.

Another point I want to make is how we can support medical expenditure. As you are familiar with, the medical expenditure has been going up year by year. Why? It's not only because we have more aged people. It's also because we have more developed treatments and medicines. For example, genetic diagnosis and genetic treatment cost a lot of money, in particular, applied to the elderly. So in the near future, I think this problem will be very serious. The point is that when we apply genetic diagnosis more and more, we have to pay money to American pharmaceutical companies, because of patent problem. So this is another aspect we have to take into consideration. From the medical point of view, we should take into consideration social aspect. We cannot just focus on the social aspect. In particular, for the developed countries, this is very serious. We can see the similar problem in Africa. Dr. Lee from WTO visited Africa 3 months ago and he mentioned that African countries couldn't afford medical expenditure for HIV, because it's too costly. This is in the hand of pharmaceutical company. So the same situation may appear in the future for Korea and Japan as well.

Dr. Nam-Hoon Cho
Director, Health Promotion Fund Project Assistance Corps
Moderator

Dr. Hayashi 가 세 번째로 지적하셨는데, 노령인구가 증가함에 따라 의료비가 증가합니다. 그것은 한국도 마찬가지입니다. 저희 연구원 조사결과에 의하면 지금 65세 이상 노인 중 약 87%가 만성 질환을 가지고 있거든요, 만성질환을 치료하기 위해서는 병원에

한 두번 간다고 해결되는 것이 아닙니다. 지금 의료비가 급진적으로 증가하고 있는데 증가되는 많은 부분이 노인 의료비 때문입니다. 그래서 한국에서는 이 문제에 대비해서 95 년도에 이미 건강증진법을 재정해서 담배세에서 건강증진부담금을 걷어들여 98 년부터 강력한 건강증진사업을 하고 있는데 아마 태국이 그걸 인식하고서 최근에 건강증진재단을 만들어 건강증진사업을 하고 있는 것으로 알고 있습니다. 이는 미래 지향적으로 볼 때 인구문제 라든가 노령인구에 있어 아주 좋은 접근방법이 될 것 같습니다.

Question from the audience

저는 전문가가 아니기 때문에 일반적인 견해를 말씀 드리겠습니다. 지금 주제가 큰 그림을 그려야 하는 주제가 같은데요, 제가 몇 년 전 중국의 어느 가정을 방문했는데 거기서는 할아버지 할머니가 아이를 보고 젊은 부부가 경제활동을 하는 것을 봤습니다. 그것을 보고 중국사회가 경쟁력이 있는 근본 바탕이라 느껴졌습니다. 또한 10-20 년 전 우리나라 경제가 한창 부흥할 때 명륜동의 노인들이 경찰관 아저씨와 지역을 순찰하는데, 그곳이 3 년 동안 범죄 없는 동네가 된 이야기가 있었습니다. 우리가 노인들과 더불어 같이 사는 것이 건강, 도덕뿐 아니라 사회, 경제적 경쟁력을 갖는 힘이 되는 것 같습니다.

Dr. Sam Sik Lee
Korea Institute for Health and Social Affairs

최근에 많은 국가들이 연구를 수행하고 있는데, 크게 3 가지를 지적하고 싶습니다. 연구를 해보니까, 아까 Dr. Hayashi 도 말했지만 출산율 증가를 회복시키는 것은 상당히 힘듭니다. 회복시킨다 해도 과연 인구대치수준이상까지 갈 수 있나 하는 점은 많은 인구학자들이 회의적으로 보고 있습니다. 그렇다면 장기적으로 봤을 때 인구대치수준이 넘지 않는 낮은 출산율을 유지할 경우, 인구고령화는 상당히 빠른 속도로 진행될 것입니다. 제가 한 연구 중 우리나라 인구가 인구대치수준을 유지한다 하더라도 기존의 저출산 기간이 오래 지속되어 왔고 노인인구가 계속 증가되어 왔기 때문에 우리나라 고령화 수준이 2040~2050 년쯤 되면 OECD 나 일본의 고령화 수준보다 높은 수준이 될 것입니다. 이러한 점을 볼 때 출산율에 너무 의존하는 정책은 한계성이 있습니다. 인구고령화는 필연적이기 때문에 반드시 대비를 해야 하고 이것은 사회시스템에서 같이 노력해서 해결해야 하는 문제입니다.
두 번째는 출산정책에 관한 것입니다. OECD 국가들은 특히 프랑스 같은 국가는 1 세기

에 걸쳐 저 출산 문제를 위해 많은 정책적 노력을 해왔는데, 이들이 최근에 와서는 재정적인 압박으로 다가옵니다. 이러한 국가에서는 저 출산에 대응하는 정책에 개혁이 일어나고 있습니다. 과거의 출산정책이 보편적으로 접근했다면 최근에는 특수계층으로 가고 있습니다. 비용이 적게 들고 효과가 큰 계층으로 또는 정책수단으로 선별적으로 가고 있습니다.
이와 마찬가지로 현재 아시아 국가도 많은 재정의 투입에도 불과하고 효과가 나타나지 않는 정책에 대해서는 정책에 대한 평가, 또는 사전적인 연구검토가 이루어져서 정책이 선별적으로 들어가야 한다고 지적하고 싶습니다.
셋째는 세계적인 문제, 특히 중국과 관련된 문제인데 유엔이나 국제기구에서는 저 출산국가의 출산회복정책을 달가워하지 않습니다. 왜냐하면 현재 저 출산, 고령화 국가에서 마음대로 출산회복을 위해 노력하고 있지만 전 지구상으로 보면 인구가 65 억에 달하다 보니 환경문제나 자원문제가 있습니다. 인구회복 정책도 중요하지만 세계화 시대에서는 이민 정책도 좀 심도 있게 봐야 한다고 생각합니다. 문화적, 사회 계층적으로 충격이 크겠지만 지구전체로 봤을 때 이민정책이 장기적으로 검토할 대안이 아닌가 라는 생각을 합니다.

Dr. Nam-Hoon Cho
Director, Health Promotion Fund Project Assistance Corps
Moderator

이박사가 계속 이민정책을 말씀하시는데 이민정책은 과거 30년 동안 인구억제정책시대에도 많이 동원이 되었던 것입니다. 이것은 강대국들이 장벽을 치고 안받아주기 때문에 앞으로도 힘이 들것 같습니다. 지금 우리나라도 마찬가지입니다. 외국인 근로자의 경우만 봐도 알 수 있습니다. 그래서 이것은 별 성과가 없을 것입니다. 또한 출산율 증가 효과도 없다고 하셨는데 저는 그런 관점에 거부감이 있습니다. 일본이나 프랑스 같은 국가에서 과거 20~30 년 동안 촉진책을 써왔는데, 만일 그들이 촉진책을 쓰지 않았더라면 그들의 출산율은 지금 우리나라보다 훨씬 더 낮을 것입니다.

Dr. Sam Sik Lee
Korea Institute for Health and Social Affairs

일체의 효과가 없다는 말이 아니고 한계가 있을 것이라는 겁니다. 인구고령화가 20, 30, 40%로 올라가는데 출산율을 인구대치수준까지만 유지해도 성공적으로 볼 수 있습니다. 이것은 출산율 회복만으로는 해결할 수 있는 문제가 아니기 때문에 사회시스템이나 다른 대책이 있어야 합니다.

Dr. Nam-Hoon Cho
Director, Health Promotion Fund Project Assistance Corps
Moderator

아까 말씀하신 대로 양면으로, 즉 어느 정도 출산율을 올릴 수 있는 노력도 하고, 이와 동시에 인구변동에 따라 사회제도를 개선하는 노력이 필요한 것입니다.

Dr. Kusol Soonthorndhada
Institute for Population and Social Research Mhidol University

I would like to respond to the question you raised, 'what kind policy we will propose in the near future'. The first one is that the policy is related to the increasing fertility rate. From my opinion, I think many literatures show that it's not successful in Japan and Singapore. Because the young generation faces a very high competition in economic aspect, so they don't want to have more children. So I think the policy to increase fertility rate may be useful for some countries and may not be useful for other countries.

The second point I would like to raise is the policy to cope with future health expenditure. I think Thailand is implementing universal coverage policy program. We know that in the near future health expenditure for the aged population is increasing. So we include preventative measures, like health promotion as you mentioned. Now the exercise has been implemented for the every age group in order to raise their health status. So I think the health insurance program if you want to implement, it needs to be careful not just to include only curative cares, but also you have to promote health promotion and other preventative measures as well. That's my opinion.

Dr. Nam-Hoon Cho
Director, Health Promotion Fund Project Assistance Corps
Moderator

Dr. Hayashi, yesterday you told me that in the future in Japan all medical college graduates should work at the territorial level as a primary care provider. Could you explain about it?

Dr. Kenji Hayashi
National Institute of Public Health, Japan

I didn't mention every doctor should work at territorial area. I was just talked about medical malpractice. Nowadays the doctors are very often taken to the court. So they are very careful about their treatments and this is something related to the awareness of the people about medical practice. In particular, when the elderly have operation, they are more likely to cause problem, for example, the old man over 60 years old, do you think we need to perform operation for them? It's a problem. Even if you perform operation to them, they can only survive less than 10 years. Instead, people talk about that giving them free ticket for hot spring is much better than treating them. It can save the medical cost.

For the primary care, I mean something is different. From this year on, we start a training program for 2 years for every medical school students just graduated from medical school. The training course is not about specialty training. It's about primary care training. Every medical doctor is required to practice primary care. Even though he is a specialist, he should know the minimum knowledge of primary care. When patients go to the specialist, the doctors may have the malpractice if they don't have a good training

Dr. Boonlet Leoprapai
Institute for Population and Social Research Mahidol University

I would like to start my discussion by saying that from my observation many countries in the world have attempting to raise fertility level. I have to say that it has never been successful. France has tried that since 1930s. Many European countries have done that long time ago. Because once people have realized the benefit of having small family size and costs of rising children are rising over time, people will never change their norm of family size. What can we do? I think any policy trying to cover health insurance and pension schemes and so on will never be so successful, not only because rising cost of the society. As Dr. Hayashi mentioned, cost of curative care is rising over time along with high technology. It seems to have only one alternative to put more emphasis on preventative care by making people healthy or healthy elderly. You cannot only prolong working life of the elderly, but you can reduce cost of health care service too, meaning that for example, when Thailand has trying to make universal coverage of 30 Baht. It's about 100 won for treatment for an insured. I think that's never been sufficient because it may take about 2000 Baht per person each year. Now it has to be increased accordingly. That's why Thai government has trying to put more emphasis on exercise and healthy lives. That's what I wanted to say about our experiences.

Dr. Bencha Yoddumnern-Atting
Institute for Population and Social Research Mahidol University

I'd like to respond to what you mentioned about medical doctors. I think it's quite interesting. That's one of the major strategies of preventative mechanism. Dr. Kusol and Dr. Bunnet talked about preventative cares, like doing exercise. But we, Madon university and especially our institute, was also asked to organize the summer camp for the first and second year medical students from all over the country. But at that time, we were so busy that we asked another faculty to organize it. The intention is to let them know what it calls the rural medical system. So the students get to know the real life in the country. When they become medical doctors after graduation, they would understand how to treat patients well and how to promote, I mean, to do the health educations. So that's the health promotion and preventative mechanism in a way. I kind of like it when you talk about it, because we had to do that. But we didn't have energy to do it. So we asked somebody else to do it. And that has been going on for several years already. I think it's good strategy. I think the policy needs to put more emphasis on this kind of thing as well, not just on the treatments.

Dr. Rossarin Gray
Institute for Population and Social Research Mahidol University

For the policy on aging, the researchers should make a balance on economic side and social side. People talk a lot about health expenditure and contribution to economic growth. But they also have to think about the emotion of the elderly, for example what they want. It's also necessary issue for discussion as well.

Dr. Bencha Yoddumnern-Atting
Institute for Population and Social Research Mahidol University

We just organized the original seminar on institutional capacity building among the population organizations in 24 countries in Asia just early November. A person came from KIHASA. And several things came out from this 3 days discussion. One thing is that we need to do integrated and multi disciplinary research as well as service provisions. I think that's another issue we need to pursue. Thank you.

Question from the audience

저도 옆에 계신 분처럼 광고를 보고 온 사람입니다. 저는 서울불교대학원대학교에서 사회복지를 가르치고 있는 박성숙입니다. 오늘 장시간에 걸쳐 각국의 사례를 발표해 주셔서 감사합니다. 지금 국가사례를 통해 고령화문제를 해결하는 전략을 논의하였습니다. 제가 한가지 덧붙이고 싶은 것은, 개발도상국가들이 경제개발 정책의 일환으로 인구통제전략을 정책적으로 실천했었는데, 그것의 근원을 한번 생각해 봤으면 좋겠습니다. 단기적 정책뿐 아니라 장기적 정책에 대한 논의가 필요하다고 생각합니다. 또한 국가레벨에서의 정책과 함께 글로벌 레벨에서의 정책들이 어떻게 되었는지를 살펴봐야 합니다. 우리가 간과하고 있는 것이, 사실 1930 년대 프랑스가 자국의 저 출산율을 우려할 당시 그들은 이미 개발도상국의 고 출산, 줄어들고 있지 않은 인구성장에 대해 우려하고 있었습니다. 그래서 글로벌 인구통제에 대한 계획은 1930 년에부터 이미 논의되기 시작한 것입니다. 이때 선진국들, 특히 미국, 영국, 스웨덴이 중심이 되어 각국의 인구에 대한 연구를 했습니다. 그리고 1940 년대 초부터는 글로벌 인구통제에 대한 구체적 실현에 대한 연구를 했고, 1950 년대부터는 구체적인 사업에 들어갔습니다. 이것은 1975 년까지 진행이 되었고, 그 후에는 UN 으로 그 역할이 넘어갔습니다. 우리가 지금 국가적인 레벨에서 문제를 생각하지만, 근본적으로는 글로벌 수준에서도 같이 논의를 해봤으면 좋겠다라는 말씀을 드리고 싶습니다.

Dr. Nam-Hoon Cho
Director, Health Promotion Fund Project Assistance Corps
Moderator

시간관계상 오늘 토의를 마치겠습니다. 오늘 일본, 중국, 한국, 태국이 이렇게 모여 이러한 주제로 세미나를 하는 것은 우리연구원이 창설된 후 아마 처음인 것 같습니다. 왜 이런 말씀을 드리냐 하면은 이 4 개국은 사회, 경제, 문화적 여건이 굉장히 유사합니다. 그 동안 인구정책, 경제개발정책을 채택해 추진하는 프로세스가 거의 유사했고 그래서 앞으로 이런 세미나가 지속이 된다면 우리 아세아 지역에 맞는 정책수단이 도출될 수 있을 것이라 봅니다. 특히 중국측에서 인구정책을 바꾸려고 하는데 한국에서 아이디어를 좀 내달라는 제안을 우리연구원에 해왔습니다. 서울에 와서 국제 세미나를 열자고 얘기가 나왔는데, 지금 하와이 대학의 East-West Center 에서 그것을 준비중인 것으로 알고 있습니다. 이와 같은 훌륭한 세미나가 있도록 해주신 박순일 원장님께 박수로 보답하며 저는 이만 물러나고 원장님 인사말로 오늘 세미나를 끝마치겠습니다. 감사합니다.

IX. APPENDIX

Program

Moderator: ***Dr. Nam-Hoon Cho***
(Director, Health Promotion Fund Project Assistance Corps)

13:30 **Registration**

14:00 **Welcoming Remarks:** *Dr. Soon-il Bark*
(President, Korea Institute Health and Social Affairs)

14:10 **Session I:**

[Part 1] The Socioeconomic Impact of Aging Population
Dr. Meesook Kim
(Director, Population and Family Research Team, KIHASA)

[Part 2] Aging in Demographic Structure & Economic Growth
Dr. Seokpyo Hong
(Director, Center for International Studies and Cooperation, KIHASA)

14:40 **Discussion:**
Discussant – *Dr. Chang Jin Moon*, Deputy Minister,
Social Welfare Policy Office, Ministry of Health and Welfare, Korea

14:55 **Session II:**

The Trend of Family Planning Practice and Impact of Economic Burst on Fertility
Dr. Kenji Hayashi (National Institute of Public Health, Japan)

15:25 **Discussion:**
Discussant – *Dr. Sam Sik Lee*, Director,
New Population Policy Development Team, KIHASA

15:40 **Session III:**

The Demographic Change and Labor Supply Trend in China
Mr. Zhang Juwei (Institute of Population and Labor Economics,
Chinese Academy of Social Sciences)

16:10 **Discussion:**
Discussant – *Dr. Sung Yong Lee*, Professor,
Professor's Department of Liberal Arts, Kangnam University

16:25 **Coffee Break**

16:45 **Session IV-1:**

Economic Growth and Aging-induced Change in Health and Social Expenditures of Thailand
Dr. Kusol Soonthorndhada
(Institute for Population and Social Research, Mahidol University)

17:15 **Discussion:**
Discussant – *Dr. Byoungho Tchoe*, Director,
Social Insurance Research Team, KIHASA

17:30 **Session IV-2:**

Intergeneration Relations and Living Arrangement of the Elderly in Thailand
Dr. Rossarin Gray
(Institute for Population and Social Research, Mahidol University)

18:00 **Discussion**
Discussant – *Dr. Jung Seok Kim*, Professor,
Department of Sociology, Dongguk University

18:15 **Session V:**

Wrap-up: Implications and Possible Options for the Future

19:00 **End**