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Healthy Ageing in China

A Summary Report of the Conference on “Chinese Healthy Ageing and Socioeconomics: International Perspectives”

By Gu Danan

(Danan Gu is a Research Scientist at the Terry Sanford Institute for Public Policy, Duke University. 2024 W Main St., Durham, NC 27705, U.S.A. Email: gudanan@duke.edu)

The number of elderly persons aged 65 and over in China reached 93 million, or 7% of the total population in 2000, signalling that China had entered an ageing society. Ageing issues will be intensified as China will face a tremendous increase in its older population in the next fifty years. According to the United Nations’ population projection, the number of the elderly aged 65 and over is expected to climb to 232 million in 2030 and 319 million in 2050, which constitutes 16 and 23 percent of total population, respectively. The number of the Chinese oldest-old aged 80 and over is expected to climb from approximately 11 million in 2000 to 39 million in 2030 and jump to 98 million by the year 2050. The percentage of the oldest-old among elders 65 years or older will increase from 13 percent in 2000 to 30 percent in 2050, making the annual rate of population increase for the oldest-old about twice as great as that of the entire elderly population¹.

Rapid population ageing will affect socioeconomic development in China and elsewhere in the world. Faced by the serious challenge of harmonising economic growth with social sustainability, the Chinese government has recently made substantial efforts in formulating policies and action-plans in response to population ageing and related issues—in particular, the reform of the social security system. However, China is just beginning this social transition and its responses thereto. Successful experiences from other countries could serve as a guidance to deal with ageing issues. With such considerations in mind, Professor Zeng Yi, Director of the Centre for Chinese Population and Socioeconomic Studies at Duke University organised a conference on “Chinese Healthy Ageing and Socioeconomics: International Perspectives” at Duke University on August 20th-21st 2004. The conference was held in collaboration with the Asian/Pacific Studies Institute, the Vice Provost for International Affairs and Development, the Vice Provost for Interdisciplinary Studies, the Centre for the Studies of Ageing and Human Development, and the Centre for Demographic Studies at Duke University. The US Department of Education was also a collaborator. Around 50 US-based scholars including some leading experts in gerontology and demography attended the conference, which consisted of 21 presentations. Professor Ken Land, Director of the Duke Centre for Demographic Studies gave the opening speech, and Professor Harvey Jay Cohen, Director of the Duke Centre for the Study of Ageing and Human Development offered the closing speech. Both speakers emphasised the importance of the conference in the communication and exchange of international experience in strategic planning for population ageing. The main purpose of the workshop was to bring multidisciplinary researchers together to address potential challenges faced by China in its process of population ageing. The conference focused on the following topics: 1) Ageing trends in China and its

regional gap; 2) Reform of old-age security ; 3) Micro-consequences of population ageing; 4) Healthy longevity and its determinants; 5) Participation of the elderly in practice; and 6) International perspectives of population ageing.

Trend of population ageing in China and regional gap

In his speech, Professor Dudley Poston, Jr. from Texas A&M University emphasized the challenges of population ageing faced in China caused by its huge number of the elderly and the oldest-old in current and future years relative to the world's total population. He also compared ageing trends between China and the U.S. Using the year 2000 as a base, if the population aged 60 and over of China were a single country it would be the eighth largest country in the world, out-numbered only by the non-elderly population of China (1.1 billion), and the populations of India (almost 1.1 billion), the United States (285 million), Indonesia (212 million), Brazil (172 million), Russia (146 million), and Pakistan (143 million). In 2050, there are projected to be nearly two billion older persons aged 60 plus in the world out of a total population of 8.9 billion, and 418 million of them (nearly 22 percent) will live in China. These 418 million older persons in China will constitute only 188 million less than the total number of older persons alive in 2000 (606 million). Of the 69 million oldest-old aged 80 and over in the world in 2000, over 16 percent (or about 11.4 million) lived in China. By 2050, there are projected to be over 377 million oldest-old in the world, with almost 26 percent (98 million) living in China. Such a large number of elderly persons in a population are not problematic in terms of old-age support if a much larger number of producers exist. It is only when the ratio of the elderly to producers becomes high that a host of economic, social and related problems occurs. The youth dependency ratio (i.e., the population aged 0-14 relative to the population aged 15-64) will slightly decline and be maintained at a level of 25-30% from 2000 to 2050, while the aged dependency ratio (i.e., the population aged 65 and over relative to the population aged 15-64) will steeply increase from less than 10% in 2000 to more than 38% in 2050. In the U.S. in the same period, the youth dependency ratio will remain at 30-33%, while the aged dependency ratio will increase from 20% in 2000 to 32% in 2050. This suggests that the challenge of population ageing faced by China is much more serious than in the U.S.

Professor Li Wenlang from Ohio State University points out that China will not only witness a rapid trend of population ageing but will witness a regional discrepancy in the processing of population ageing as well. He reports that the provincial average absolute deviation of the R/W ratio (i.e., the ratio of the retired population vs. the working population) will escalate from 2.0% in 2000 to 13.1% in 2040. The regional R/W ratios were around 8-15% in 2000, but they will steeply increase in 2040 with the lowest maintaining at around 15% and the highest escalating to around 80%. The most rapid ageing region will be Northeast in terms of the R/W ratio. In his simulation projections, Professor Li finds that migration has a more significant impact on the disparity of provincial ageing increments from 2000 to 2040 in terms of the R/W ratio compared with two other demographic factors, fertility and mortality. His analysis also shows that the most direct and significant variable on the regional ageing gap is the work factor. The standard of living in a region (in terms of GDP and its growth rate) and the level of immigration only have marginal effects on reducing the regional gap of the ageing process. Therefore, from his perspective, expanding the working population should be the most important policy thrust in

reducing the ageing gap. Work incentives (e.g., increasing the female labour supply) should be major policy concerns, while disincentives to work (e.g., early retirement) should be discouraged.

Reform of old-age security

Pension reform is one of the key political and economic issues in contemporary China, because of the need to respond to population ageing concerns. In order to come up with sensible reform strategies to avoid serious mistakes during this reform process, a better understanding of the underlying economics is essential. There are two possible remedies to deal with the consequences of rapid ageing: an increase in productivity, and an increase in savings and the tax rate. Given that it is not easy to increase productivity, increasing the saving and tax rate will be the preferred choice for most countries. Several examples were given of pension reform in lesser developed countries facing population ageing and dependency issues.

Professor Charles Becker from Duke University presented a case of pension reform in Kazakhstan. Kazakhstan launched an individual accumulation account system (IAAS) in 1998 based on mandatory individual payments to individual accumulative accounts, plus continued payments (at a lower level) to finance current retirees and social payment recipients. Although the new system of IAAS has been highly successful so far in Kazakhstan, Professor Becker believes that the example of Kazakhstan is only superficially attractive to China because such a reform will not address China's two key structural problems: rapid population ageing and great interregional and rural-urban inequality. His presentation implied that population ageing would require later retirement or delayed pensions whether through an individual account system or a solidarity system. From Becker's point of view, all issues relating to accounting standards, transparency, and recognizing bad loans must be addressed. Moreover, China must design policies to counter its growing internal income and wealth distribution inequality in implementation of pension reform, otherwise, the new system will not be sustained.

Dr. Michael Sze, President of Sze Associates Ltd., introduced and commented on social security reform in Hong Kong. Hong Kong implemented a Mandatory Provident Fund (MPF) in 2000 to cover workers between the ages of 18 and 65 as a strategic plan for the challenge of population ageing (the dependency ratio will climb to 56% in Hong Kong in 2030, from 20% in 2000, in terms of the population aged 60 and over relative to the population aged 15-59). The contribution rate is 5% paid from both the employer and employee. The advantage of MPF lies in the flexibility of investment for employees, non-taxability of investment income, flexibility of retirement age, and the retirement benefit which is a lump sum of an individual's untaxed accumulated fund. By the end of 2003, 95.4% of employers, 96.3% of relevant employees, and 81.5% of self-employed individuals had enrolled. However, despite the high compliance rate and optimal investment strategy, his study shows that for older employees without sizeable savings, a contribution rate of over 30% is required to produce a decent retirement income at age 60; even for young employees, a total contribution of 10% of MPF is inadequate based on empirical simulation. His findings suggest that it would take contributions of over 15% to produce reasonable retirement income. For early retirement, say at 55, a contribution of more than 25% may be needed.

Dr. Sze also addressed that pension reform involves various dimensions including social, economic, and environmental perspectives. Considerations must also be given to regional, provincial, or urban/rural difference in China. Sze focused on these issues of multidimensionality and regional variations in his talk about Xinjiang. Xinjiang has environmental problems such as a water scarcity and an expanding desert, in addition to urban/rural and Han/minority ethnic difference in the population ageing process. His study recommended improvements in education, agricultural techniques and infrastructure. He stated that education should be improved, especially in rural areas to increase job opportunities for those who might migrate to urban areas. He advocated for better agricultural techniques for farmers, which would improve utilisation of water resources to maintain and create more farmland. He supported a programme of increased productivity that would increase yields and ultimately conserve land. Finally, he encouraged road improvements so that communication and migration into cities could be facilitated.

Another challenge in pension reform is the great uncertainty associated with long-term care, which can impose massive costs on those who are not insured against the risk. Based on his study of the U.S. experience, Professor Cheng Yung-Ping from the University of Massachusetts at Boston proposed a three-legged-stool funding model. He reported that the total formal (paid) long-term care expenditure for the elderly in the U.S. was estimated at US\$ 123 billion in 2000, which consisted of 35% from personal savings and income, 59% from the public sector (35% from Medicaid, a public welfare mechanism, and 24% from Medicare, a social insurance fund), 4% from private insurance payments, and 2% from other payers. It is clear that the current funding relies heavily on personal payment and public welfare, and only lightly on social and private insurances. Furthermore, around 67% in the public sector and 99% in the private sector of formal long-term care expenditures were not risk-pooled. This model, akin to sitting on a two-legged stool, is unlikely to be sustainable. To incorporate insurance as a key component of funding and to mobilize public and private resources more effectively, he proposed a three-legged-stool funding model under which social insurance would provide basic protection, to be supplemented by private insurance and personal payments. When these sources do not provide sufficient protection for some individuals, Medicaid (public welfare) would serve as a safety net. Although the country of discussion was the United States, this model has some implications for China.

Micro-consequence of population ageing in a context of social transitions

Migration is a consequence of socio-economic transitions. According to the China 2000 census, there were 121 million migrants (including temporary migrants), 73% of them rural out-migrants. Rural out-migration will continue to grow with the processing of China's urbanisation. Rural out-migration accompanied by population ageing will cause subsequent changes in family structure, social and family relationships, and people's daily lives.

In his study using the case of Chaohu in Anhui Province, Professor Li Shuzhuo from Xi'an Jiaotong University finds that out-migration of young adult children has a significant influence on elderly living arrangements. Both male and female elderly have a significant son preference when choosing children for co-residence. The elderly with more out-migrating sons are more likely to be in skip-generational households (parents co-residing with grandchildren) and less likely to live with

children. Furthermore, more sons in the same village decrease parents' likelihood in stem and skip-generational households, and increase their likelihood to live alone or with spouses. Factors such as the sex and marital status of children, age of grandchildren, and economic resources and health status are also associated with elderly living arrangements.

In their study focusing on out-migration on rural development, Professor Sucheta Mazumdar and Dr. Gu Danan both from Duke University also examined the effects of out-migration on care-giving of the elderly using the rural Anhui Province as a case. They point out that out-migration might cause some problems with old-age support in rural areas while it benefits rural development.

As Professor Poston pointed out, the unprecedented numbers of elderly projected for China in the 21st century are mainly attributed to rapid fertility declines, which were caused by the fertility control programme introduced in the late 1970s. As children born under that birth control policy reach their 20s, their virilocal (couples live with husband's parents after marriage) or uxorilocal (couples live with wife's parents after marriage) family systems, which determine marriage form and parental old-age support, may be subject to change. Such large and unpredictable social changes are becoming a concern of policymakers, as they could change the social structure on which current government policies are based. Professor Marcus Feldman from Stanford University gave a presentation on marriage form and family support for the elderly in rural China based on a survey in Songzi County in Hubei Province. One important finding was that the daughter's old-age support to parents is not weaker, but may be stronger than that of sons. Widespread acceptance of uxorilocal marriage in rural communities would provide an additional solution for old-age support in the increasing number of families without a son, thereby reducing the burden on the government to rapidly establish a reliable pension system with broad coverage in rural areas. Therefore, additional help in supporting elders is required by families with and without sons. Given that family support in China is primarily provided by adult children, and is and will continue to be the dominant form of care for the elderly in rural areas in the foreseeable future, promoting acceptance and practice of uxorilocal marriage on a large scale in areas with low fertility and a relatively high proportion of no-son families may be one important way to resolve problems related to both old-age security and son preference. However, Professor Feldman argues that adoption of uxorilocal marriage is not a long-term solution to meet the needs of elders as the care needs of the elderly will become greater for families with and without sons due to increased life expectancy and population mobility (as the constraints of household registration (*hukou dengji zhidu*) subside). Instead, establishing a reliable pension system with broad coverage should be the long-term objective.

Professor Barbara Anderson from the University of Michigan presented research to explore the effects of the presence of the elderly on the school enrolment of children in Tibet. Professor Anderson finds that the presence of relatives aged 60 and over in the household has no effect on the school enrolment of boys; however, presence of older females in their early sixties has a positive relation to the school enrolment of girls. The presence of males and females over the age of 70 has no influence on girls' school enrolment. She believes that this is largely determined by the expected role of children in care-giving for older relatives in the family. If household resources are directed to the elderly person's care, or if the female children were substantially responsible for the elderly person's care, the presence of an elderly person could inhibit girls' school enrolment, especially when the older person is

not healthy. If boys are not expected to help in the care of the elderly, or if the schooling needs of boys are more important than the care of the elderly, the presence of elderly persons would not affect boys' school enrolment. If a woman in her 60s contributed labour that would otherwise be expected of a girl, the older woman's presence would positively affect the girl's enrolment.

Healthy longevity and its determinants

One of major concerns in an ageing society is the health of the aged population. The goal of healthy longevity is to live longer and healthier. Considerable attention was given to healthy longevity and its determinants in the conference.

Professor Zeng Yi briefly reviewed the first three waves of the Chinese Longitudinal Healthy Longevity Survey (CLHLS), the largest longitudinal survey focusing on the oldest-old in the world. The CLHLS aims to 1) better understand determinants of healthy longevity, such as social, economic, behavioural, environmental, and biological factors; and 2) provide data information for academic research, health and ageing policy analysis. The first three waves of the CLHLS were conducted in 1998, 2000, and 2002 respectively, and the fourth and fifth waves will be conducted in 2005 and 2008. The age coverage of the CLHLS has been extended to include young elders aged 65 to 79 and adult children aged 35 to 65 of the sampled elderly aged 65 and older beginning in 2002. Professor Zeng also presented some recent finding from the CLHLS. He pointed out that the conventional multi-state life table method significantly underestimates the disabled life expectancy by excluding disability information before dying. This finding has important policy implications. Numerous studies have shown that both the prevalence rate and the incidence rate of disability have been declining since the early 1990s.² Professor Zeng's presentation implies that the decline in the incidence rate of disability might be overestimated to some extent. Given the evidence provided by Lubitz and Prihoda³ that 28% of all Medicare costs were consumed by the 6% of enrollees who died within the next 12 months, more attention and effort should be given to shorten the time in disability before dying and to improve the quality of life at the end of life.

Professor Chen Jiajian from the East-West Centre of Hawaii University investigated the gender-specific effects of self-reported health (SRH) (i.e., subjective evaluation about his/her own global health status), education, and psychological factors on mortality using the 1998-2000 longitudinal data of the CLHLS. He found that 1) SRH is a robust indicator for health and longevity among the oldest-old in China, although education and a feeling of loneliness mediate the SRH-mortality relationship; 2) the association between SRH and mortality is stronger for oldest-old men than for women; and 3) education and the feeling loneliness—a psychosocial factor—also have independent effects on longevity.

Dr. Zhu Haiyan from the University of Michigan presented a study on the socio-economic differentials in mortality among the oldest-old in China using the 1998-2000 longitudinal data of the CLHLS. According to her study with Professor Xie Yu from the same university, socioeconomic status (SES) differentials in mortality in terms of education and urban/rural residence persist among three alternative populations: 80+, 90+, and 100+.

Using the same data set as Dr. Zhu and Professor Xie, Professors Sun Rongjun from Cleveland State University and Liu Yuzhi from Peking University further explored how SES effects mortality

when psychosocial risk factors are added, in terms of social support (marital status, living arrangement), health practices (exercise, smoking status and alcohol consumption), and leisure activities (e.g., religion, playing cards/mahjong, doing housework, gardening, reading books/newspapers, listening to the radio and watching TV, etc.). They found that SES is not significant after controlling for psychosocial risk factors and health status, including physical performance, activities of daily living (ADL), recent (2-year) serious illness, SRH, and cognitive functioning. Their results extend what Dr. Zhu and Professor Xie find.

The 2000 Census suggests that the majority of the households (56%) are nuclear and that average family household size declined to a historical low of 3.45, from 4.36 in 1982 and 3.94 in 1990. However, the proportion of 3+ generation households didn't change much from 1982 to 2000. The living arrangements of the elderly are also changing.⁴ Changes in living arrangements were found to be related to the health conditions of the elderly. Professors Chen Feinian from North Carolina State University and Susan Short from Brown University gave a talk on the association between living arrangement and subjective well-being based on the CLHLS dataset. They argue that although patrilinearity and patrilocality characterise the family system in contemporary China, China's cultural norms may be changing as the country is experiencing dramatic socio-economic restructuring. They find that living with a daughter is superior to living with a son in that it improves positive well-being for the oldest-old in China, possibly due to more and better care-giving and support. Their results together with those of Professor Feldman provide evidence that daughters offer some advantages in elderly caregiving, implying son preference at birth might have some disadvantages when parents reach old age.

Mr. Fu Yang-chih from Academia Sinica of Taiwan examined the correlation of social contacts (including family member and others) with the mental health of the elderly in Taiwan. He finds that daily contact has a positive effect on the mental health of the elderly for both males and females, and that such a protective effect is stronger among females than among males. These findings indicate that the elderly need to continue to be involved in social life after their retirement to maintain their health and increase longevity.

Rapid economic development in China has led to a significant shift in lifestyle and dietary habits. Such transitions have caused some health problems.⁵ Dr. Luo Zhehui from Michigan State University examined the association between socioeconomic factors and body mass index (BMI) of adult Chinese in the 1990s using a longitudinal data set from the Chinese Health and Nutrition Survey in 1989, 1991, 1993 and 1997. She found that there was a trend toward being overweight among adult Chinese in the 1990s regardless of gender, urban/rural residence, and education. Dr. Luo expressed her concerns on the negative impact of such a dietary shift on healthy ageing.

Elder people's participation in practice

The involvement of the elderly in research, development, project design, implementation, and monitoring and evaluation processes is in itself a form of empowerment of the elderly. Lynette McGowan, a specialist in participatory development of HelpAge International, delivered her presentation on "Participation in Practice: Older people's Ownership of Development". In addition to the examples in several Asian countries, she introduced her organisation's China project which

involves 3,500 poor and disadvantaged older people in 17 village communities in nine counties of three poorer provinces: Hunan, Sichuan, and Shaanxi. The goals of the project are to improve the health status of these older people, their families and communities, and to influence the State to replicate and scale up the community-based models developed through the project. Thirty-five older people's associations were established at the end of the first year of the project, and pilot projects on health and the livelihood needs of older people were initiated at the community level. Seed/start-up money was granted to 931 older people and their families to engage in small production activities. She reported that the elderly participants feel that their lives are more meaningful and that they are more useful after involvement in the project.

Professor Enid Cox from the University of Denver introduced her project "Strengthening the Care-giving Process: A Care-Receiver Efficacy Intervention". That project is designed to 1) reduce the sense of powerlessness and increase the sense of efficacy of care-receivers; 2) increase the knowledge and skills of elderly care-receivers to participate in self-care activities; 3) increase the ability of elderly care-receivers to communicate effectively with personal and professional caregivers and assist their caregivers in the care process; 4) increase the participation of elderly care-receivers in meaningful roles, the development of new roles and creative interests, and participation in community roles where possible; and 5) decrease the stress of caregivers. Both qualitative and quantitative analyses show that the attitude, behaviour, and communication style of the elderly care-receivers have changed since they started participating in the programme. Although their study has not included Chinese elderly, they are planning to do so soon.

Population ageing: International perspectives

Population ageing is a great achievement in human history. Reduced fertility and mortality, and increased life expectancy (LE) will accelerate world population ageing both in developed countries and developing nations in the 21st century, which will require more attention and action from all governments to the challenges of ageing issues.

Dr. Vicki Lamb from Duke University presented a topic on healthy life expectancy in Asian developing countries. She reported that females are advantaged with more years of life and more years of healthy life expectancy (HLE), whereas males have the advantage of a greater percent of healthy life years. In China, Taiwan, and Thailand, years of total life expectancy and years of healthy life expectancy have increased. The percent of HLE years for China and Taiwan has also increased, while there is little change in Thailand. Although China is a developing country, its LE and HLE have reached the average level of developed countries. Moreover, in China, both LE and HLE are increasing, which is consistent with the main trends in the world, especially in developed nations.⁶ Some previous evidence has shown that longer life, accompanied by better health, may not cause a significant increase in health care spending.⁷ Therefore, improved LE and HLE would bring positive effects on socioeconomic development in China and in the world.

The meaning and understanding of the concepts and measurements for the functioning and utilization of health services may vary under different social, economic, and cultural contexts. It is necessary to have a unified or comparative criterion in international comparisons. Professor Gerda Fillenbaum from Duke University introduced the Older Americans Resources and Services (OARS)

Programme. The OARS was specifically designed as a means of determining the impact of services and alternative service programmes on the functional status of older persons. The OARS instruments have been used for purposes as varied as individual clinical assessments of personal functional status, surveys of the functional status of adult populations, assessments of service utilisation and service requirements, longitudinal investigations in community, clinic and long-term care settings, and training of service providers. The OARS has been used by the World Health Organisation for international research on the elderly in over 30 nations.

Professor Nick Holt from Duke University presented a brief introduction about the National Long-Term Care Survey (NLTC), one of the largest elderly projects in the U.S. The NLTC, initiated in 1982, is a nationally representative longitudinal survey to characterise the health and functional status of the population 65 years and older. Six waves have been conducted so far (1982, 1984, 1989, 1994, 1999, and 2004). Each wave sampled from 10,000 to 14,000 persons. There are several ancillary studies (e.g. caregiver, next-of-kin, and biological specimen) that collect information about the sampled person. In addition to the linked ancillary studies, one of the more powerful features of the NLTC is that the complete Medicare billing history for all persons in the sample is available. By linking with the Medicare record, studies of medical expenditures before and after the onset of a major medical event, for example, are possible using the NLTC data.

The stages of population ageing, its trends, and the corresponding policy responses are likely to differ across countries, providing a unique opportunity for countries to learn from each other's experiences. Professor Jinkook Lee from the Ohio State University argues that substantial scientific and policy gains would be possible if a number of countries could be induced to embark on collaborative data design and collection activities. In her point of view, to benefit from the possibility of exploiting institutional differences to understand the effects of policy measures, data collection efforts in different countries must be harmonised in the sense that conceptually comparable information is collected, and procedures (e.g., for sampling and quality control) are synchronised. However, harmonisation does not imply that survey protocols need to be identical in all countries. With the goal of collecting data that are strictly comparable to allow cross-country research, the following three harmonised projects have begun: the U.S. Health and Retirement Study (HRS), the English Longitudinal Study of Ageing (ELSA), and the Survey of Health, Ageing and Retirement in Europe (SHARE). Currently, there is a lack of comparable data in Asia. Professor Lee, therefore, proposed a harmonisation of data design and collection on ageing in Asian countries, given that most Asian countries, especially Southeast and East Asian countries, will witness a very rapid ageing process in the next 50 years.

Concluding remarks

The population ageing of the world is inevitable and will accelerate in the 21st century. Therefore, at some point the consequences of population ageing will have to be addressed. Unlike most other countries, China's population ageing has its own unique characteristics with rapid population ageing, a high proportion of the oldest-old, a huge base, a high dependency ratio, large regional discrepancies,⁸ and an ageing population not supported by economic vitality. Therefore, China will face more constraints and challenges compared to other developed societies. However, the largest challenge by far will be pension reform.

In 1997, the Chinese Government instituted a unified old-age insurance system for urban workers comprised of a social pool of funds and personal accounts. After years of great effort and practice, the Chinese old-age social security framework has taken its initial shape. However, since the state does not have a sufficient pool of funding, current employees' contributions in personal accounts are used to pay the benefits of the current retirees under the previous pay-as-you-go (PAYGO) system, which results in most individual accounts in the current pension system remaining unfunded. This situation could cause a debt crisis if handled improperly. More appropriate, would be establishing a rural old-age security system. Although the Chinese government launched an old-age insurance programme in the 1990s, the coverage and benefits continue to be low,⁹ which means that the rural elderly continue to be almost fully supported by family.

The literature has indicated that rural areas will experience more rapid ageing compared with urban areas due to migration.¹⁰ An increase in nuclear families and reduced family size, together with the development and transition of rural socioeconomic structures are challenging the traditional old-age support system in rural China that mainly relies on marriage and kin relations. Such an old-age support system in rural China is becoming inadequate and needs support from social security. Professor Zeng continues to argue that an effective strategy would be to establish a social security system in rural China.¹¹ With the increased proportion of families without sons in rural China, old-age support will have to depend on daughters in those families without sons. Special policies should be made to encourage daughters to support their elderly parents. The future situation might be better for rural households that practice family planning by having only one child or two girls under a Chinese government programme started in some areas in 2004. Couples that comply with this policy are rewarded with a minimum of 600 *yuan* per person per year from the age of 60.¹² One of goals of development in China is to remove institutional inequalities between urban and rural, therefore it is necessary to ensure that the current rural old-age security system shares similarities with the urban system and two systems could be integrated later.

One of the goals of healthy ageing is to attain healthy longevity. Although the literature has shown that genetic and environmental factors may explain 25% each of the variation in longevity and other factors account for 50% of the variation,¹³ we are still unclear about which factors do and do not favour longevity. Therefore, research on healthy longevity not only will be an impetus to uncover the secret of human longevity but will also serve to guide old age care and other policy formulations. For instance, according to researchers, it would save the United States US\$ 1 billion annually if currently institutionalised persons were delayed from entering institutions by just one month. In addition, it would save the United States US\$ 50 billion and US\$ 69 billion annually if the onset of dementia and cardiovascular disease were delayed by five years, respectively.¹⁴ The decline in both the proportion and the number of the disabled American elderly saved the United States US\$ 33 billion from the 1980s to the 1990s.¹⁵ Such benefits can largely be traced to knowledge attained from ageing studies and related intervention programmes.

Participation in social activities and programmes with the elderly will not only foster the dissemination of their wisdom to society, but also benefit their health and increase their empowerment. China has extensive experience on how to attract young couples to be involved in family planning

programmes. The well-being of the elderly in China would be largely enhanced if such experience family planning programmes could be converted into programmes for the elderly.

Population ageing affects countries, societies, families, and individuals. Given that an economic crisis or failure in any single country might affect others under the context of globalisation, cross-nation collaborative research in ageing studies should be promoted and enhanced. China's population ageing is both a challenge and an opportunity. Ultimately, China and the world will benefit if China is successful in addressing the challenges associated with its ageing population.

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