



Population ageing refers to a process whereby a population ages, i.e. the proportion of older persons in the population increases relative to that of younger persons, and the population's median age increases. It is the result of socio-economic developments, with decreasing birth rate and increasing life expectancy. These developments have profound long-term demographic, social and economic implications. Policy makers and the society at large need to create new and supportive societal structures to deal with challenges, as well as harness potential opportunities that may arise from population ageing.

It is important for young people too: health after 60 is greatly determined by lifestyle habits formed in earlier life, such as eating, smoking and exercise. Preparations for healthy old age should therefore start as early as possible.

人口老龄化是指老年人口占总人口比例和年龄中位数不断上升和年轻人口比例下降的动态过程。人口老龄化是社会经济发展的成就，是伴随着出生率的下降和预期寿命不断延长而出现的。这些发展趋势将对社会和经济产生深远的影响，而决策者和全社会也需要建立新的、支持性的社会结构来应对这些挑战，充分利用老年人才智创造的无穷机会。

这对年轻人也同样重要：60岁以后的健康状况很大程度上是由年轻时建立的生活方式所决定的（例如饮食、吸烟和锻炼习惯），因此，应尽可能早地开始为健康老年做准备。

Definitions

Population ageing: a process whereby the proportion of older persons in the population increases. Statistically speaking, a population is generally considered to be 'aged' if persons aged 60 and over account for more than 10 per cent, or persons aged 65 and over account for more than 7 per cent of the total population, though ageing at individual level varies significantly. In this publication, older persons refer to those 60 and over.

Working age population generally refers to persons aged 15-59. Depending on the national retirement age, it may refer to persons aged 15-64 in some countries.

Life Expectancy (LE) at birth: estimated number of years a person can expect to live, given current age-specific mortality rates.

Total Fertility Rate (TFR): estimated number of children a woman would have during her lifetime, given current age-specific fertility rates.

定义

人口老龄化：如果总人口中年龄在60岁及以上的人口比例超过10%，或者65岁及以上的人口比例超过7%，这一类型的人口通常称为老年型人口。本报告使用60岁及以上的定义。

工作年龄人口：年龄在15岁至59岁的人口。根据退休年龄，在某些国家则为15岁至64岁的人口。

出生时平均预期寿命（LE）：按照当前的分年龄死亡率估计的同批人预期的存活年数。

总和生育率（TFR）：按照当前的分年龄生育率估算的一批妇女一生中生育的子女数。

Data sources 数据来源

The data used in this publication were all obtained from official sources, predominantly the 6th National Population Census of the People's Republic of China conducted in 2010 by the Population Census Office under the State Council. 本报告所用数据均取自正式来源，主要依据中国国务院人口普查办公室2010年第六次全国人口普查数据。

This brochure is developed based on analysis and research conducted by Professor Du Peng from the Institute of Gerontology of Renmin University of China on the China's 6th Population Census in 2010. The National Bureau of Statistics (NBS), UNFPA and UNICEF provided technical and financial support to this work through the joint Data Project. 本折页在中国人民大学杜鹏教授承担的“第六次全国人口普查研究课题”的基础上编写。研课题得到国家统计局、联合国人口基金和联合国儿童基金会三方联合数据项目的技术和资金支持。

Population ageing – the underlying factors

人口老龄化—变化的基本因素

Ageing is an inevitable consequence of two underlying demographic trends: decreasing Total Fertility Rate (TFR) and increasing Life Expectancy at Birth (LE). People live longer because of improved nutrition, sanitation, medical advances, health care, education and economic well-being. Increase in life expectancy is a notable achievement in human development.

老龄化是人口统计学两种基本趋势的必然结果：即日益下降的总和生育率和日益延长的出生平均预期寿命。预期寿命的延长得益于营养状况的改善、卫生条件的提高、医疗技术的进步、卫生保健和经济福祉的发展。预期寿命的延长是人类所实现的最伟大成就之一。

World

Two hundred years ago, life expectancy was low (around 40 years) in all countries and fertility was high (more than 5 children per woman). With industrialization and urbanization LE began to increase, and in more developed regions (MDR) LE has now increased to over 78 years, and TFR has fallen to around 1.7.

In less developed regions (LDR), this transition began later. From 1950 to 2010, LE increased from 41 to 67 and TFR began to fall from 6 in the 1970s to the current 2.7.

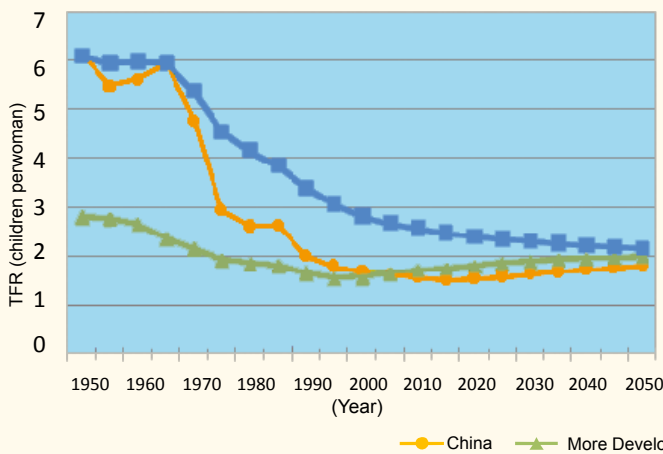
世界

200 年以前，所有国家的平均预期寿命都很短（大约为 40 岁），但生育率很高（每位妇女平均生育子女数超过 5 个）。随着各国开始工业化和城市化，比较发达的地区预期寿命开始增加，现在已经高于 78 岁，总和生育率下降到 1.7。

在欠发达地区，这种转变开始得较晚。1950 年到 2010 年期间，预期寿命从 41 岁增长到 67 岁，总和生育率在 1970 年代开始下降，由 6 降低到 2.7。

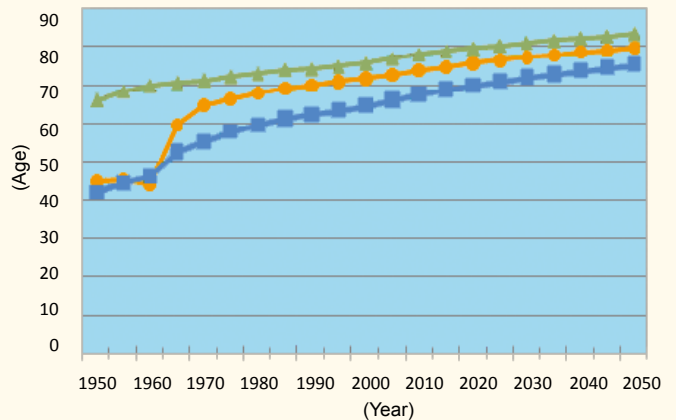
Comparison of TFR: China, More Developed Regions, and Less Developed Regions, 1950-2050

中国与世界妇女总和生育率（1950 年 -2050 年）



Life Expectancy at Birth: China, More Developed Regions and Less Developed Regions, 1950-2050

中国与世界人口预期寿命（1950 年 -2050 年）



Source: UNDESA, World Population Prospects: 2010 Revision



Population ageing – an accelerating trend

人口老龄化—加速发展趋势

China

In China, TFR decreased from 5.8 to 2.4 in the 10 years from 1970 to 1980, and LE increased from 36 to 63 from 1949 to 1980. Similar decreases in TFR and increases in LE of this magnitude took around 150 years in MDRs and 50 years in LDRs. By 2010, LE in China increased to 74.83 years. Meanwhile, TFR fell below the replacement level (TFR=2.1) in the early 1990s and is estimated at 1.56 for 2010-2015.

World

In 2000, 10 per cent of the world population was 60 or older. The world as a whole can be seen to have entered an “aged” phase at the turn of the Millennium. In 2012, 11 per cent of the world’s population was aged 60 or older. Population ageing has been accelerating and it is estimated that the proportion of older persons will be doubled to reach 22 per cent by 2050.

中国

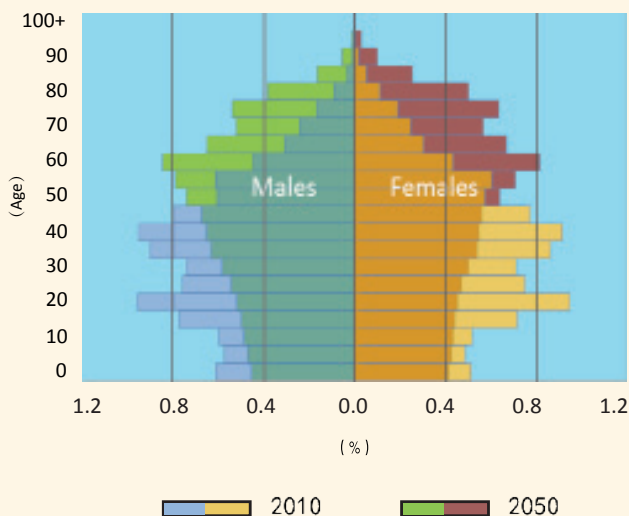
在中国，总和生育率在短短的 10 年间（1970 年至 1980 年）由 5.8 降低到 2.4，预期寿命则在 1949 年至 1980 年期间从 36 岁提高到 63 岁。由此可见，实现这一转变，发达地区用了大约 150 年，欠发达地区用了 50 年，而中国仅用了 10 到 30 年时间。2010 年，中国的平均预期寿命已经提高到 74.83 岁。此外，中国的总和生育率在 1990 年代初期已经下降到更替水平（TFR=2.1）以下，2010-2015 年估计为 1.56。

世界

2000 年，全球 10% 的人口年龄在 60 岁及以上。因此，总体而言，在进入新千年之际，全球人口已经进入了老龄化阶段。2012 年全球 11% 的人口年龄在 60 岁及以上，人口老龄化在加速发展，预计到 2050 年将翻一番，达到 22%。

Age Pyramid of China, 2010 and 2050

中国人口金字塔（2010 年，2050 年）



Population of China by five-year age groups and sex, 2010 and 2050

中国分年龄和性别人口数（2010 年和 2050 年）

单位：千人 Unit: 1,000 persons

Age 年龄	2010			2050		
	Both sexes 总计	Male 男性	Female 女性	Both sexes 总计	Male 男性	Female 女性
0-4	75533	41063	34470	56572	29677	26895
5-9	70882	38465	32417	58105	30615	27490
10-14	74908	40267	34641	59712	31596	28115
15-19	99889	51905	47984	61203	32528	28675
20-24	127413	64009	63404	63032	33644	29387
25-29	101014	50837	50177	65943	35331	30613
30-34	97138	49522	47616	70620	37970	32650
35-39	118026	60391	57635	76087	41217	34871
40-44	124754	63609	61145	77859	42471	35388
45-49	105595	53776	51818	79887	43665	36221
50-54	78753	40363	38390	89788	48315	41473
55-59	81312	41083	40230	97590	51537	46053
60-64	58667	29834	28833	108001	55227	52774
65-69	41113	20748	20365	85781	42483	43297
70-74	32972	16403	16569	70693	33970	36723
75-79	23852	11279	12573	76393	35080	41313
80-84	13373	5918	7456	57709	25184	32524
85-89	5632	2200	3432	27337	10920	16417
90-94	1578	531	1047	10344	3724	6620
95-99	370	118	252	2687	814	1873
100+	36	9	27	262	64	198

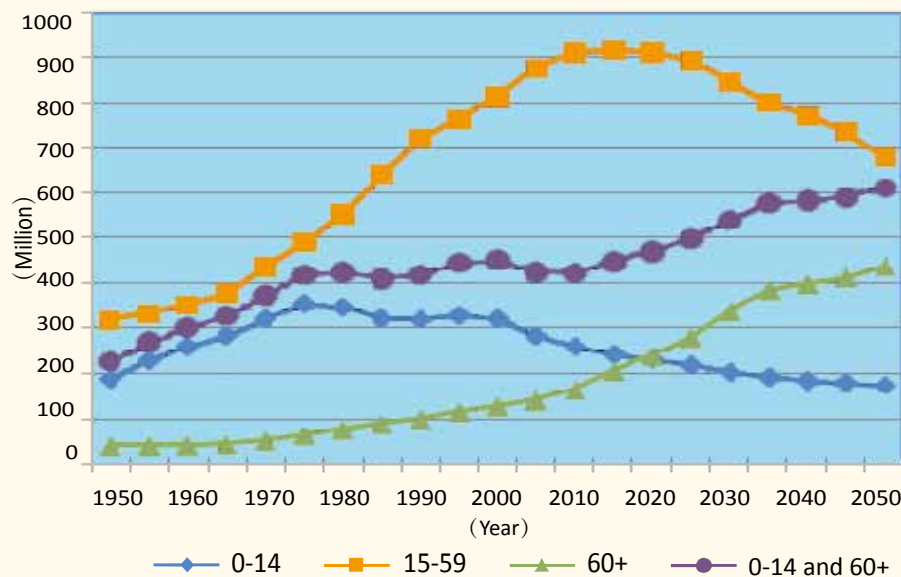
Source: Data for 2010 are from China Population Census, 2010
Data for 2050 are based on 5-year average from UNDESA, World Population Prospects: 2010 Revision

Population ageing — an accelerating trend

人口老龄化—加速发展趋势

Working/Non-working Age Population, China, 1950-2050

中国工作年龄人口和非工作年龄人口构成（1950年—2050年）



Source: UNDESA, World Population Prospects: 2010 Revision

China

Since China's demographic transition has been so rapid and irregular, the resulting age pyramid is also irregular.

In 2012, the working age population accounted for 69.2% of the total population in China, one of the highest in the world. However, the absolute number of working age population had decreased by 3.45 million people from 2011, marking the first decrease in the size of the working age population in decades. It is estimated that the number of children under the age of 15 will continue to decrease through 2015, while a larger number of people will reach retirement age. This means that the size of the working age population will decline rapidly.

At the end of 2012, the proportion of the population aged 60 and over in China stood at 14.3 per cent, and was already higher than the world average of 11 per cent. However, by 2050, this proportion is expected to rise to 34 per cent. The absolute size of the aged population is estimated to increase from 194 million in 2012 to 487 million in 2050.

中国

由于中国的人口转变迅速而不规律，因此其人口金字塔结构也呈现波动变化。

2012年，中国是世界上工作年龄人口（15-59岁）比例最高的国家之一，占总人口的69.2%。然而，2012年工作年龄人口已经比上一年减少345万人，这是几十年来的第一次减少。预计到2015年时，达到15岁的人口将进一步减少，同时却有大量人口会达到退休年龄。这也就意味着，工作年龄人口将进一步减少。

2012年底，中国年龄在60岁及以上的比例（14.3%）超过世界平均水平（11%）。据估计，到2050年，这一比例将达到34%，老年人口数将从2012年的1.94亿上升到4.87亿人。



Population ageing —women outlive men

人口老龄化—性别差异

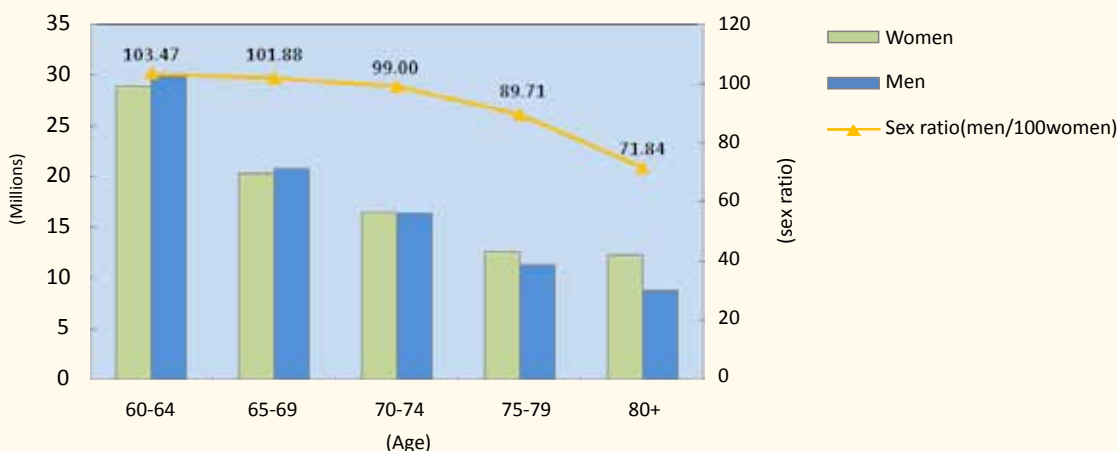
World

In most countries, more boys than girls are born (between 103 to 107 boys per 100 girls). However, mortality rates are higher for males than females. In More Developed Regions, by the age of 30, there are more females than males. In most Less Developed Regions, the difference in male and female mortality tends to be smaller, and females do not typically outnumber males until around the age of 50.

世界

在世界上大部分国家，出生时男孩的数量都多过女孩（每出生 100 个女孩就会有 103 至 107 个男孩出生）。然而，男性的死亡率一般高于女性。因此，在比较发达的地区，在他们 30 岁左右时，女性会多于男性。在大多数欠发达地区，男女死亡率的差异较小，在他们 50 岁左右时，女性人数会多于男性。

Older Persons by Age and Sex, China, 2010
中国分年龄和性别的老年人口（2010 年）



Source: China Population Census, 2010

China

In China, females have historically had higher mortality than males in early stages of life. Since 1982, sex ratio at birth has been higher than the normal level, but has shown a declining trend in recent years. It is thus expected that in the years to come, there will be more males than females for all ages up until around the age of 70.

In 2010, LE in China was 74.83, 3.43 years higher than 10 years ago. Female life expectancy was 77.37 and male life expectancy was 72.38, 4.04 years and 2.75 years higher, respectively, than in the year 2000. The difference in LE between males and females has increased from 3.70 years in 2000 to 4.99 years in 2010. However, although living longer than men, women also tend to live longer years in ill health.

Older women have generally had less formal employment, and therefore receive less pension and medical insurance. This leaves them vulnerable, particularly when widowed. In 2010, 47.48 million of the aged population (i.e. older than 60) were widowed, with females accounting for 70.4 per cent of the widowed. 37 per cent of women aged 60 and over in China were widowed, compared with 16 per cent of men of the same age group.

中国

历史上，中国女性的死亡率在生命周期的早期阶段都高于男性。1982 年之后，出生性别比处于偏高水平，但近几年有下降的趋势。因此，在他们 70 岁左右之前，预计所有的年龄组一直是男性人数多于女性。

在 2010 年，中国人口平均预期寿命达到 74.83 岁，比 2000 年提高了 3.43 岁。男性人口平均预期寿命为 72.38 岁，比 2000 年提高 2.75 岁；女性的预期寿命是 77.37 岁，提高 4.04 岁。男女平均预期寿命之差与十年前相比，由 3.70 岁扩大到 4.99 岁。但是，尽管寿命更长，女性在不健康状态下度过的时间比男性长。

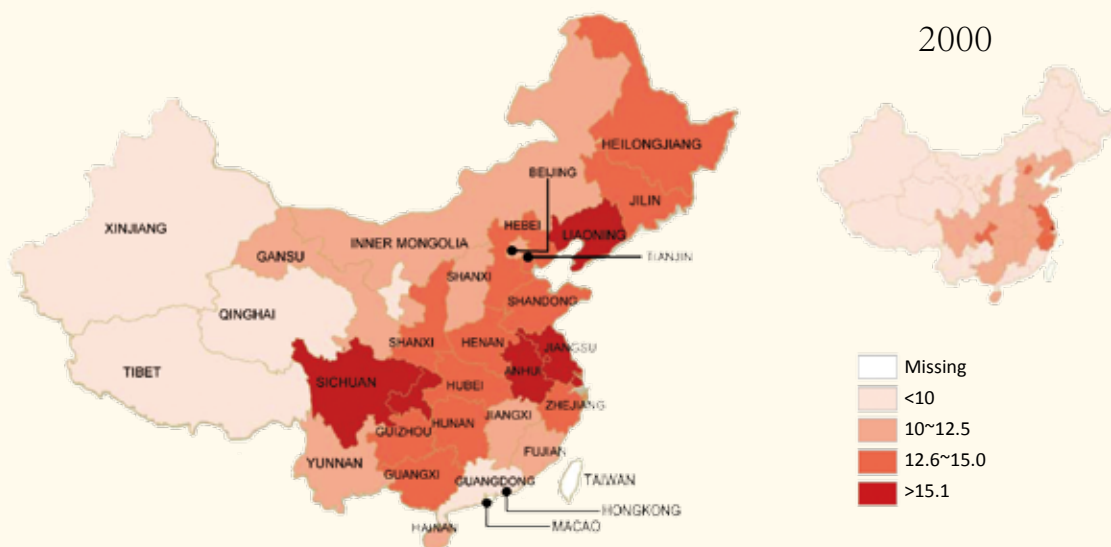
年龄较大的女性一般都从事非正式的工作，因而她们所获得的退休金和医疗保险也就较少。这使得她们缺乏保障，对丧偶的妇女而言情况尤为严重。2010 年，中国 60 岁及以上丧偶老年人共有 4748 万，其中女性占 70.4%，女性老人丧偶的比例为 37%，但男性 60 岁及以上丧偶的比例只有 16%。

Population ageing —migration changes regional pattern

人口老龄化—人口流动改变了地区构成

Proportion of Older Persons Aged 60 and over, China, 2010

中国 60 岁及以上人口比（2010）



Source: China Population Census, 2010

Generally, regions with higher fertility have younger populations. However, migration counteracts this, as most rural-urban migrants are young adults. Therefore, in China, the proportion of people aged 60 and over is higher in rural areas than in urban areas (15.0 per cent versus 11.7 per cent in 2010) and this difference is expected to widen as migration continues to increase. Migration has dramatically changed the proportion of the population aged 60 and over in various provinces in China: young immigrants from rural areas change the structure of the population in urban areas towards a lower proportion of older persons, but increase the proportion of older persons in their home counties. In 2010, Chongqing had the highest proportion of population aged 60 and over at 17.4 per cent, while Sichuan, the province exporting the biggest number of migrants, had a proportion of 16.3 per cent.

一般来说，生育率高的地区的人口相对年轻。然而，人口流动抵消了这种趋势。大部分从农村到城镇的流动人口都是年轻的成年人。因此，农村地区年龄在 60 岁以上的人口比例高于城镇地区（15.0% 对 11.7%）。随着流动人口的不断增加，预计这种差别会更大。人口流动极大地改变了中国各个地区人口老龄化的格局，大量农村流入城市生活的年轻人进入城市，客观上改变了城市人口年龄结构，相对降低了城市老年人口比例，而以农村为主的流出地老年人口比例相应提高。2010 年中国老年人口比例最高的地区是重庆，60 岁以上人口比例达到 17.4%。作为最大的劳务输出省份，四川的老年人口比例也高达 16.3%。



Population ageing —migration changes regional pattern

人口老龄化—人口流动改变了地区构成

The influx of migrants, the majority of whom are young people, has a strong impact on the level of population ageing in urban areas. For example, the proportion of the population aged 60 and over among the local population with registered permanent residence (Hukou) was 17.68 per cent in Beijing, but dropped to 12.54 per cent if calculated for the residential population (i.e. including the migrant population) as a whole. In Shanghai, the proportion of older persons was 21.6 per cent among the local population, but only 15.1 per cent for the residential population as a whole.

以农村年轻人口为主体的流动人口对降低城市人口老龄化程度作用明显，以北京和上海为例，2010年北京市户籍人口中60岁以上老年人口的比例高达17.68%，但常住人口老年人口比例只有12.54%。上海市户籍人口中60岁以上人口已占总人口的21.6%，而常住人口老年人口比例只有15.1%。

Area Name 地区		Proportion of Population aged 60 and over 60 岁以上人口比例	Area Name 地区		Proportion of Population aged 60 and over 60 岁以上人口比例
National average	全国	13.32	Shaanxi	陕西	12.85
Chongqing	重庆	17.42	Guizhou	贵州	12.84
Sichuan	四川	16.30	Henan	河南	12.73
Jiangsu	江苏	15.99	Beijing	北京	12.54
Liaoning	辽宁	15.43	Gansu	甘肃	12.44
Shanghai	上海	15.07	Shanxi	山西	11.53
Anhui	安徽	15.01	Inner Mongolia	内蒙古	11.48
Shandong	山东	14.75	Jiangxi	江西	11.44
Hunan	湖南	14.54	Fujian	福建	11.42
Hubei	湖北	13.93	Hainan	海南	11.33
Zhejiang	浙江	13.89	Yunnan	云南	11.06
Jilin	吉林	13.21	Guangdong	广东	9.73
Guangxi	广西	13.12	Ningxia	宁夏	9.67
Heilongjiang	黑龙江	13.03	Xinjiang	新疆	9.66
Tianjin	天津	13.02	Qinghai	青海	9.45
Hebei	河北	13.00	Tibet	西藏	7.67

Source: China Population Census, 2010

Population ageing —older persons continue to rely mainly on family for support 人口老龄化—老年人仍然主要依靠家庭供养

World

In MDRs, where the proportion of old persons is high and social pension coverage is near universal, public expenditure on pension as a percentage of GDP amounts to 6-18 per cent. Most older persons live by themselves with very few older persons living with their children, and 3-6 per cent live in institutions.

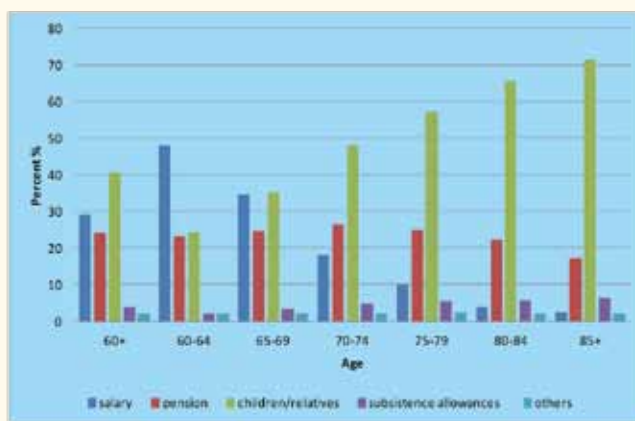
In LDRs a large proportion of older persons live in multigenerational households. This means that many of the responsibilities for old age support lie with the family rather than the government.

世界

在比较发达的地区，社会养老金基本上完全普及。国内生产总值的 6-18% 用于养老金的公共支出。绝大多数老年人独自居住，与儿女同住的老年人非常少，有 3-6% 的老年人居住在养老机构。

在欠发达地区，大部分老年人生活在多代家庭之中。这说明赡养老年人的大部分责任在于家庭而非政府。

Main Sources of Financial Support for Older Persons by Age Group, China, 2010



Source: Tabulation on the 2010 Population Census of People's Republic of China

China

In China, public expenditure on pension accounts for 2.7 per cent of GDP in 2010.

In 2010, 40.7 per cent of persons aged 60 and over depended on their children or relatives for financial support, and the proportion increased to 71.4 per cent for those aged 85 and over. Around 63.5 per cent of persons aged 60 and over live with children or relatives, and just 1.3 per cent of them live in institutions. In total there were 40 million "empty nest" (old persons live alone) households in China in 2010 and the absolute number of old persons living alone was 62 million, accounting for one third of the total population of

中国

在中国，2010 年用于养老金的公共支出占国内生产总值的 2.7%。

2010 年中国 60 岁及以上的老年人有 40.7% 依靠子女或其他亲属供养，对于年龄在 85 岁及以上的老年人而言，71.4% 的人依靠子女或亲属提供经济支持。年龄在 60 岁及以上的老年人中有 63.5% 与子女或亲属同住，而只有 1.3% 的老人居住在养老机构。总体上看，通常所说的老年空巢家庭共有 4013.5 万户，生活在空巢家庭中的老年人口总数至少有 6200 万人，占老年人口总数的三分之一。

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