



Social Protection Reform Project
中国-欧盟社会保障改革项目

COMPONENT ONE

**Evaluation of Social security policies
in China**

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I. Overall evaluations of China's social security system

China's social security system has been undergoing a comprehensive and profound overhaul since the mid-1980s, transforming from being state and work unit (danwei) based towards an institutional setting independent from work units with their respective distinctive boundaries. This shift, phrased as from state-work units based protection to state-society based protection (Zheng 2008a)¹. Social security, once provided exclusively to urban population, now brings benefits to the whole population. Moreover, China's social security system has contributed to creating stability for economic reform and society's transformation, as well as shaped a potentially unified labor market allowing workers to move freely across the country. Bolstered by relevant institutional arrangements, it has eliminated obstacles that impede the free movement of labors and thus directly promoted China's economic growth through reformed financing methods. Overall, China's social security and economic development have achieved positive interaction and joint progress over the latest three decades, yet there remain problems that need to be addressed by deepening the reform on the basis of objective evaluation.

China's social security system is a huge one consisting of comprehensive schemes.

Box: The framework of China 's social security system: a comprehensive list of schemes

1. Social assistance

- 1.1 Minimum livelihood guarantee/subsistence allowances (Dibao)
- 1.2 Disaster relief
- 1.3 Medical assistance
- 1.4 Educational assistance
- 1.5 Assistance to people living in extreme difficulty
- 1.6 Housing assistance
- 1.7 Employment assistance
- 1.8 Temporary assistance

2. Social insurance

- 2.1 Old-age pensions

¹ 郑功成, 2008, 《中国社会保障 30 年》, 人民出版社, 2008。Gongcheng, Zheng (2008): China's social security: a review of 30 years of progress, People's Publishing House, 2008. (in Chinese).

- 2.2 Health insurance
- 2.3 Employment injury insurance
- 2.4 Unemployment insurance
- 2.5 Maternity insurance
- 2.6 Long-term care insurance (trial)

3. Social welfare

- 3.1 Social welfare for the elderly
- 3.2 Social welfare for children
- 3.3 Social welfare for women
- 3.4 Social welfare for people with disabilities
- 3.5 Educational benefits
- 3.6 Government housing support

4. Benefits for entitled groups

- 4.1 Preferential treatment to servicemen and their families
- 4.2 Pension for servicemen and their families
- 4.3 Assistance to disabled servicemen
- 4.4 Assistance to ex-servicemen

Notes: 1) State Council Information Office, *China's Social Security and Its Policy (2004)*, *Bulletin of the State Council*, No. 32, 2004. This policy document clearly states that China's social security system consists of social insurance, social welfare, benefits for specific groups, and government housing support;

2) The *Social Insurance Law of the People's Republic of China* adopted in 2010 provides that old-age pension, health insurance, employment injury insurance, unemployment insurance and maternity insurance are five major social insurance schemes. In 2017, the Chinese government launched pilot schemes in 15 cities for long-term care insurance;

3) The *Interim Regulations on Social Assistance* promulgated by the State Council in 2014 explicitly stipulates eight social assistance schemes including minimum livelihood guarantee;

4) The *Regulations on Pensions and Preferential Treatment for servicemen* issued by the State Council in 2004 provides preferential treatment and pension for military personnel. The *Regulations on Resettlement of Ex-Servicemen* promulgated by the State Council in 2011 guarantees appropriate reintegration of veterans;

5) Social welfare in China includes benefits in cash and in kind for the elderly, children, women and people with disabilities; yet in academic discourse housing benefits and educational benefits are also considered as social welfare policies. Social assistance is means-testing and largely in cash, whereas social welfare is not means-testing and mainly in kind (social services). In some cases, universal allowances such as the old age allowance are provided under social welfare schemes.

Overall evaluations of China's social security system are as follows:

1. The institutional framework has taken its initial shape, yet it is still under further construction. As of today, the framework of China's social security system (see above) is in place while all the schemes are playing their due roles; yet some basic elements of the system, including its structure and positioning, multi-layer structure, administrative system, operating mechanism, as well as the legislation,

remain to be constructed and consolidated. For example, the second and third layers of the pension are underdeveloped, thus a well-structured multi-layer income security system for the seniors fails to be formalized. The health insurance system is segmented and administrated by different government authorities. Also, the individual health accounts still exist and affect negatively the functioning of the entire health insurance system. Furthermore, several social security schemes have no laws or regulations to abide by even existing laws such as the *Social Insurance Law* reflect only principles but prove difficult to maneuver in practice. Judging for the above, China's social security reform is still on its journey toward maturity.

2. Universal coverage has been essentially attained, yet the equity of the system needs to be promoted. More than 97% of China's population is covered by health insurance, basically achieving the intended goal of establishing universal health insurance coverage. The pension scheme benefits all elderly across the country and monthly pensions are accessible to all the elderly population. Social assistance also extends to all the eligible population. Elderly care services and services for persons with disability are also developing rapidly. China's social security system has become a fundamental way as well as an institutional guarantee for all people to share the fruits of national development; however, the benefit gaps among regions, between urban and rural areas, and among groups, remain wide.

3. The responsibility of the government is highlighted, but its boundary remains blurred. Also, the mechanism for the sharing of responsibilities between central and local governments need to be clarified. Over the past decade, the Chinese government has increased its spending in social security and related fields, including subsidies for pension and health insurance schemes for urban and rural residents, as well as inputs in fields such as education and health. This contributes greatly to the rapid development of China's social security system (see Table 1).

Table 1 Public Budget Expenditure, China, 2007-2016 (100 million)

Year	Revenue in the general public budget		Expenditure on social security and employment		Expenditure on public health and family planning		Expenditure on education		Aggregate expenditure			Overall growth rate (%)
	CNY	USD	CNY	USD	CNY	USD	CNY	USD	CNY	USD	Share in GDP (%)	
2007	5132.18	674.931	851.424	111.971	355.491	46.751	712.232	93.665	1919.15	252.387	7.09	—
2008	6133.04	883.074	979.592	141.048	417.876	60.168	901.021	129.735	2298.49	330.951	7.15	19.77
2009	6851.83	1003.05	916.421	134.156	495.11	72.48	1043.75	152.797	2455.29	359.433	7.05	6.82
2010	8310.15	1227.59	913.06	134.878	533.337	78.785	1255	185.391	2701.4	399.054	6.57	10.02
2011	10387.4	1608.26	1110.94	172.004	642.951	99.547	1649.733	255.424	3403.62	526.975	7.02	25.99
2012	11725.4	1857.48	1258.55	199.375	742.511	117.626	2124.21	336.509	4125.273	653.509	7.65	21.20
2013	12921	2086.32	1449.05	233.975	827.99	133.693	2200.18	355.257	4477.22	722.925	7.58	8.53
2014	14037	2285.12	1596.89	259.96	1017.68	165.67	2304.17	375.101	4918.74	800.732	7.63	9.86

2015	15226.9	2444.76	1901.87	305.354	1195.32	191.914	2627.19	421.808	5724.38	919.076	8.34	16.38
2016	15955.2	2402.06	2154.8	324.406	1315.4	198.034	2805.6	422.384	6275.8	944.823	8.43	9.63

Sources: National Bureau of Statistics of China (2016), *China Statistical Year Book 2016*, Beijing: China Statistics Press.

Table 1 reveals that from 2007 to 2016, revenue in the general public budget grew 3.1 times while aggregate expenditure on social security and employment, on health care and family planning, and on education increased slightly faster (3.3 times). The share of the aggregate expenditure in GDP climbed from 7.09% to 8.43%. If the social insurance data (non out of government revenue) were included in the time series, the material foundation of social security would prove even more solid.

Table 2 Structure of Health Care Expenditure, China, 1978-2016 (100 million)

Year	Total cost of health care								As a share of GDP (%)
	Total		Government spending on health care		Social spending on health care		Personal spending on health care		
	CNY	USD	CNY	USD	CNY	USD	CNY	USD	
1978	11.021	6.546	3.544	2.105	5.252	3.12	2.252	1.338	3.00
1980	14.323	9.559	5.191	3.464	6.097	4.069	3.035	2.025	3.15
1985	27.9	9.5	10.765	3.666	9.196	3.131	7.939	2.703	3.09
1990	74.739	15.625	18.728	3.915	29.31	6.128	26.701	5.582	4.00
1995	215.513	25.807	38.734	4.638	76.781	9.194	99.998	11.974	3.54
2000	458.663	55.405	70.952	8.571	117.19	14.157	270.517	32.677	4.62
2005	865.991	105.716	155.253	18.952	258.64	31.574	452.098	55.19	4.68
2010	1998.039	295.153	573.249	84.681	719.66	106.309	705.129	104.163	4.98
2015	4097.464	657.868	1247.528	200.297	1650.7	265.023	1199.265	192.548	6.05
2016	4634.49	697.724	1391.03	209.42	1909.7	287.5	1333.8	200.8	6.20

Sources: 1. National Bureau of Statistics of China (2016), *China Statistical Year Book 2016*.

2. Data of 2016 are from *Statistical Bulletin on Health and Family Planning in China, 2016*

Table 2 shows China's spending on health care over the past four decades; expenditure as a share of GDP rose from 3% to 6.2%. Per capita expenditure on health went from 21 USD in 1995 to 419 USD in 2014². The expenditure of health insurance played a vital role in the increase, indicating that the growth elasticity of health was over the long run equal to around 2 – a development which, given the fact that China comes from very low spending levels, is highly welcome under social health policy perspectives, but which, of course in line with peoples' preferences, must sooner or later come to an end because, as international research suggests,

² See: <https://data.worldbank.org.cn/indicator/SH.XPD.OOPC.TO.ZS>

there are saturation levels beyond which, once reached, additional health spending will not improve the health status of the population but only serves the income interests of health providers, and the profit interests of the health industry.

Generally speaking, the spending levels of China's social security were constantly improved over the past, yet the total spending on social security as a share of GDP, which is 13%, remains lower than the OECD countries' average. Thus, the spending level of China's social security needs to be further improved, and the Chinese government has been intensifying its efforts in this regard.

However, the social security, fiscal system, and tax system fail to coordinate in an effective manner. For social insurance schemes, employers pay contributions more than double that of employees. In the case of social assistance, the central government usually takes the major responsibility. Moreover, relevant tax policies fail to coordinate with the overall goal of building the social security system.

4. The benefit level of Chinese social security is on the rise, yet the mechanisms for coordinated development and standardized indexation of benefits are absent.

The monthly per capita pension provided by the basic pension scheme for employees increased from USD 69.13 in 2001 to USD 395.56 in 2016, and the monthly per capita pension provided by the basic pension scheme for non-salaried residents rose from USD 5.96 in 2009 to USD 17.66 in 2016 (*Statistical Bulletin on Human Resource and Social Security Development 2016*, Ministry of Human Resources and Social Security 2017). (See Table 3, Figure 1)

Table 3 Per capita pension provided under the basic old-age pension scheme

Year	Pension scheme for employees		Pension scheme for urban and rural residents	
	RMB per month	USD per month	RMB per month	USD per month
	(1)	(2)	(3)	(4)
2001	572.21	69.13	—	—
2002	656.66	79.34	—	—
2003	673.99	81.43	—	—
2004	711.36	85.95	—	—
2005	770.90	94.11	—	—
2006	880.31	110.43	—	—
2007	1003.44	131.96	—	—
2008	1161.10	167.18	—	—
2009	1276.41	186.86	40.70	5.96

2010	1395.04	206.08	58.21	8.60
2011	1558.32	241.27	56.98	8.82
2012	1741.70	275.91	73.30	11.61
2013	1914.15	309.07	81.59	13.17
2014	2109.63	343.43	91.47	14.89
2015	2352.97	377.78	119.20	19.14
2016	2627.44	395.56	117.33	17.66

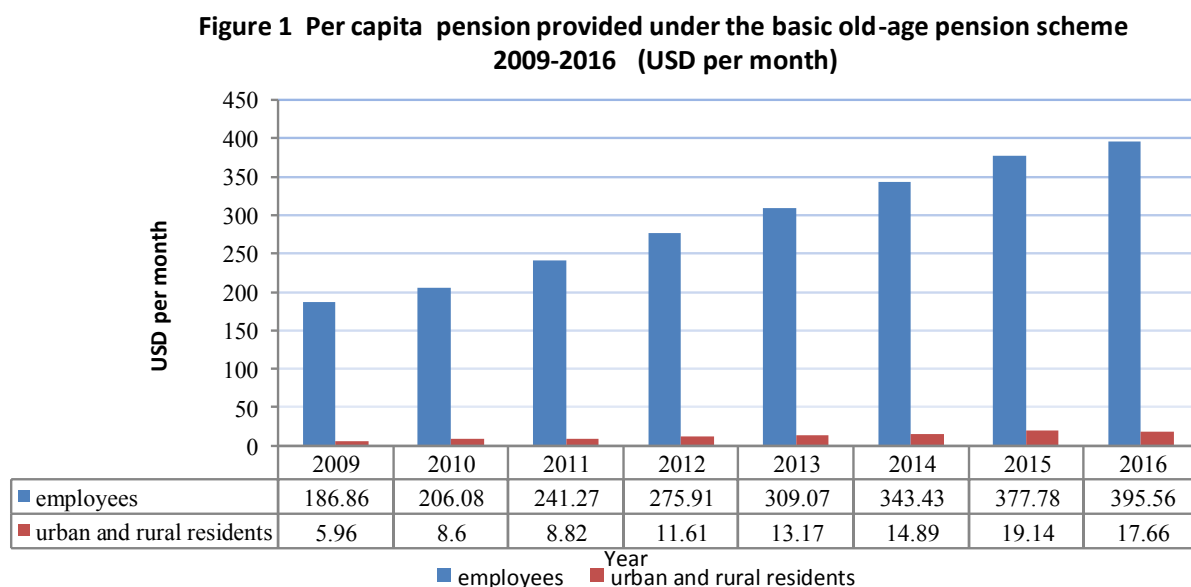
Note: 1. Source: a) *Statistical Bulletin on the Development of Human Resources and Social Security* (MoHRSS) and b) *China Labor Statistical Yearbook* (National Bureau of Statistics) various issues;

2. Per capita pension = total annual expenditure / end-of-the-year number of pensioners;

3. RMB-USD conversion on the basis of the “yearly average exchange rates” compiled in *China Statistical Yearbook 2016* published by the National Bureau of Statistics of China;

4. Per capita pension provided under the resident’s scheme (column 3&4) declined slightly in 2016. The reason is that a majority of the newly added pension recipients came from regions with relatively low level of pension, thus reducing the national average. As a matter of fact, per capita pension of all different regions saw a rise, rather than a decline.

**Figure 1 Per capita pension provided under the basic old-age pension scheme
2009-2016 (USD per month)**



The problem is that pension, health insurance, minimum subsistence allowance, disaster relief, and welfare services are uncoordinated in terms of benefit payouts.

The benefits are not indexed to CPI or wages. Pension payouts increased on average by around 10% annually from 2005 to 2015, 6.5% in 2016 and 5.5% in 2017, but the increases are more of political decisions.

There exists no mechanism for regular increases in the reimbursement rate of health insurance and standard of minimum subsistence allowances, resulting in no stable expectation of the future improvement in social security benefits.

5. China's social security system is shifting from long-term experimental reform to a new stage towards a mature and fully-formed system. Importance is attached to coordinated development and overarching design at the national level, while the top-down momentum in this process derives from state responsibility. The construction of a law-based China also entails a fully-formed social security system.

Judging from the reality, China's current social security system has inherent defects. The regionally segmented pension schemes, and the continued existence of the separate health insurance schemes for employees and non-salaried residents, as well as the underdeveloped social welfare services for the elderly and children are standing in the way towards a mature and well-developed social security system.

二、中国养老保险制度的基本评价

II. Major Evaluation of China's old-age pension

养老保险是中国社会保障体系最重要的制度安排，评估中国的社会保障制度关键是评估养老保险制度。我们认为，评估中国养老保险制度主要包括覆盖率、替代率、公平性、可持续性四个指标。其中，覆盖率反映制度惠及的广度，替代率反映养老金水平状态，公平性反映地区及群体差异性，可持续性反映基金支撑能力及制度发展潜力。

The old-age pension scheme is the mainstay of China's social security system, thus the key to evaluating China's social security system is to evaluate its old-age pension. Four major indicators can be used for the evaluation of Chinese pension schemes: coverage rate, replacement rate, equity and sustainability. Among them, "coverage rate" reflects the extent to which the system brings benefits; "replacement rate" indicates the benefit level of pension payouts; "equity" evaluates differences among regions and groups, and "sustainability" indicates the capacity of the pension fund to sustain and potential of the system to develop.

INDICATOR 1: COVERAGE RATE. China's pension system coverage has been constantly extending since 1998; especially in 2009, the government launched the government-partial-funded pension scheme for rural residents, which further extended to non-salaried urban population in the 16-59 age group in 2011 and achieved full basic pension coverage in 2012, which means all the elderly can receive monthly pensions in varying amounts. In 2016, the number of persons insured by

old-age pension schemes was 887 million, among whom, 379 million were covered by the urban employees' pension scheme (including 101.3 million retirees), 508 million people were covered by the pension scheme for residents (including 152.7 million pensioners), and the total coverage rate stood at approximately 85% (263.73 million pensioners). In 2015, for active employees, the insurance coverage rate was 64.9% (262.19 million out of 404.1 million people). This suggests that the pension scheme for employees still has a larger space for coverage extension, mainly among migrant employees.

Table 4 Number of participants and pensioners of the basic old-age pension system

(10,000 persons)

Year	Pension scheme for employees		Pension scheme for urban and rural residents		Total
	Number of employees	Number of retirees	Number of participants aged under 60	Number of pensioners aged 60 and above	Number of participants
	(1)	(2)	(3)	(4)	(5)
1998	84.758	27.273	79.652	0.598	192.28
1999	95.018	29.836	63.71	0.898	189.46
2000	104.48	31.699	60.74.5	0.978	197.9
2001	108.02	33.80.6	58.87	1.081	201.78
2002	111.29	36.078	53.384	1.234	201.98
2003	116.47	38.602	52.301	1.976	209.344
2004	122.5	41.026	51.769	2.055	217.35
2005	131.2	43.675	51.402	3.017	229.3
2006	141.31	46.354	50.186	3.551	241.4
2007	151.83	49.537	47.799	3.916	253.08
2008	165.88	53.036	50.83	5.12	274.86
2009	177.43	58.069	59.421	13.352	308.27
2010	194.02	63.05	74.142	28.626	359.84
2011	215.65	68.262	240.26	91.568	615.74
2012	229.81	74.457	349.87	133.82	787.96
2013	241.77	80.41	359.82	137.68	819.68
2014	255.31	85.934	357.95	143.13	842.32
2015	262.19	91.42	356.72	148	858.33
2016	278.26	101.03	355.77	152.7	887.77

Note: 1. Sources: a) *Statistical Bulletin on the Development of Human Resources and Social Security* (MoHRSS), b) *China Labor Statistical Yearbook* (National Bureau of Statistics) *Various issues*, c) *30 Years of China's Social Security* (Zheng, 2008)

2. “Urban and rural residents” refer to non-salaried urban and rural population in the 16-59 age group. Columns 3 & 4 until 2010 merely include only “rural residents”; since 2011, the pension system for rural residents and the pension system for urban residents were merged, i.e. as of this date the numbers include both systems.

3. In the late 1980s, some rural areas piloted voluntary old-age pension scheme characterized by individual contribution and saving account. It proved to be unsustainable due to the lack of government financial support. Problems including the loss of funds, extremely low or unpaid pensions emerged. In view of this, the Chinese government suspended this practice in 1998; and those insured by then were considered as legacy issues. Later in 2009, the government launched the government-partial-funded pension system for rural residents, which further extended to non-salaried urban population in the 16-59 age group in 2011 and achieved full basic pension coverage in 2012.

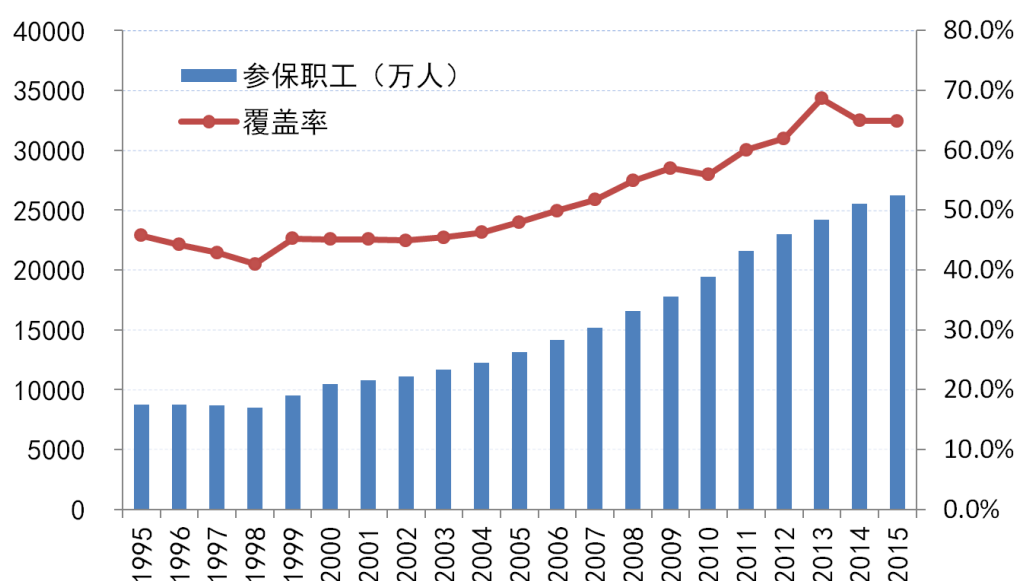


Figure 2 Insurance coverage rate of the urban employees’ pension scheme, 1995-2015

INDICATOR 2: REPLACEMENT RATE. Judging from the time-series data, pensions for retired workers were constantly improved from 1995 to 2015, yet the average replacement rate calculated with reference to local average wage was declining: 68.8% in 1995, 50.8% in 2005, and 45.5% in 2015. Today, the level is relevantly stable. (See Table 5 and Figure 3)

Nevertheless, the declining replacement rate does not reveal the real level of pension payouts, as the contribution base across the country is broadly below the average wage. See Table 6. When we use the wage that serves as the contribution base, instead of the average wage, to calculate the replacement rate, the replacement rate of the basic pension scheme for urban employees is 67%, remaining at a relatively high level. See Figure 4.

The replacement rate, calculated on the share of average pension in per capita net income of rural residents, ranges from 10%-13%, being relatively low. (See Table

7)

Table 5 Average replacement rate of the pension for urban employees, 1995 - 2015

Year	Average pension (RMB)	Average wage (RMB)	Average replacement rate
1996	4375	6210	70.5%
1997	4940	6470	76.4%
1998	5543	7446	74.4%
1999	6451	8319	77.6%
2000	6674	9333	71.5%
2001	6866	10834	63.4%
2002	7880	12373	63.7%
2003	8088	13969	57.9%
2004	8536	15920	53.6%
2005	9251	18200	50.8%
2006	10564	20856	50.7%
2007	12041	24721	48.7%
2008	13933	28898	48.2%
2009	15251	32736	46.6%
2010	16696	37147	44.9%
2011	18701	42459	44.0%
2012	20900	46769	44.7%
2013	22970	51483	44.6%
2014	25317	56360	44.9%
2015	28236	62029	45.5%

Note: The average pension replacement rate is the per capita pension as a share of the average wage of urban employees in the same year.

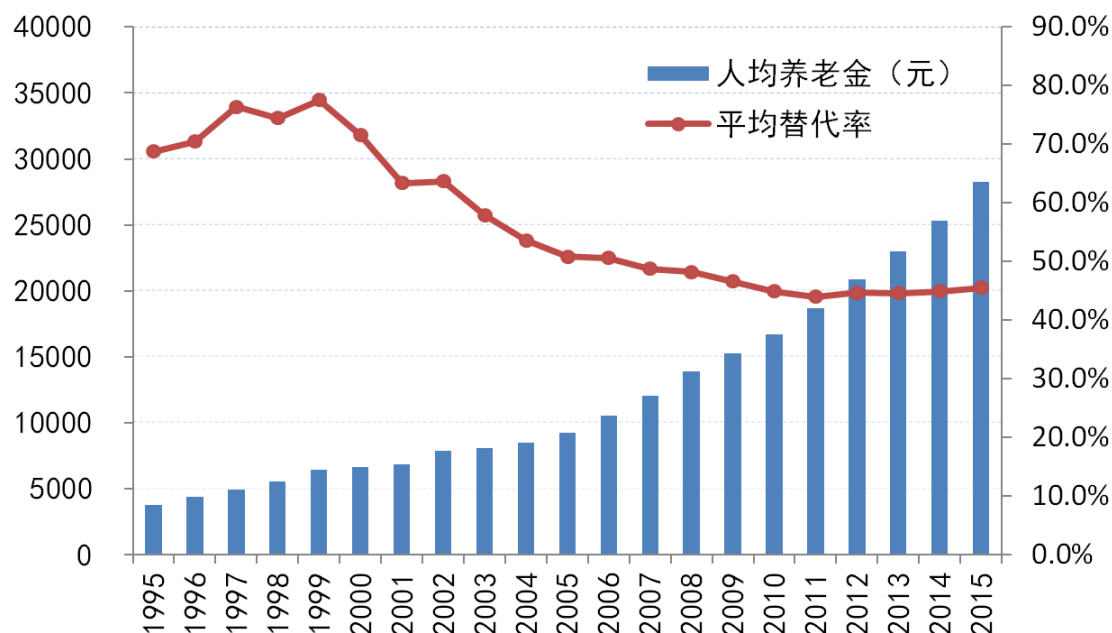


Figure 3 Average pension and replacement rate nationwide (1995-2015)

Figure 3 shows that the pension replacement rate dropped rapidly before 2005, then came to a stage of slower decrease after the introduction of the mechanism for indexation of benefits in 2005. The pension replacement rate was stabilized at around 45%.

Table 6 Per capita contribution base as a share of average wages of urban employees 2010-2015

Year	Per capita contribution base (RMB)	Average wages of urban employees (RMB)	Per capita contribution base as a share of average wages of urban employees
2011	27372	37147	73.7%
2012	30600	42459	72.1%
2013	33768	46769	72.2%
2014	36444	51483	70.8%
2015	39828	56360	70.7%

Source: 1) China Statistical Yearbook and 2) China Social Security Development Annual Report 2015

Table 6 shows that the per capita contribution base of the urban employees' pension scheme accounts for around 70% of the local average wage. Taking this into consideration, when calculated with the per capita contribution base, the average pension replacement rate is higher than calculated with the average wage of urban employees as a denominator.

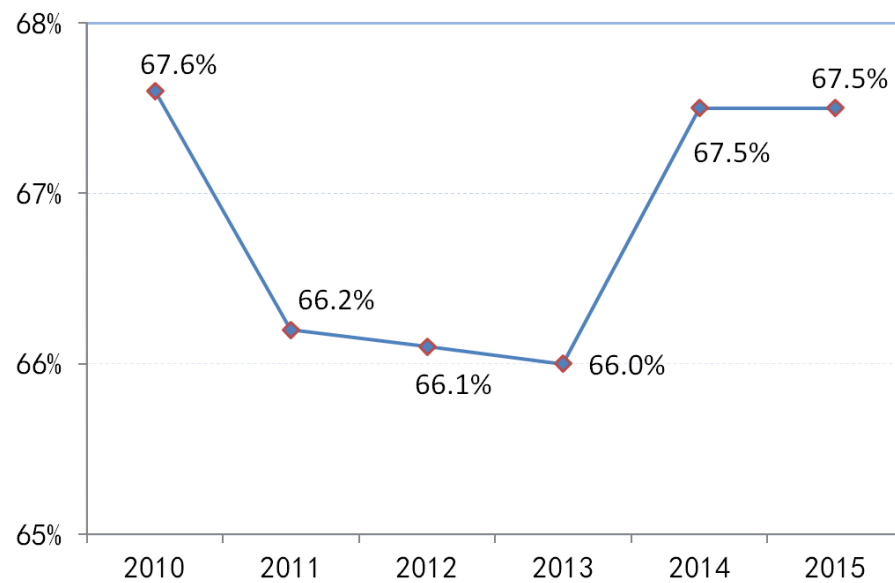


Figure 4 Pension replacement rate calculated on the per capita contribution base 2010-2015

Figure 4 reveals that from 2010 to 2015 the average replacement rate calculated with the per capita contribution base is about 67%, higher than the average replacement rate calculated with the local average wage of urban employees. Taking the year of 2015 as an example, the average replacement rate calculated with the local average wage of urban employees was 45.5%, whereas the average replacement rate based on per capita contribution base was 67.5%, about 22 percentage points higher than the former. Indeed, there are reasons to think that the replacement rate calculated with the contribution base reflects the real replacement rate of China's basic pension scheme.

Table 7 Replacement rates of rural residents' pension 2010-2015

Year	fund expenditure (100 million RMB)	pensioners (million)	per capita pension (RMB)	Per capita net income of rural residents	replacement rate

				(RMB)	
2011	598	8760	683	6977.3	9.8%
2012	1150	13075	880	7916.6	11.1%
2013	1348	13768	979	8895.9	11.0%
2014	1571	14313	1098	9892	11.1%
2015	2117	14800	1430	10772	13.3%

Table 6 shows that rural residents' pension accounts for 10% -13% of the per capita net income of rural residents, which is much lower than that of urban employees' pension scheme (about 45%). Meanwhile, given that the per capita net income of rural residents is also lower than the average wage of urban employees, the absolute level of pensions for rural residents is far below the that of pensions for urban employees.

INDICATOR 3: EQUITY. The regionally segmented pension schemes give rise to inequity and the large disparity among regions and groups.

(1) The pension replacement rate declined over the past years, but now it holds relatively stable. In 2015, the national average pension replacement rate stood at 45.5%, yet the gap across regions was large. For example, the pension replacement rate in Shanxi province was 63%, exceeding that of Chongqing province - which was 36% - by 27 percentage points. (See Table 8)

Table 8 Average replacement rate of pension scheme for urban employees by province

Year	2000	2005	2010	2015
Nationwide	71.2%	50.3%	44.9%	45.5%
Beijing	53.7%	36.9%	37.9%	36.6%
Tianjin	51.0%	37.5%	36.8%	38.6%
Hebei	91.2%	61.2%	55.4%	60.6%
Shanxi	93.7%	58.4%	55.3%	63.0%
Inner Mongolia	86.0%	57.6%	50.7%	47.5%
Liaoning	67.1%	45.9%	46.4%	52.0%
Jilin	79.4%	53.4%	42.2%	43.2%
Heilongjiang	80.8%	51.8%	49.7%	53.1%

Shanghai	48.6%	36.3%	32.7%	40.1%
Jiangsu	66.7%	48.0%	42.2%	40.9%
Zhejiang	56.2%	46.0%	47.2%	41.7%
Anhui	81.1%	52.5%	43.7%	44.5%
Fujian	52.1%	55.6%	51.1%	51.2%
Jiangxi	78.0%	47.5%	46.8%	44.8%
Shandong	95.6%	71.6%	65.1%	58.1%
Henan	89.6%	54.5%	52.1%	58.8%
Hubei	85.7%	51.7%	43.8%	46.1%
Hunan	69.6%	49.7%	45.1%	44.0%
Guangdong	46.0%	50.5%	45.7%	47.4%
Guangxi	73.5%	51.5%	45.7%	47.6%
Hainan	60.8%	53.8%	53.0%	44.1%
Chongqing	57.1%	39.1%	39.0%	36.0%
Sichuan	61.7%	49.5%	42.6%	37.6%
Guizhou	76.2%	58.5%	52.7%	42.8%
Yunnan	78.2%	54.0%	53.5%	51.4%
Tibet	80.3%	62.0%	47.7%	49.9%
Shaanxi	82.9%	52.2%	52.8%	53.7%
Gansu	98.8%	61.2%	61.3%	53.2%
Qinghai	82.7%	58.3%	60.0%	60.4%
Ningxia	78.9%	57.5%	43.1%	48.9%
Xinjiang	97.2%	31.2%	30.9%	52.7%

Source: 1) China Labor Statistical Yearbook, Various issues; 2) China Statistical Yearbook, Various issues

(2) The dependency ratio (number of pensioners relative to contributors) of the pension scheme for employees has been on the rise. From 2000 to 2015, this ratio rose from 30.0% to 34.8% on average at the national level. In 2015, Heilongjiang province had the highest dependency ratio, which was 72.8%, whereas Guangdong province had the lowest one, which was 10.3%. The gap between the highest and the lowest reached 62.5 percentage points. (See Table 9)

Table 9 Dependency ratio of the pension scheme for urban employees

Year	2000	2005	2010	2015
Nationwide	30.3%	33.3%	32.5%	34.8%
Beijing ³	42.3%	42.6%	24.9%	19.9%
Tianjin	38.5%	53.7%	49.9%	47.1%
Hebei	27.6%	35.2%	35.6%	38.7%
Shanxi	23.1%	34.4%	33.2%	39.3%
Inner Mongolia	26.9%	34.0%	38.3%	56.1%
Liaoning	37.5%	43.3%	46.2%	56.2%
Jilin	31.9%	40.3%	52.6%	65.2%
Heilongjiang	34.0%	40.9%	61.6%	72.8%
Shanghai	53.1%	53.9%	59.7%	45.3%
Jiangsu	29.0%	29.7%	28.4%	32.5%
Zhejiang	25.6%	20.1%	15.1%	29.5%
Anhui	29.0%	36.0%	36.1%	40.4%
Fujian	32.0%	27.7%	21.7%	20.0%
Jiangxi	28.5%	37.4%	31.5%	40.0%
Shandong	21.7%	23.6%	24.2%	28.8%
Henan	22.7%	31.3%	33.4%	31.3%
Hubei	28.2%	34.5%	40.9%	50.4%
Hunan	34.0%	37.3%	39.4%	46.6%
Guangdong	17.4%	14.8%	11.8%	10.3%
Guangxi	29.5%	34.0%	44.4%	47.9%
Hainan	30.2%	43.2%	33.5%	33.0%
Chongqing	40.8%	53.0%	49.1%	56.0%
Sichuan	38.7%	41.0%	50.9%	55.1%
Guizhou	32.4%	39.2%	35.2%	31.9%
Yunnan	37.1%	46.3%	41.0%	41.8%
Tibet	40.5%	67.4%	47.1%	31.1%
Shaanxi	35.7%	40.2%	37.6%	38.1%

³ The decline in the dependency ratio in Beijing can be explained by the faster growth of contributors compared to retired people. For example, the number of contributors in Beijing increased from 7,859,000 to 11,875,100 from 2010 to 2015, while the number of retirees climbed from 1,955,000 To 2,367,400.

Gansu	30.2%	38.7%	41.7%	55.4%
Qinghai	38.7%	39.3%	36.8%	43.1%
Ningxia	28.2%	31.3%	39.5%	41.8%
Xinjiang	33.2%	41.8%	43.4%	38.0%

Source: 1) *China Labor Statistical Yearbook, Various issues*; 2) *China Statistical Yearbook, Various issues*

(3) The contribution rate of the pension insurance for employees has been declining. The average contribution rate is the proportion of per capita contribution to the average wage of employees in the same period. In most regions, this figure has been on a declining trend over time. From 2010 to 2015, the national average contribution rate dropped from 21.7% to 15.6%, with huge disparities across regions. In 2015, the contribution rate in Tibet was 29.7%, the highest in China, whereas Guangdong had the lowest, which was 8.3% -- the gap between the highest and the lowest was 21.4 percentage points. (See Table 10)

Table 10 Average contribution rates of the pension scheme for urban employees

Year	2000 ⁴	2005	2010	2015
Nationwide	21.7%	20.4%	17.5%	15.6%
Beijing	24.8%	22.3%	14.5%	12.2%
Tianjin	26.2%	23.4%	16.2%	15.6%
Hebei	30.0%	25.3%	23.8%	18.7%
Shanxi	26.1%	28.0%	25.7%	20.9%
Inner Mongolia	30.3%	18.3%	20.8%	20.2%
Liaoning	30.6%	20.2%	18.7%	19.1%
Jilin	30.2%	18.8%	19.8%	19.0%
Heilongjiang	31.5%	18.5%	26.0%	23.2%
Shanghai	26.7%	21.8%	18.5%	17.8%
Jiangsu	22.3%	19.3%	17.2%	15.4%
Zhejiang	20.2%	15.4%	11.2%	14.7%
Anhui	26.2%	21.4%	18.6%	18.4%
Fujian	22.2%	20.3%	13.5%	11.5%
Jiangxi	23.4%	17.7%	14.6%	15.7%

Shandong	25.2%	23.8%	22.5%	18.8%
Henan	22.1%	21.2%	17.9%	15.0%
Hubei	22.3%	20.4%	19.2%	17.9%
Hunan	29.7%	18.7%	17.9%	17.1%
Guangdong	13.6%	12.5%	10.0%	8.3%
Guangxi	26.0%	19.3%	26.4%	18.9%
Hainan	20.7%	20.1%	16.0%	11.5%
Chongqing	27.1%	21.0%	18.8%	16.6%
Sichuan	30.5%	24.0%	27.7%	19.1%
Guizhou	37.2%	21.6%	21.6%	15.4%
Yunnan	35.2%	22.8%	24.6%	22.2%
Tibet	38.2%	23.3%	32.0%	29.7%
Shaanxi	33.1%	22.9%	20.2%	16.1%
Gansu	33.6%	25.1%	29.0%	24.6%
Qinghai	35.6%	22.7%	24.4%	18.8%
Ningxia	30.0%	21.0%	29.4%	18.1%
Xinjiang	40.3%	16.0%	16.6%	22.2%

Source: 1) Data for 2000: China Labor Statistical Yearbook; 2) Data for 2005, 2010 and 2015: China Pension Development Report.

INDICATOR 4: CONTRIBUTION RATE. This indicator shows the burden of contributing on the working population. Table 11 and Figure 5 show that the per capita contribution of urban employees' pension scheme was increasing over time, while the average contribution rate was declining.

**Table 11 Average contribution rates of the urban employees' pension scheme
1995-2015**

Year	Per capita contribution (RMB)	Average wage in the previous year (RMB)	Average contribution rate
1996	1293	5500	23.5%
1997	1505	6210	24.2%

1998	1482	6470	22.9%
1999	1851	7446	24.9%
2000	1815	8319	21.8%
2001	1912	9333	20.5%
2002	2286	10834	21.1%
2003	2585	12373	20.9%
2004	2904	13969	20.8%
2005	3263	15920	20.5%
2006	3654	18200	20.1%
2007	4242	20856	20.3%
2008	4773	24721	19.3%
2009	5327	28898	18.4%
2010	5721	32736	17.5%
2011	6472	37147	17.4%
2012	7165	42459	16.9%
2013	7707	46769	16.5%
2014	8004	51483	15.5%
2015	8778	56360	15.6%

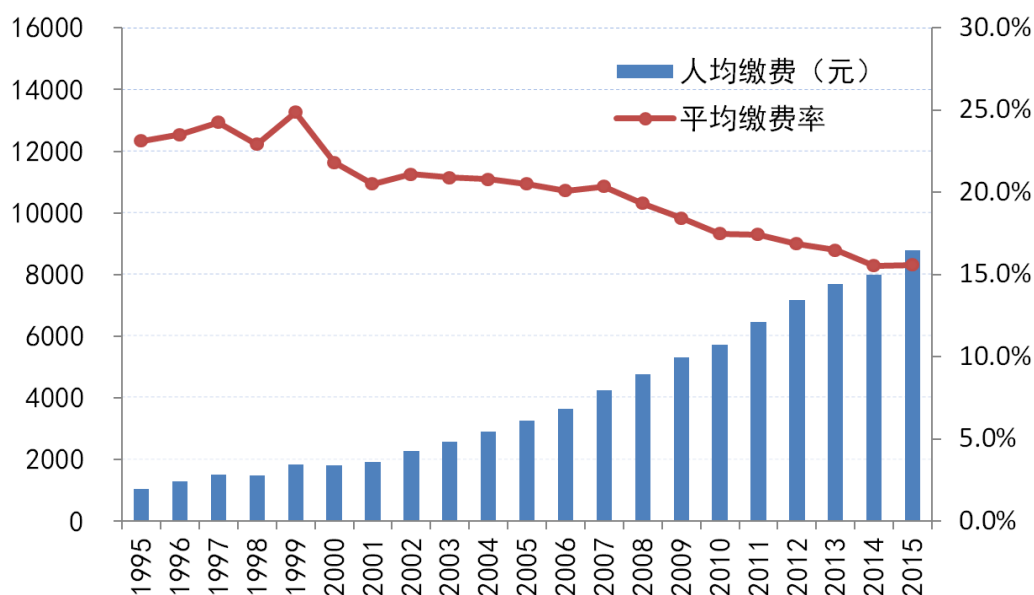


Figure 5 Per capita contribution and average contribution rate of the urban employees' pension scheme 1995-2015

Since the per capita contribution base of insured employees is equivalent to only about 70% of the average wage of employees, the contribution rate calculated with the per capita contribution base is higher than calculated with the average wage of urban employees. Table 12 and Figure 6 show the average contribution rate calculated with the per capita contribution base from 2010 to 2015, standing at about 22%-23%. In 2015, the average contribution rate calculated on the basis of the average wage of urban employees was 15.6%, whereas the average contribution rate calculated with the per capita contribution base was 22%, which was about 6 percentage points higher than the former. In contrast, the per capita contribution base is equivalent to the average wage in the United States, as a result, the contribution rates calculated with the two are consistent.

Table 12 Average contribution rate calculated with the per capita contribution base, 2010-2015

Year	Contributors (10 thousand)	Total contribution (100 million RMB)	Per capita contribution (RMB)	Contribution base (RMB)	Average contribution rate (%)
2010	194.02	1109.9	5721	24192	23.6
2011	215.65	1395.6	6472	27372	23.6
2012	229.81	1646.7	7165	30600	23.4
2013	241.77	1863.4	7707	33768	22.8
2014	255.31	2043.4	8004	36444	22.0
2015	262.19	2301.6	8778	39828	22.0

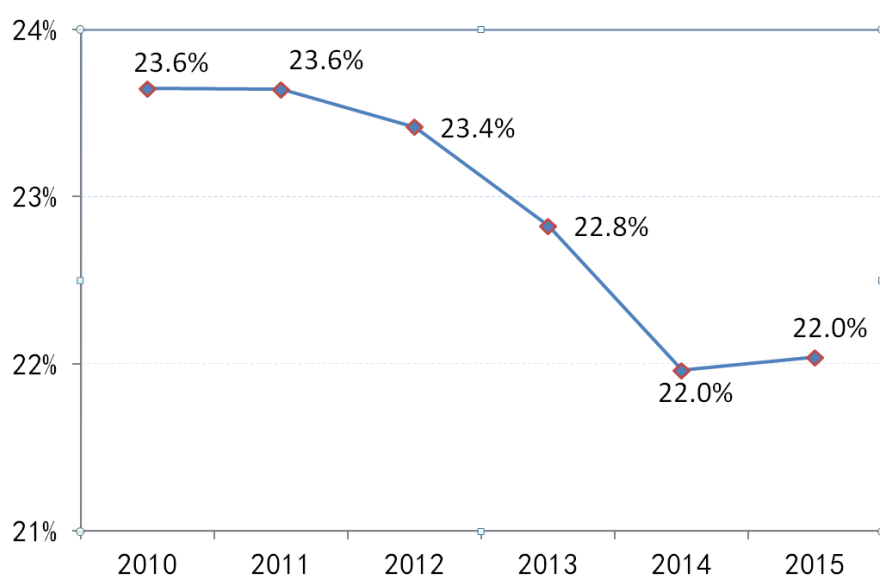


Figure 6 Average contribution rate calculated on per capita contribution base,
2010-2015

INDICATOR 5: SUSTAINABILITY. Whether a pension system is sustainable can largely be judged from three aspects: First, pension fund balance; second, construction of multi-layer pension scheme; third, space to adjust the relevant parameters.

(1) Balance of pension fund for urban employees. In 1995, the accumulated balance was CNY 43 billion, which could sustain pension payout for 0.51 years; in 2000, CNY 94.7 billion, 0.45 years; in 2005, CNY 404.1 billion, 1 year; in 2010, CNY 1.5365 trillion, 1.46 years; in 2015, CNY 3.5345 trillion, 1.37 years. This growing trend indicates that the fund balance was increasing, and sustainability was strengthened. (See Table 13, Figure 7)

In addition, China has put in place the National Social Security Fund - the strategic reserve fund, which has amounted to 2 trillion CNY.

Table 13 Accumulated fund balance and years to sustain pension payout, urban employees' pension scheme, 1995 – 2015

Year	Accumulated fund balance (100 million RMB)	Fund Expenditure (100 million RMB)	Years to sustain pension payout
1995	43	84.8	0.51

1996	57.9	103.2	0.56
1997	68.3	125.1	0.55
1998	58.8	151.2	0.39
1999	73.4	192.5	0.38
2000	94.7	211.5	0.45
2001	105.4	232.1	0.45
2002	160.8	284.3	0.57
2003	220.7	312.2	0.71
2004	297.5	350.2	0.85
2005	404.1	404	1.00
2006	548.9	489.7	1.12
2007	739.1	596.5	1.24
2008	993.1	739	1.34
2009	1252.6	885.6	1.41
2010	1536.5	1052.7	1.46
2011	1949.7	1276.5	1.53
2012	2394.1	1556.2	1.54
2013	2826.9	1847	1.53
2014	3180	2175.5	1.46
2015	3534.5	2581.3	1.37

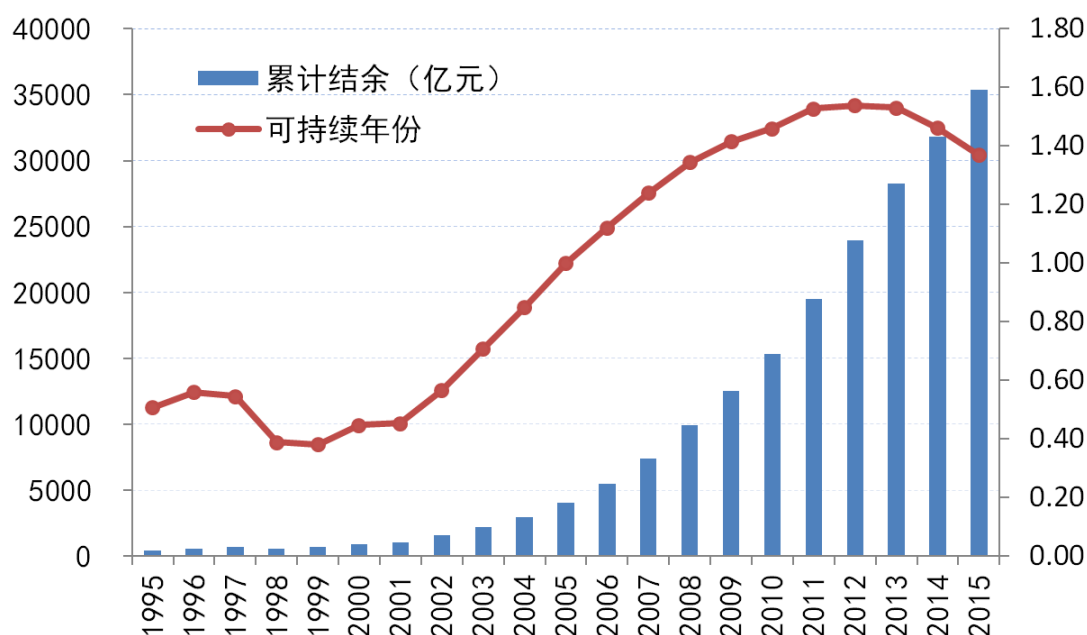


Figure 7 Accumulated fund balance and years of sustaining pension payout, the urban employees' pension scheme (1995-2015)

(2) The underdeveloped multi-layer pension system. In terms of coverage rate, in 2013, the average coverage rates of occupational pension and private voluntary pension in OECD countries were around 25%, respectively, while the figure in China was only 2.99% in 2015. Regarding the replacement rate, in 2011, the average replacement rates of public pension and private pension in OECD countries were 42.2% and 30.4%, respectively, while the replacement rate of enterprise annuity schemes in China was only 5%. It is obvious that the second and third layers of pension system still have huge potential to be scaled up in China. (See Table 14 and Table 15)

Table 14 Coverage of private pension schemes by type of plan in some OECD countries, 2013, As a % of working age population (16-64 years)⁵

	Voluntary Occupational	Voluntary Personal
Austria	15.1	18
Belgium	57.3	not available
Canada	25.7	24.7
Czech Republic	not applicable	66.2
Finland	9.2	20.9
France	20.2	5.3

⁵ OECD (2015), "Coverage of private pensions", in Pensions at a Glance 2015: OECD and G20 indicators, OECD Publishing, Paris. DOI: http://dx.doi.org/10.1787/pension_glance-2015-34-en

Germany	56.4	35.2
Hungry	not available	18.5
Ireland	31	12
Italy	7.4	8.9
Korea	not applicable	23.4
New Zealand	7.2	72.9
Spain	3.3	15.7
United Kingdom	30	11.1
United States	41.6	22
Average	20%	23%

In China, occupational pension scheme covered 23.16 million people in 2015, with a coverage rate of 2.99% (as a percentage of working-age population).

Table 15 Comparison between occupational pension and urban basic pension schemes, 2007-2015

Year	Number of insured persons (million)	Accumulated funds (100 million RMB)	People who enroll in occupational pension schemes as a percentage of working-age population	People who enroll in occupational pension schemes as a percentage of people who enroll in urban basic pension scheme	Accumulated funds of occupational pension scheme as a percentage of accumulated funds of urban basic pension scheme
2007	9.29	151.9	1.23%	4.61%	20.55%
2008	10.38	191.1	1.37%	4.74%	19.24%
2009	11.79	253.3	1.55%	5.01%	20.22%
2010	13.35	280.9	1.75%	5.19%	18.28%
2011	15.77	357	2.06%	5.55%	18.31%
2012	18.47	482.1	2.41%	6.07%	20.14%
2013	20.56	603.5	2.67%	6.38%	21.35%
2014	22.93	768.9	2.97%	6.72%	24.18%
2015	23.16	952.6	2.99%	6.55%	26.95%

Source: China Pension Development Report 2016

Table 15 shows that the growth rate of occupational pension scheme in China is slow. From 2007 to 2015, people who enroll in occupational pension schemes as a percentage of people covered by the urban basic pension scheme increased from 4.61% to 6.55%, with an average annual growth rate of merely 0.2 percentage points. Also, some figure shows that the replacement rate of Chinese occupational pension is about 5%⁶.

(3) Parameters influencing the pension system. In terms of coverage rate, contribution base, contribution rate, length of contributions, replacement rate, retirement age, and fiscal responsibility, China still has plenty of room for changes. To be more specific: (i) more than 100 million migrant workers are not yet covered by the employees' pension system; (ii) contribution bases in different region only amount to 70% of the local average wage, leaving room for adjustment in the real contribution rate; (iii) The current minimum length of contribution of 15 years for being eligible for pension is overly short and thus must be extended; (iv) the

⁶ Source: "What is the status quo of China's enterprise annuity development?", March 19, 2015.

replacement rate calculated with the real contribution wage according stands at 67%, being still high; (v) the average retirement age is now only 54 years old, and thus can be extended for considerable years; (vi) government subsidies accounts for about 16% of the total fund revenue.

The above shows that there is great room for adjustments in China's pension system. As long as the appropriate regulatory measures are taken, the sustainability of the pension system can surely be enhanced.

In conclusion, judging from the fund balance and influencing parameters, China's pension system should be able to achieve sustainability. Nevertheless, the absence of second and third-layer pensions would add to the pressure on the basic pension system.