

DEVELOPMENT OF CHINA'S PENSION SYSTEM

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OVERVIEW OF CHINA'S PENSION SYSTEM

- China has a **multi-layered pension system**:
 1. **Public Pension Schemes**: aim to provide basic old age social security to all residents, regardless of whether or not they were employed.
 - **Mandatory**: Basic Old Age Insurance System and Public Employee Pension;
 - **Voluntary**: Urban Resident Pension Scheme and New Rural Resident Pension Scheme.
 - Receives substantial direct fiscal subsidies from the government,
 - At the end of 2017, number of participants > 915 million, (accounting for 65.8% of the total population); total public pension expenditure was 4,032 billion RMB, about 5% of China's GDP.

OVERVIEW OF CHINA'S PENSION SYSTEM


2. **Employer-sponsored annuity programs:** provided by employers voluntarily as a supplement to the public pension schemes.

- Limited coverage: Only about 80 thousand firms, which is less than 1% of all the firms in China, to 23.3 million employees in 2017.


3. **Household savings in the form of annuity insurance policies.**

- In its infancy.
- Tax preferences are provided to all schemes or products in the three layers.


OUTLINE OF PRESENTATION

1. Detailed review of the three layers of China's pension system;
 2. Development of the system;
 3. Problems of the system;
 4. Ideas for future reforms.
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PUBLIC PENSION SCHEMES

- Up to 2015, four schemes:
 - **Basic Old Age Insurance System (BOAI)** : for **employees in for-profit enterprises** including for-profit public enterprises, and all other private sectors;
 - **Public Employee Pension System (PEP)** : for **civil servants and employees in non-profit government institutions** such as schools, culture and health facilities;
 - **Urban Resident Pension Scheme (URP)** : for urban residents 16 and over **without a formal non-agricultural job**;
 - **New Rural Resident Pension Scheme (NRP)** : for rural residents 16 and over **without a formal non-agricultural job**.
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MERGES: BOAI + PEP AND URP +NRP

- In 2014, the State Council announced that URP and NRP are to be merged into a [uniform resident pension](#).
 - In 2015, PEP merged into BOAI, and as a result, BOAI becomes a [uniform program for all employees in urban sectors](#).
 - At the end of 2017, number of participants in BOAI was 402.9 million, among which about 37 million are public sector employees.
 - Number of participants in [resident pension](#) was 512.6 million.
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PUBLIC PENSION SCHEMES IN CHINA

Scheme	Basic Old Age Insurance system (BOAI)		Resident Pension (Unified in 2014)		
Establishment	Basic Old Age Insurance system (BOAI) Established in 1951; Current Practices Finalized in 1997		Public Employee Pension (PEP) Established in 1953; Practices Finalized in 1978; Merged into BOAI in 2015	2011 Urban Resident Pension Scheme (URP)	2009 New Rural Resident Pension Scheme (NRP)
Participants	Urban employees in enterprises		Urban employees in public sectors	Urban non-employed 16 years or above	Rural residents 16 years or above
Contribution	Pay-as-you-go: 20% of payroll (depending on locality)	Individual accounts: 8% of individual wage	No contribution required	Individual accounts: government subsidy +Individual contribution	Individual accounts: government subsidy +Individual contribution
Benefit	Social pooling: Minimum 15 years of contribution. 1year accrual rate 1%; 35% based on 35 years of contribution	Individual accounts: Replacement ratio: 24.2% Total replacement ratio from both: 59.2%	Average Replacement ratio: 80-90%	Basic Pension+ Individual account Pension	Basic Pension+ Individual account Pension
Mandatory	Yes		Yes	No	No

BASIC OLD AGE INSURANCE SYSTEM (BOAI)

- A **compulsory scheme** with both defined contribution and defined benefit features.
 - On the **contribution side**, employers are required to pay 20% of employees' wage bill as contribution.
 - [60%, 300%] of local average wage subject to contribution requirement;
 - "Local" could be provincial level, city level or even county level, depending on the administrative region of the public pension fund.
 - On the **benefit side**, employees with 15 years or more contribution history are entitled to the pension benefits;
 - The replacement ratio (pension benefit as a percentage of pre-retirement wage) depends on the number of years of contribution and the individual's wage relative to local average wage.
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BASIC OLD AGE INSURANCE SYSTEM (BOAI)

- The second pillar is an *individual account*, where the individual employee contributes 8% of his/her wage.
- China's individual account is a *notional* account, and the individuals do not have the authority to make any allocation decisions regarding how his/her contribution to the individual account is to be managed.
- The BOAI retirement eligibility age is 50 for female blue-collar workers, 55 for female white-collar workers, and 60 for males.
- Self-employed people or workers in informal sectors may participate in BOAI voluntarily. The contribution is 20% of local average wage, among which 8% is recorded into individual account.

PUBLIC EMPLOYEE PENSION (PEP)

- Expenditure of the PEP system is included in both the central and the local government fiscal budgets.
- It is more generous than the other schemes, and importantly does *not require any contribution* from public employees.
- Public employees have an *average pension replacement ratio of 80-90%* of pre-retirement wage.
- The PEP retirement eligibility age is 55 for females and 60 for males.

PEP MERGED INTO BOAI IN 2015

- **PEP was merged into BOAI in 2015: the contribution and benefit rules for public employees are switched to the rules of BOAI.**
- **There is a transition arrangement between these two schemes:**
 - For those who retired before the 2015 reform, their pension benefits would be unchanged;
 - For those employees who entered the public sectors after 2015, the BOAI system applies to them;
 - For those who are already in PEP but not yet retired in 2015, there is a transitional arrangement for financing individual accounts since there had been no contribution to the individual accounts before the reform.

NEW RURAL RESIDENT PENSION (NRP) AND URBAN RESIDENT PENSION (URP)

- NRP was established in 2009 to cover rural residents, and URP was established in 2011 to cover urban non-employed residents.
- NRP and URP are *voluntary* schemes funded in conjunction **with government subsidies**.
- **Individual contributions are put into individual accounts.**
- Amount of contribution depends on local economic conditions;
- The benefit consists of two parts: **a basic pension and the individual account pension.**
- The basic pension is funded entirely by the central government in the middle and western provinces, while it is funded equally by the central government and the local government in eastern provinces.


NEW RURAL RESIDENT PENSION SCHEME AND URBAN RESIDENT PENSION SCHEME

- Participants with 15 or more years history of contribution are entitled to receive basic pension on reaching 60 years old (55 RMB a month in most regions when the scheme was introduced).
- At the nationwide average, the replacement ratio is at 20% of rural per capita net income.
- At the beginning of 2014, the State Council announced that the two schemes are to be merged into a uniform Resident Pension.
- The pension eligibility age for NRP and URP are 60 years for both males and females.
- For rural migrant workers, the Social Insurance Law enacted in 2010 specifies that they are entitled to the same treatment given to urban workers. However, the compliance with the policy by both employers and migrant workers is poor.


ENTERPRISE ANNUITY AND OCCUPATIONAL ANNUITY

- Employer-sponsored pension (Enterprise Annuity, EA) was introduced in 1991.
- Over the past years, EA system in China developed considerably; but it is still an under-developed market in terms of the number of participants, the number of providers (enterprises) and pension assets.
 - Up to year 2017, the number of participants of EA system was 23.3 million, only about 5.8% of BOAI participants.
 - The number of enterprises providing EA was 80.4 thousand, about 0.35% of total enterprises.
 - The total asset was about 1,288 billion RMB at the end of 2017, about 1.5% of GDP.
- Enterprises offering pension plans are large state-owned enterprises (SOE), or monopolistic companies (such as railway, electricity and communication industries).
- Since 2014, **contributions and investment return from both employers and employees are exempted from their income tax.**

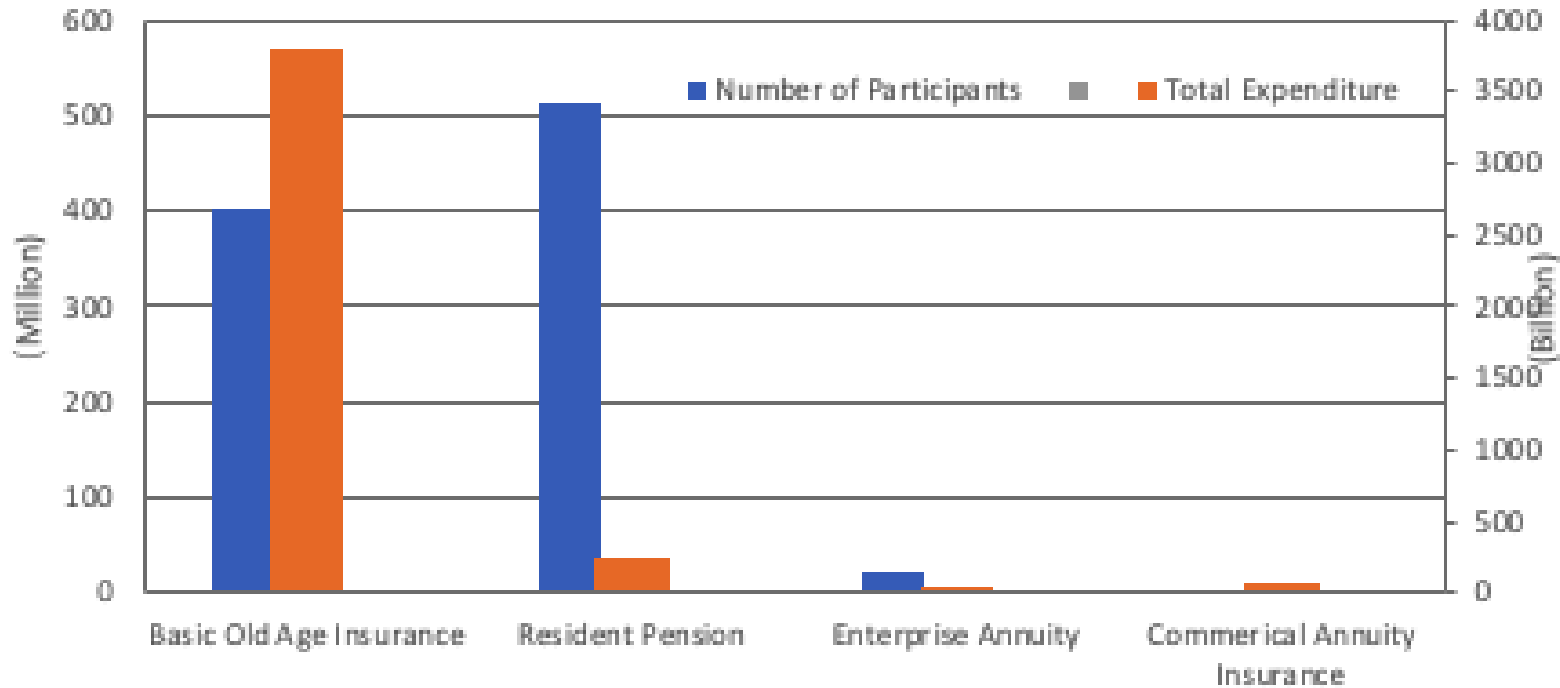
ENTERPRISE ANNUITY AND OCCUPATIONAL ANNUITY

- As a part of the 2015 reform of the public employee pension, employers of public sectors are required to provide occupational annuity to complement the benefit.
 - The employers contribute 8% of the employee's wage and the employee contributes an additional 4%, with [tax preference](#).
 - Occupational annuity differs from EA in that the individual accounts are partly notional, since the contribution from government employers for civil servants is notional and some self-financed public sectors cannot afford the contribution. The contribution of employees is fully funded in the accounts.
 - The implementation of the occupational pension is still at the initial stage with little publicly available information about the extent of its coverage.
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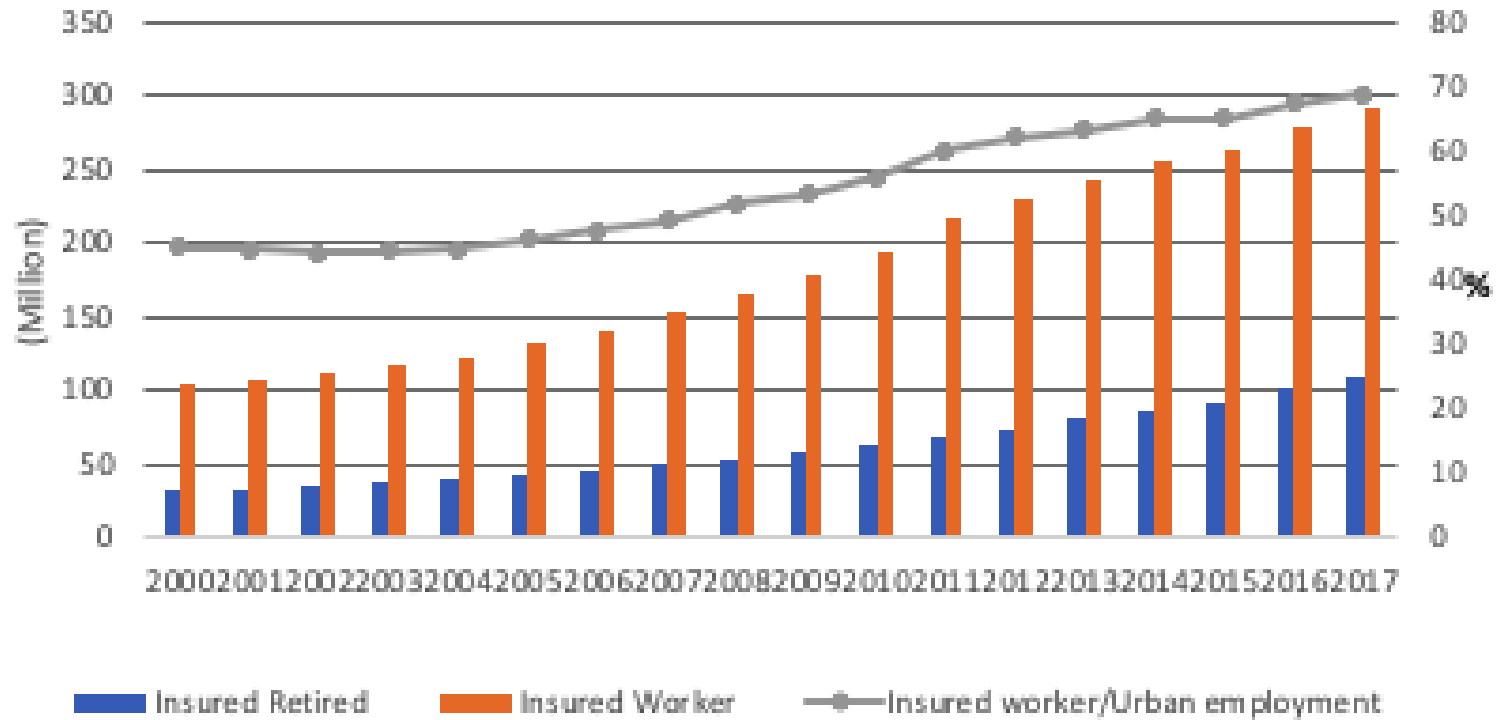
PRIVATE ANNUITY INSURANCE

- 69 insurers in China are involved in the commercial annuity business through a variety of products.
 - Annuity insurance has been growing fast with an average annual growth rate of 16.9% during 2001 and 2014.
 - IN 2014, there were 69.433 million in-force policies covering 100 million people, providing protection amounting to RMB 1.4 trillion Yuan.
 - However, many of these annuity insurance products are sold as wealth management products; as a result, they are not intended to be kept in force for long duration and thus are unlikely to serve genuine pension income purposes.
 - There was **no tax preference** in commercial annuity insurance until 2018.
 - At the beginning of 2018, a pilot policy was issued to provide individual income tax deferred annuity insurance products in **Shanghai, Fujian Province and Suzhou Industrial Park**.
 - Income tax deductions for individual premiums, no tax for investment return, but the benefits will be subject to income taxation when the individual obtains them after the eligible age.
 - The maximum premium that can receive tax deduction is limited to 6% of one's taxable income or 12 thousand RMB, whichever is lower.
 - There is also tax preference for annuity benefits with 25% the annuity is free of income taxation.
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NUMBER OF PARTICIPANTS AND TOTAL EXPENDITURE (2017) IN VARIOUS PENSION SCHEMES

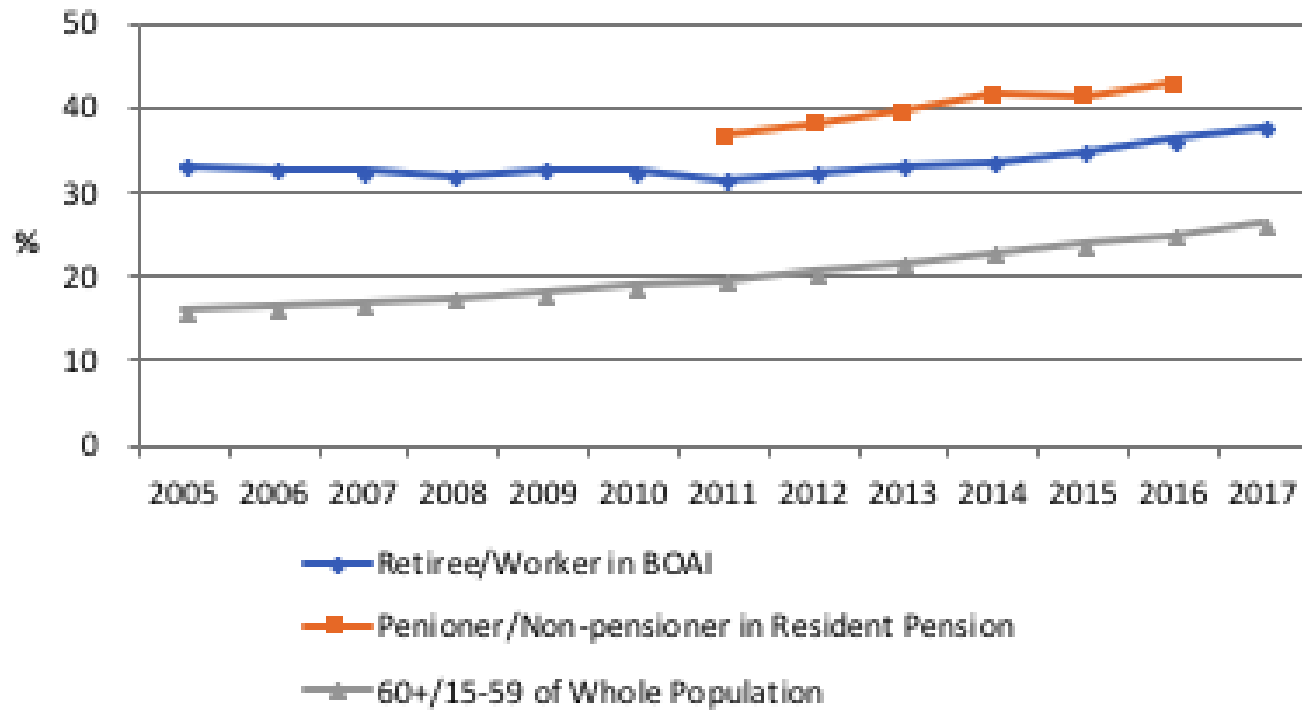


NUMBER OF PARTICIPANTS AND COVERAGE RATE IN BOAI



FACT 1:

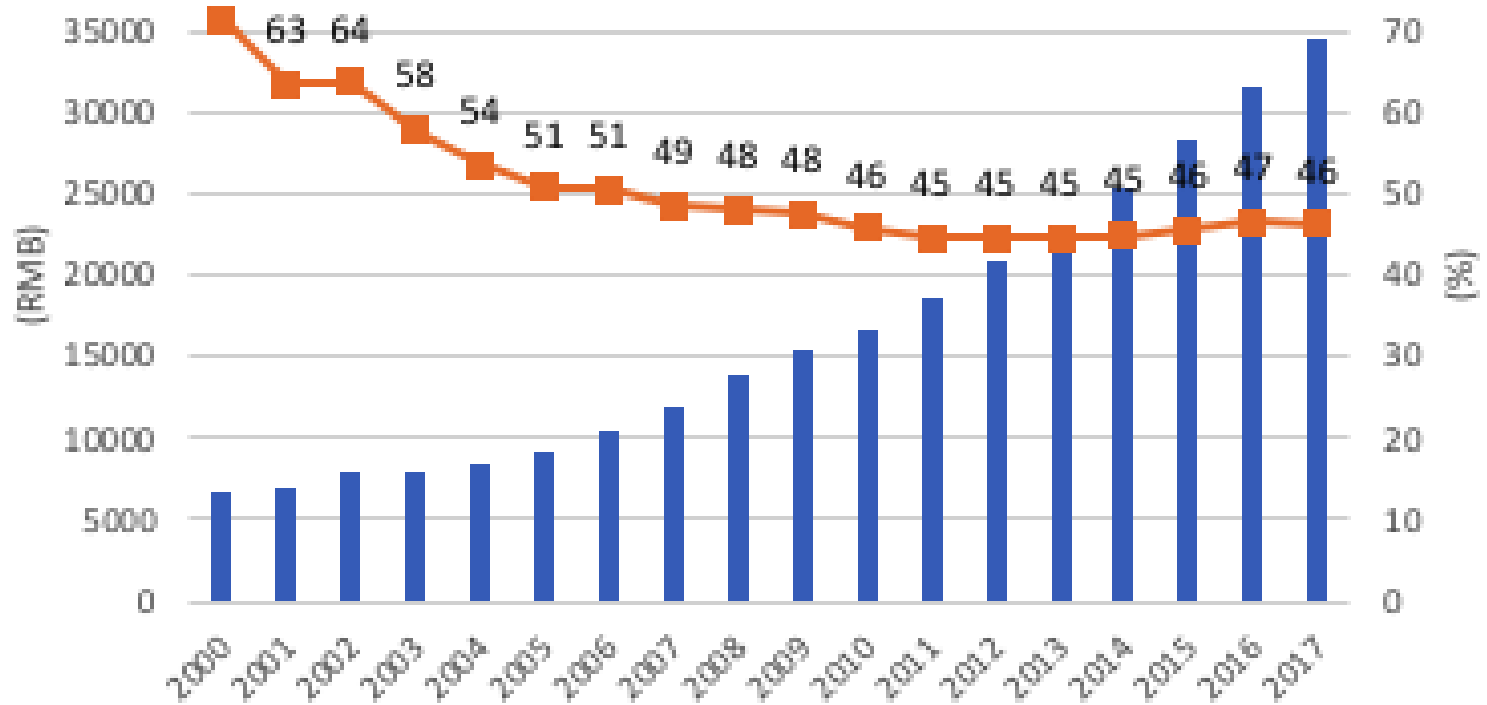
China's in-system dependency ratio is about 38% (risen from 18.6% in 1990), much higher than the population wide dependency ratio of 26% in 2017.



FACT 2: CHINA HAS ONE OF THE HIGHEST STATUTORY PENSION CONTRIBUTION RATE OF 28%.

Country	Employer	Employee	Total
Canada	5.0	5.0	9.9
France	6.8	9.9	16.7
Germany	10.0	10.0	19.9
Sweden	7.0	11.9	18.9
U.K.	11.0	12.8	23.8
U.S.	6.2	6.2	12.4
Japan	7.7	7.7	15.4
Korean	4.5	4.5	9.0
Hungary	1.5	24.0	25.5
Czech Republic	6.5	21.5	28
Chile	-	18.8	18.8
Brazil	7.7	20.0	27.7
China	20	8	28

FACT 3: AVERAGE REPLACEMENT RATIO KEEPS DECLINING TO 46% IN 2017.



FACT 4:

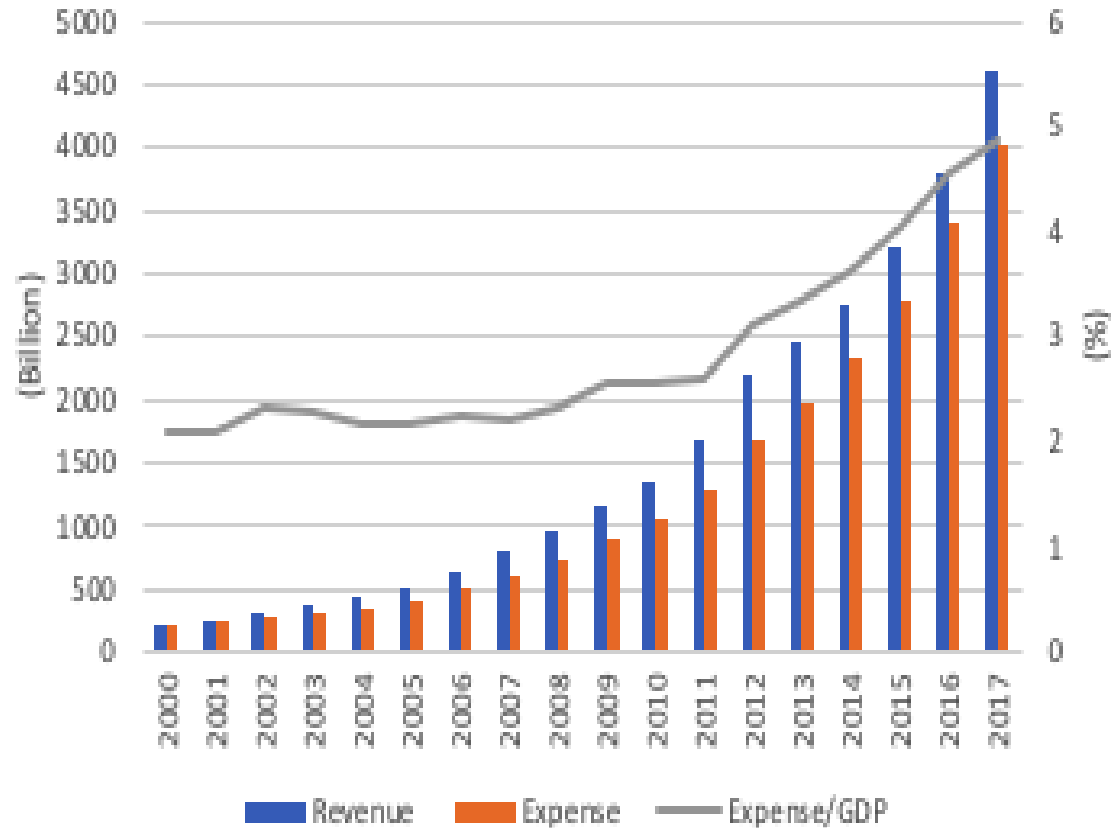
Current retirement ages are 60 for men. For women, it is 50 if they work in blue-collar jobs and 55 if they work in white collar jobs;

about 93% are required to retire at 50.

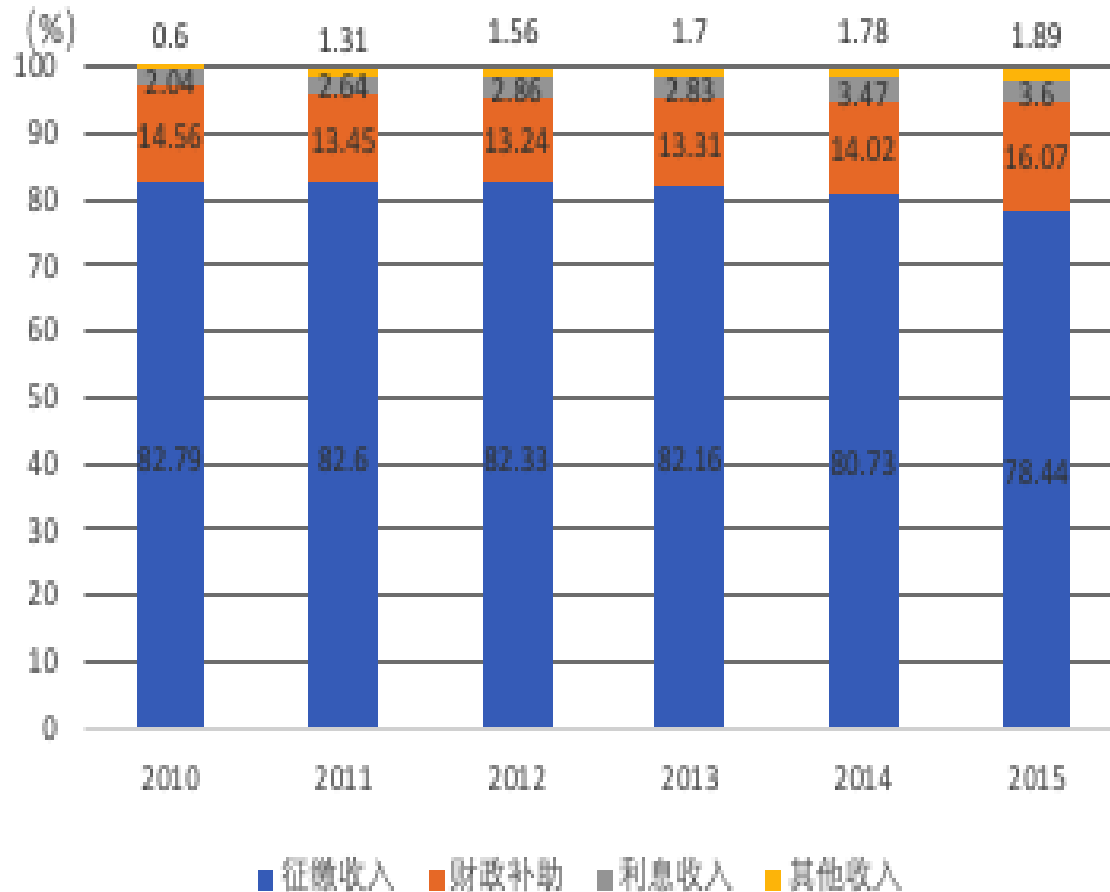
- Note: The current retirement-age policy was established at the beginning of the 1950s, when the life expectancy at birth was about 43 years.

FACT 5:

Despite the high statutory contribution rate, BOAI would have run into fiscal deficit in 14 provinces in the absence of government subsidies.



WITHOUT GOVERNMENT SUBSIDY, BOAI WOULD BE IN DEFICIT IN 14 PROVINCES



“NOTIONAL” INDIVIDUAL ACCOUNT

- Individual account **was meant to be fully funded**, but it was borrowed against to pay for the transitional cost of the public pension reform of 1997.
- In 2013, Chinese government gave up the fully funded individual accounts and started to follow a model of notional account.
- Interest is credited to the accounts each year by the local government, with the interest rate depending on the growth rate of the local average wages, bank deposit interest rate, and the investment rate of pension fund.
- Prior to 2016, notional interest rates were less than 4% in most of provinces.
- In 2016, however, China’s Ministry of Human Resources and Social Security (MOHRSS) published a unified interest rate, which was as high as 8.31%.

FACT 6:

China employs notional individual account and the notional interest rate is currently 8.31%.

PROBLEMS IN THE CURRENT PENSION SYSTEM: FINANCIAL SUSTAINABILITY

- Similar to many other countries, the pension system in China will have to face the challenges of a dwindling labor force and a rapidly aging population
- Due to rapid aging, **the share of population over 65 years old in China will double between 2010 and 2030.**
- Meanwhile, the present system is barely maintaining its financial balance with the help of government subsidies.
- The fiscal subsidy for public system currently stands at 800 billion RMB in 2017, or about 1 percent of GDP, and this is likely to exhibit a dramatic increase if there are no reforms to it in the near future.

SIMULATION RESULTS


	2020	2025	2030	2035
Scenario 1				
Balance as a percentage of current GDP	-0.40%	-1.25%	-2.15%	-2.60%
Accumulated deficit to current GDP	1.77%	-2.27%	-11.17%	-23.37%
Scenario 2				
Balance as a percentage of current GDP	-0.08%	-0.61%	-1.11%	-1.09%
Accumulated deficit to current GDP	3.19%	1.68%	-2.86%	-8.38%

Notes: Policy rule remains unchanged. In scenario 1, it covers 80% for local employees and 20% for migrant workers. In scenario 2, coverage of migrant workers expands gradually to 60% from 2010 to 2050.

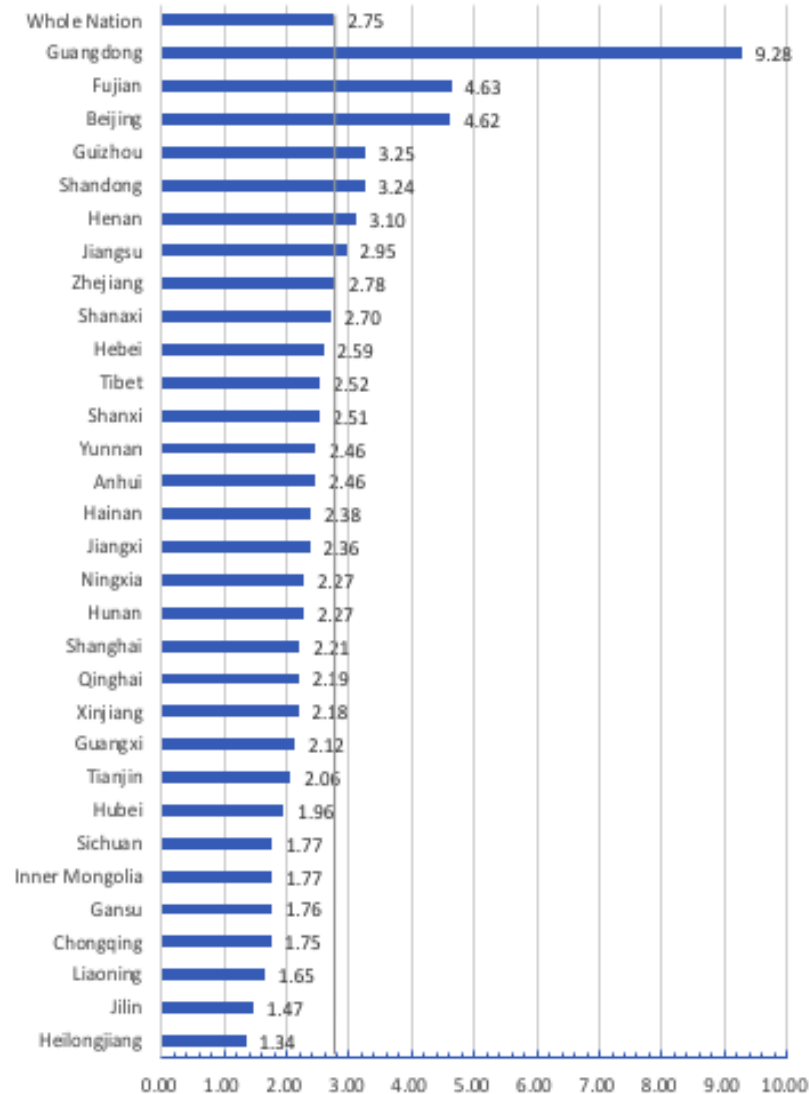
PROBLEMS IN THE CURRENT PENSION SYSTEM: PARTICIPATION INCENTIVES

- The evasion of social insurance contribution is a prevalent phenomenon in China.
- In 2015, 70% firms paid less than the prescribed social insurance (Zheng, 2016).
- The contribution rate in China is higher than most countries.
 - Total social insurance contribution rate for employers is 29-35% (BOAI: 20%; Health insurance: 6-12%; Unemployment insurance: 2%; Injury insurance: 0.5%; Maternity insurance: 0.5%);
 - and employee contribute 11% , of his own wage (BOAI: 8%; Health insurance: 2%; Unemployment insurance: 1%);
- Some employees are also not willing to join the insurance programs. The low-income group faces unstable employment and hence faces high uncertainty about its eligibility for future benefits.
- Young people have high demand for current consumption, and the high contribution rate reduces their consumption.
- Local governments do not punish default on contribution payments with the severity that is needed to deter cheating.


PROBLEMS IN THE CURRENT PENSION SYSTEM: REGIONAL DISPARITY

- China's public pension are [managed by local governments](#).
 - In BOAI system, several provinces are pooling the funds at provincial level and most provinces are pooling the funds at city level or even county level.
 - Although the rules of contribution and benefit are the policy of central government, the actual contribution rates are different across regions.
 - The amount of contribution and benefit are of large disparities due to wage inequalities.
 - When workers move from one city to another to get a better job, they remain tied to the pension plan in their original city. This creates serious inequality issue and problems with labor mobility.
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REGIONAL DISPARITIES IN SUPPORT RATIO (NUMBER OF CONTRIBUTORS/NUMBER OF RETIREES)



PROBLEMS IN THE CURRENT PENSION SYSTEM: ADEQUACY OF RESIDENT PENSION

- There is a significant gap between pension benefits of BOAI and resident pension.
 - For example, in 2017, monthly average pension in BOAI was about 2870 RMB, while only about 127 RMB in resident pension, less than on 5% of BOAI pension.
 - Compared to consumption level, the basic pension is about 10-25% of consumption per capita, varying from regions.
 - Compared to income level, it is even lower, about 7-20% of household income per capita.
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FUTURE REFORMS: EXPLORING MORE WAYS TO FINANCE THE PENSION SYSTEM

- **National Social Security Fund (NSSF):** was established in 2000 as a strategic reserve fund to cope with future pension needs.
 - The Fund is financed in four ways:
 1. Funds allocated from the central government's budget;
 2. Capital and equity assets derived from state-owned enterprise share sales. State-owned-enterprises are required to send 10 percent of their IPO funds to NSSF;
 3. Other ways approved by the State Council, such as state lottery license fees, as well as funds obtained through a securities repo program;
 4. Investment returns.
 - **Dividend from State Owned Enterprises.**
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NSSF ASSETS AND INVESTMENT RETURNS

	2005	2006	2007	2008	2009	2010	2011	2012
Assets (billion RMB)	195	272	414	480	693	781	773	893
Investment return (%)	3.12	9.34	38.93	-6.79	16.12	4.23	0.84	7.01


FUTURE REFORMS: IMPROVING PRODUCTIVITY

- The key to sustaining pension system lies in the enhancement of labor productivity.
- If productivity is rising, the wealth created by the younger generation can in effect support a larger group of old people.
- With growing output (and thereby income), the PAYG system remains in balance without the need for either a reduction in pensions or an increase in contributions.

FUTURE REFORMS: RAISING RETIREMENT AGE

- A common policy recommendation for the pension reform is to raise the retirement age.
- This is often considered a particularly obvious remedy of the fiscal problems that China's pension system may face because of the current low retirement ages in China (see Fact 4).
- The proponents for raising retirement age all implicitly assumed that elderly workers would still be able to find employment if their retirement has to be delayed.
- In recent research, Fang and Zhang (2018) questioned this assumption.
- They provide evidence that the productivities of Chinese workers have been growing at a more rapid rate, about 6.13% per annum, than the counterparts in developed economies (at about 1.5% per annum).
- This rapid growth of productivity across cohorts, coupled with a behavioral tendency that the more senior workers are paid more than their junior counterparts, may lead to [unwillingness for firms to hire the elderly workers when the retirement age is delayed](#).

FUTURE REFORMS: UNLOCKING THE HOUSING WEALTH FOR RETIREMENT

- Home ownership rate in China is about 89.68%, according to China Household Finance Survey, (CHFS) with the rate being 85.49% in urban areas and 92.60% in rural areas.
 - Moreover, housing wealth accounts for a much higher fraction (74%, according to CHFS) of household wealth in China than in other countries.
 - In 2014, the Chinese government started a two-year pilot program to introduce reverse mortgages in China.
 - The insurer Happy Life Insurance was commissioned to offer reverse mortgages in Beijing, Shanghai, Guangzhou and Wuhan starting from 1 July 2014. In 2016, the program was extended to mid-2018 and expanded to a larger number of cities (Wee, 2016).
 - However, the piloted reverse mortgage proved to be unpopular in China. Up to the end of July 2017, only 65 households participated in the program nationwide.
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FUTURE REFORMS: UNLOCKING THE HOUSING WEALTH FOR RETIREMENT

- In recent work, Bateman, Fang, Hanewald and Wu (2018) conduct and analyze two online surveys on the demand for reverse mortgage products in China.
- They test a flexible product design that overcomes shortcomings of the unsuccessful reverse mortgage product recently piloted in China by Happy Life Insurance company.
- They find that interest in this new reverse mortgage product amongst older homeowners aged 45-69 years is high and that adult children aged 20-49 years would recommend such a reverse mortgage product to their parents.
- In addition, they find that participants mainly want to use reverse mortgage payments to live more comfortably in retirement and to pay for better medical treatments and aged care services.
- They also identify individual covariates influencing the interest in the reverse mortgage product and the use of the product payments.
- **These new results provide a new evidence base for the development of China's reverse mortgage market.**