



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

**UNIVERSAL PENSION SYSTEMS:
Chinese situation and prospects**

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An Analysis on Universal Coverage of The Basic Old-Age Insurance for Urban and Rural Residents (BOIFURR): The Prospect and Proposal for Improving It

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1. Background of the BOIFURR

1.1 International Background

1.1.1 Difficulties in Constructing Social Safety Net through Contributory Pension Schemes

In 1880s, the German government established the first contributory pension scheme. After then, over the last 100 years most of the countries in the world have built up their old-age insurance systems on the basis of income-related schemes. In almost all the OECD countries, pension schemes in this model have been the main providers of retirement income guarantee for aged people. However, for many people in developing countries, retirement income or pension is still a dream even at the beginning of the 21st century. Researches have shown that, in our world, no more than 15% of households and no more than 10% of working age population have participated in formal pension schemes. The major part of the population not covered by old-age insurance is living in developing countries. This group is mainly composed of family caregivers without income source, unemployed persons, agricultural workers and formal employees.¹ Obviously, to cover the majority of population into the contributory pension systems, the only way is to deepen the formality of economy and to change employment structure of workers. In other words, in most developing countries, the reason of narrow coverage of pension scheme is the low level of economic formality.

However, improvement of economic formality is a result of multiple causes, and it is highly uncertain. In fact, low formality of economy is a common phenomenon in most developing countries, and over the past years there is no fundamental change in this phenomenon. A more serious problem is: since 1980s, as impacted by globalization and post-industrialization, unemployment and informal employment have been up-trending, making the improvement of economic formality more and more unrealistic. In such context, long-time reliance on contributory pension has led to Poverty Traps and Employment Traps. In particular, in countries where economic dualism is prominent, it is almost impossible to provide aged people with income guarantee by expanding the coverage of traditional contributory pension schemes. Therefore, *growth-caused poverty* becomes an unavoidable phenomenon.² It is worthy mentioning that even converting traditional PAYG scheme into funded scheme doesn't help to fully solve this problem. For example, Chile is trying to introduce a non-contributory pension plan.³ Therefore, some international

¹ Willmore L. Universal Pensions for Developing Countries [J]. World Development, 2007, 35(1):24-51.

² For discussion on the reason and consequence of "growth-caused poverty", see: Zheng Bingwen: Growth, Distribution and Social Security: Three Enemies of Growth-Caused Poverty [N], Shanghai Securities News, April 9th 2017 (B5); & Zheng Bingwen: China Should Prevent Growth-Caused Poverty [N], China Securities Journal, April 13rd 2007(A04)

³ Zheng Bingwen: 12 Ideas on Long-Term Mechanism for Social Security: An International Comparison [J], Management World, 2005 (10): 50-66

organizations such as the World Bank, ILO and UNDP, as well as some academic institutes, have adverted attention to the development of non-contributory pension, in order to see whether it is feasible to fill in the coverage gap of contributory scheme with non-contributory scheme.

Generally speaking, a non-contributory scheme has several features, such as: 1) non-contributory pension scheme is funded by public finance; 2) eligibility to non-contributory pension usually only depends on citizenship and residence duration of a pensioner; 3) benefit of non-contributory pension scheme usually depends on livelihood costs such as the minimum wage or poverty standard of a country, and it would be changed in consistence with the costs; 4) the youngest age eligible for receiving benefit from non-contributory pension is not necessarily identical with the legal retirement age, and is usually higher than the later; and in practice it depends on the process of population ageing and financial capacity of the state. Anyhow, the target group of the benefit is always aged people. Because in a non-contributory scheme there is no direct link between contribution and benefit, it is possible to expand the coverage over any category of social members. Therefore it is helpful to protect low-income groups and informal workers and is a good way for constructing the social safety net and reducing old-age poverty.

1.2 The History and Recent Development of Non-Contributory Old-Age Insurance

Non-contributory pension is not a new thing. Its history can be dated back to the late 19th century and early 20th century. It is almost at the same time when contributory scheme was born. However, over the years, attention had only been paid to pension schemes of Nordic and Anglophonic countries, while pension systems of other countries were excluded from our sight. Actually, in 1881, Denmark introduced the first non-contributory and means-tested pension scheme for poor people aged 60 and above, and the scheme was managed by local authorities. In 1897, about a quarter of Danish people aged 60 and above had received benefit from this scheme. The benefit was equal to 20% of average per-capita income of the country. The Danish government and local authorities financed the scheme together in respective proportions. The benefits were different in different geographic units and there was also difference between urban and rural areas. For example, benefit in Copenhagen was two times of the benefit in rural areas. In the following 20 years, New Zealand (1898), Australia (1908) and Sweden (1913) also introduced their non-contributory pension schemes⁴.

However, non-contributory scheme didn't become the first option for most developed countries. This is somehow related to the fact that Germany adopted the main-stream pension model in 1889. At that time, German Chancellor Bismarck held the idea that people's well-being should be closely linked with the new nation (the Second Reich). So he proposed to build up a pension scheme based on universal benefit, which provides people aged 65 and above with old-age income guarantee, and this scheme was financed by tax on tobacco monopoly. In fact, the scheme was originally designed for all those who have lost work ability because of work-related injury. Since people aged 65 and above are viewed as those not able to work, they were also covered by the scheme. However, during the Weimar Republic, conservationists held the power. They emphasized that people's benefit should be linked to their contribution, and the scheme

⁴ Palacios R J, Sluchynsky O. Social pensions Part I: their role in the overall pension system [J]. General Information, 2006.

should be financed with planned budget. Anyhow, the idea and practice of this scheme is tagged as “Bismarck Model”. Finally, this scheme has provided the developed countries with an example for building their own old-age income guarantee system, and it is therefore spread over the world. The real reason for its spread might be that governments of the countries usually held conservatism, being afraid of the reduction of financial affordability and domestic savings, which are potentially resulted from non-contributory pension scheme. Thus, this model became the first option of most developed countries, while means-tested social assistance became the supplement to the system.

After WWII, developing countries gained political and economic independence, and they started to build up their own old-age insurance systems imitating their old suzerains. Influenced by developed countries and international organizations, most developing countries in Latin America, Africa, Middle East and Asia had chosen mandatory and contributory old-age insurance. Some countries, for example India and Sri Lanka, had succeeded the Central Provident Fund left by British colonists. Obviously, no matter in developed or developing countries, contributory pension scheme is dominant.

Among a small number of developing countries where non-contributory schemes are established, Brazil and South Africa are the largest two, while Bangladesh is an example of low-income country that builds up non-contributory scheme. In 1928, South Africa built up non-contributory scheme for white people and people of color. The scheme was progressively expanded to cover black people, and in 1996, all the people in South Africa were covered in the scheme. In Brazil, the non-contributory scheme was firstly established for rural area in 1963, and it started to cover urban people in 1970s. In particular, the Brazilian Constitution of 1988 stated that all people can enjoy social security rights, and therefore the non-contributory pension scheme expanded fast after that year. However, today the scheme doesn't develop well in urban areas. In 1997, non-contributory pension scheme was introduced in Bangladesh.

It is no doubt that non-contributory scheme is good for expanding coverage of pension system. But to developing countries, it is important to weigh the financial impact of this scheme, especially its financing costs incurred in the future due to the population ageing. Meanwhile, developed countries should also consider all the negative incentives of this scheme in the process income redistribution. Besides, in low-income countries where data on population's age and death are lacked, the implementation of this scheme is a big challenge to the executive power. Finally, when designing a non-contributory scheme, policy makers should take into account the initial conditions, including the features and coverage of the existing contributory scheme, as well as development and targeting mechanism of social assistance.

However, in the past 20 years, some developing countries had introduced or strengthened their non-contributory schemes in order to expand the coverage of pension system or to provide adequate old-age security to the people. According to HelpAge International, as of March of 2015, there were 107 non-contributory pension programs established in 103 countries. About half of the programs were introduced after 1990 and the number had increased faster and faster. In fact, non-contributory schemes are not usual phenomenon in developing countries. Most of the schemes are established in three groups of countries: 1) Latin American countries, especially countries in the Southern Cone; 2) South African countries, such as Botswana, Lesotho, Namibia, South Africa

and Swaziland; and 3) South Asian Countries, including Bangladesh, India and Nepal.⁵

In fact, in the mid 1990s, some international organizations that had actively engaged in researching and promoting pension scheme started to pay attention to non-contributory scheme. For example, in 1994, the World Bank put forward a 3-pillar pension model for the world. This model seeks to narrow expected income gap among different aged groups in a comprehensive way, including re-defining state's responsibility to reduce old-age poverty. As more practical experiences and knowledge had accumulated, the World Bank expanded the 3-pillar model to 5-pillar model in 2005, and non-contributory pension was included in the system as a single pillar (the 0 pillar). The separation of the non-contributory pillar has strengthened its role in expanding coverage of pension system and reducing old-age poverty. Of course, this has provided a new paradigm and option for developing countries to develop their pension schemes.

1.2 Domestic Background

1.2.1 Difficulty in Expanding Coverage of The Basic Old-Age Insurance for Urban Employees (BOIFUE)

China's first old-age insurance system was established in 1951, mainly covering employees of urban enterprises.⁶ After the Reform and Opening, China stored its social old-age insurance system.⁷ In 1991, China started to build up a social security regime that combines *social pooling* and *individual accounts*, which is then called "Social-Individual Mix" model (S-I Mix). Insured persons of this regime were mainly formal employees in urban area. For many years, researchers had viewed the S-I Mix as a monumental innovation, because this mix has combined traditional PAYG DB scheme and funded DC scheme, which can avoid financial problems taking place in developed countries such as Sweden, and utilize good experiences of Singaporean Central Provident Fund and the Chilean Model. In other words, the S-I Mix doesn't only consider the government's responsibility and social solidarity, but also individual's responsibility and financial sustainability.

But after all China is a large country with 130 million people, whose per-capita GDP is only 2,000 USD. The socio-economic development of this country is characterized by prominent dualism, resulting in long-term disparity among regions and unbalance between urban and rural areas. Besides, population aging becomes more and more serious in China, and the trend that more and more urban employees become informal gets clearer and clearer. All these factors signalize the impossibility of covering the whole population with the S-I mix regime. This is particularly true to peasants, for whom receiving pension benefit is an unrealistic dream.

Therefore, in 1992, when China established social old-age insurance for rural area, the principal rule for paying contribution was set as this: "individual pays the majority part (of the contribution), the collectivity pays the supplementary part, and the state provides policy-

⁵ Qi Chuanjun: Targeted Poverty Reduction by Social Pension in Latin America and Its Effects [J], *International Economic Review*, 2016(6): 105-120

⁶ In 1955, the Old-Age Insurance for Employees of Public Organs and Institutes was established, and in 1958, it was integrated with the Old-Age Insurance for Employees of Urban Enterprises. But the Cultural Revolution broke out later, for which the Old-Age Insurance for Urban Employees degenerate to be enterprise-sponsored insurance, losing almost all the functions of a social insurance.

⁷ In 1978, China started the Reform and Opening. But China's old-age insurance system was divided into the scheme for public employees and the scheme for enterprise workers again. Finally, in 2014, the two schemes were reunified.

guaranteed assistance”.⁸ This system is based on individual accounts, and almost fully funded. However, it was financed by different sources, and there wasn’t effective investment for the funds. Therefore, the funds were sometimes inappropriately used for other issues. More serious problem was represented by devaluation of the funds in 1990s, when inflation was serious and purchase power of pension benefit was therefore weaker. As a result, China started the re-organization of rural pension scheme in 1999, for which new operations were stopped. Then the scheme was gradually converted into commercial insurance with pre-set conditions. After that, the China’s rural pension scheme almost ceased to run. As of the end of 2007, 151.83 million active employees were participating in the Basic Old-Age Insurance for Urban Employees (BOIFUE), accounting for 51.7% of all employees (293.5 million); while 51.71 million people were covered by the Old-Age Insurance for Rural Area (OIFRA), accounting for 10.9% of rural working aged people (476.4 million). Besides, retirees of the urban scheme were 49.54 million, while retirees of the rural scheme were 3.92 million, totally (53.46 million) accounting for 34.9% of all the people aged 60 and above (153.4 million) in China.⁹

China started the Minimum Livelihood Guarantee (Dibao) in 1990s¹⁰. But its effect on guaranteeing old people’s income is not as expected. This is resulted from the fundamental nature of the Dibao scheme. The Dibao scheme is based on household means test, and its benefit is provided to all members of eligible household whose per-capita income is lower than a certain standard. Thus, its protection on old people’s income is less than what it should be. Another reason for this is that means test is not always efficient. In particular, in less developed regions, Dibao in the practice cannot ensure that every eligible person can receive the benefit. Let’s take the Rural Dibao scheme as an example: according to the Ministry of Civil Affairs, as of the end of 2007 356.63 million people have received benefit of Rural Dibao, which was averagely 70 RMB/person/month, similar to national poverty line (785 RMB/year). Therefore, if all the eligible persons can get Dibao benefit, theoretically, there wouldn’t be any one whose income is lower than the poverty line. However, data released by statistical authority show that there were still 14.79 million rural residents whose income was lower than the national poverty line. This is to say, about 14.79 eligible persons in rural area were not covered by the Dibao scheme, and the deviation of means test was more than 40%.¹¹

⁸ \In fact, as early as in 1986, Southeast provinces along the Yangtze river had tried to build up rural social security scheme based on social insurance, social assistance and poverty alleviation.

⁹ See Ministry of Human Resources and Social Security <http://www.mohrss.gov.cn/SYrlzyhshbzb/zwgk/szrs/>, <http://www.stats.gov.cn/tjsj/tjgb/ndtjgb/>.

¹⁰ In the mid 1990s, following economic and enterprise transitions in urban area, the Dibao for urban residents was established. At the same time, some regions started to experiment Dibao for rural residents. Since the end of 2006, big change in policy on rural Dibao took place. The Central Government’s Working Meeting for Rural Affairs of 2006 and the No.1 Policy Document of the Central Government in 2007 announced the construction of Rural Dibao in the whole country. In 2007, the State Council held the Normal Meeting for establishing nationwide rural Dibao scheme, on which the government decided to cover all eligible poor residents in rural area into the scheme. In the same year, the State Council issued the Notice on Building Up Nationwide Dibao Scheme for Rural Area, which requires the public administration to build up a rural Dibao scheme within the year of 2007.

¹¹ The data is from the Ministry of Human Resources and Social Security, and the National Bureau of Statistics. The analysis is not necessarily accurate. But it can generally reflect the low efficiency of Dibao’s targeting mechanism. <http://www.mohrss.gov.cn/SYrlzyhshbzb/zwgk/szrs/>, <http://www.stats.gov.cn/tjsj/tjgb/ndtjgb/>.

1.2.2 Development of Old-Age Insurance Schemes for Urban and Rural Areas

In 2002, Chinese government added a new piece of content into the goal of the “all-aspect moderately prosperous society”: The state should build up and improve a social protection system. In particular, in regions where economy is better, local authorities should build up medical insurance scheme, Dibao scheme and social old-age insurance scheme for rural area. Following this new instruction, cities like Suzhou and Beijing launched their pilot program for the schemes. In 2006, Chinese government set a new goal: The state should build up a social protection system covering all the people as of 2020. In 2007, Chinese government emphasized on this again with a new strategic goal: The state should build up a social protection system that covers both urban and rural areas. In 2008, Chinese government listed out more detailed goals of “accelerating the construction of social protection system for rural area on the basis of broad coverage, basic protection, multiple tiers, and financial sustainability;” and the goal of “building up new social old-age insurance scheme for rural area on the basis of individual contribution, with assistance from collectivity and subsidy from the government.” Compared with the old social old-age insurance scheme for rural area, the new scheme was featured with two changes: 1) the principle that individual pays the major part of contribution and the collectivity pays the supplementary part was changed into the principle that individual pays the contribution with assistance of collectivity; 2) the principle that the state provides policy-guaranteed assistance was changed into the principle that the government provides subsidy. This way, subsidy mechanism for rural old-age insurance scheme was realized, while the old way that peasants accumulate the contribution by themselves was dropped. In 2009, experiment program for building up the New Social Old-Age Insurance for Rural Area (New SOIFRA) was launched in China (see Table 1). For the first step, the experiment program was launched in 10% of China’s counties (320 counties or municipal districts), and since 2010, the experiment started to be expanded to 23% of China’s counties, among which Tibetan-people-inhabited areas of Tibet, Sichuan, Gansu, Yunan and Qinghai, and the Xinjia Region were set as key sites (177 counties were included). In 2011, experiment sites covered 40% of China’s counties, and in 2012, the new scheme was built up in all the territories of China.

Table 1 The New Social Old-Age Insurance for Rural Area

Insured Person	Any rural resident aged 16 and above (excluding students) who doesn’t participate in the Basic Old-Age Insurance for Urban Employees (BOIFUE) can voluntarily participate in local scheme of the region of which they hold the Hukou (local citizenship).	
Financing	Individual Contribution	100-500 RMB/Year (divided into five levels; contributor can choose one of them)
	Collectivity’s Assistance	Village provides collective financial assistance to eligible contributor according to standard set by the village’s resident committee.
	Government’s Subsidy	Subsidy for contribution is provided by provincial, city and county governments. Provincial government provide subsidy to subordinated counties at the ratio of 80%, 60%, 40% or 20% according to the category of subsidized county. The subsidy for the first level of contribution is 30 RMB/person/year. For other levels of contribution, there is additional subsidy: $5*(n-1)$ RMB/person/year, where n is the number of level. Subsidy for benefit: The Central Government set the basic pension as 55RMB/person/month, and its subsidy to eastern provinces is 50% of the benefit while subsidy to middle and western provinces is 100% of the benefit.
Fund	Individual Contribution, Collectivity’s Assistance, and Government’s Subsidy are all recorded in	

Management	individual account. In the first phase of experiment, the funds were temporally managed by county government. Following the expansion of experiment, the management was transferred to authority at higher level accordingly. The revenue of contributions and expenditure on benefit are managed with separate registration and accounting.
Eligibility	People aged 60 and above who holds rural Hukou (local citizenship) who don't participate in the Basic Old-Age Insurance for Urban Employees (BOFUE) or the Old-Age Insurance for Public Organs and Institutes are eligible to the benefit, and their children should participate in the new scheme when certain condition is met (called <i>bounded participation</i>).
Benefit Composition	Basic Pension + Benefit from Individual Account
Consistency with Old Scheme	Anyone who has participated in the old rural pension scheme and anyone aged 60 and above that has received benefit of the old rural pension scheme can receive benefit of the basic pension from the new scheme directly. Those who have participated in the old rural pension scheme but are not aged 60 yet (not receiving benefit of the old scheme) can transfer their individual accounts from the old scheme to the new scheme, and then pay their contributions according to new standard. Eligible participants can receive benefit from the new scheme.

Source: The State Council's Guidance on Launching Pilot Program for the New Social old-age insurance for Rural Area (Guofa [2009] No.32) http://www.gov.cn/zwggk/2009-09/04/content_1409216.htm.

In 2011, China launched experiment program for the Social Old-age Insurance for Urban Residents, whose framework is similar to that of the rural scheme (Table 2). It provided channel and opportunity for informal employees in the urban areas to obtain pension benefit, and had therefore eliminated the final "blind area" of pension system in China. Besides, in the same year, the central government started to integrate urban and rural residents' pension schemes in some regions. Hence, when launching the experiment for the urban resident pension scheme, cities like Beijing, Chengdu and Hefei etc. also started the integration of the New Social Old-age Insurance for Rural Area (SOIFRA) and the Social Old-age Insurance for Urban Residents. Following the progress of integration, China unified the two schemes in 2014. In the unified scheme, a great progress is the dropping of bundled participation of pensioners' children (Table 3).

Table 2 The Social Old-age Insurance for Urban Residents

Participant	Any urban residents aged 16 and above (excluding student) who are not eligible to participate in the Basic Old-Age Insurance for Urban Employees can participate in local scheme in the region of which they hold the Hukou (local citizenship).	
Financing	Individual Contribution	10 Levels (100-1,000 RMB); local authority can add new levels, and the state can adjust the contribution standard according to economic development and changes in disposal income of urban residents.
	Collectivity's Assistance	Economic and social organizations are encouraged to provide participants with financial assistance.
	Government's Subsidy	Subsidy for Contribution: local authorities provide participants with subsidy no less than 30 RMB/person/year. Subsidy for Benefit: The central government provide subsidy for the basic pension as 55 RMB/person/month; for eastern provinces, the subsidy is 50% of the benefit, while for middle and western provinces, the subsidy is 100% of the benefit.
Fund Management	Individual contribution and subsidy of local authority are all calculated as parts of individual account.	
Eligibility to Benefit	A pensioner should be aged over 60 and above with at least 15-year history of contribution paying. Child/children of pensioner should contribute to the scheme according to relevant rules (called bundled participation).	
Benefit	Basic Pension + Benefit from Individual Account	

Source: State Council's Guidance on Launching Experiment of The Social old-age insurance for Urban Residents (Guofa [2011] No.18) http://www.gov.cn/zhengce/content/2011-06/13/content_7241.htm.

Table 3 Basic Old-Age Insurance for Urban and Rural Residents (BOIFURR)

Participant	Urban and rural residents aged 16 and above (excluding student) who are not employees of public organs and institutes, and not covered by the Basic Old-Age Insurance for Urban Employees (BOIFUE) can participate in local BOIFURR scheme in regions of which they hold the Hukou (local citizenship).	
Financing	Individual Contribution	12 levels (100-1,000RMB; 1,500RMB; 2,000RMB). Local authorities can add levels according to local reality, and the Ministry of Human Resources and Social Security can adjust the standard of contribution following the increase of residents' wage.
	Collectivity's Assistance	Collectivity can provide subsidy to individual according to their financial strength
	Government's Subsidy	Subsidy for Contribution: Local authority provides every participant with subsidy no less than 30 RMB/person/year; to those whose contribution is over 500RMB, the subsidy should not be less than 60RMB/person/year Subsidy for Benefit: The central government provides subsidy for benefit of basic pension; for the eastern provinces, the subsidy is 50% of the benefit; while for middle and western provinces, the subsidy is 100% of the benefit.
Fund Management	Individual contribution and subsidy of local authority are all calculated as parts of individual account.	
Eligibility to Benefit	Pensioner must be aged 60 and above, with no less than 15-year history of paying contribution. Local authorities with better financial situation can provide funeral allowance.	
Benefit Composition	Basic Pension + Benefit from Individual Account	

Source: State Council's Opinion on Setting Up A Universal Basic Old-Age Insurance Scheme for Urban and Rural Residents (Guofa [2014] No.8)
http://www.gov.cn/zwqk/2014-02/26/content_2621907.htm.

Chinese government wants to cover the whole population into social security system by 2020. This is not only welfare for Chinese people, but also a great contribution to the world's old-age insurance system. However, the current benefit of China's pension schemes is too low to provide sufficient protection for old people's income. In the future, it is in need of governmental subsidy for increasing the benefit. This is no doubt a big challenge to the government that is under the risk of economic downturn.

In addition, China has built up the BOIFURR to cover all the informal employees. But the framework of this scheme is similar to the S-I mix model of the scheme for urban formal employees, while its transparency and incentives cannot meet people's expectation. Therefore, people are not so passionate in participating in the BOIFURR scheme. In the future, benefits from the individual account will be very low, and the amount can even be ignored. Thus, to solve the problem of old-age poverty, it is in need of reforming the current scheme in order to encourage young people to save for their old age earlier (only a possibility), or largely increasing government's transfer for the benefit of the basic pension. If the second option is chosen, the scheme will be actually a non-contributory pension scheme.

2. Some Main Problems in the BOIFURR

2.1 A Big Challenge to Cover the Whole Population According to Planned Timetable

The BOIFURR was originally established in 2009 (dating back to the New Social Old-Age Insurance for Rural Area), and the scheme was expanded to cover urban residents (with the Social Old-Age Insurance for Urban Residents). In 2012, the scheme covered all the institutional areas of the old schemes. But universal coverage of the whole population is planned to be realized by 2020. The BOIFURR is one of the key components of China's pension system. It has helped the system to

expand the coverage. However, it is still a big challenge to cover the whole population by 2020.

In 2016, people aged 15-64 in China were 1002.46 million, and people aged 65 and above were 149.33 million. In total, people aged 15 and above were 1151.79 million. Data show that people born in 2001 were 16.95 million. Therefore, reducing those dead and immigrants, people aged 15 in 2016 were about 16 million. Then, in 2016, people aged 16 and above were 1125.79 million¹². At the end of 2017, students in senior middle school were 39.7 million. Reducing those aged 15 (13.24 million, accounting for about 1/3), students aged 16 and above were 26.47 million. At the same time, college students were 37.79 million. Thus, all the students aged 16 and above were 64.26.¹³ Then we can have a number of people aged 16 and above who should be participants of the pension scheme: at maximum 1071.53 million. As of the end of 2017, 915.48 million people had participated in the basic pension schemes (of which 512.55 million people had participated in the BOIFURR)¹⁴, accounting for 85.4% of eligible participants. But there were still 156.05 million people excluded from the scheme, which means that there is still space to increase the coverage.

In the past two years, new participants per year were less than 30 million (29.43 million in 2016, but 27.71 million in 2017). Now, there are only 3 years before 2020. If participants' increase will still be at the same rate, in 2020, there will be only 1,000 million participants in total, while 70 million will still be excluded. This is the big challenge of China's basic old-age insurance schemes. In addition, when we consider the economy, which is in a serious situation today, the Basic Old-Age Insurance for Urban Employees will be weaker and weaker in terms of expanding coverage. Expansion of coverage will therefore be the responsibility of the BOIFURR. But in fact, new participants in the BOIFURR were only about 4 million per year (3.75 million in 2016, and 4.08 million in 2018), and this seems to be the cap of increase¹⁵.

There is a problem even more serious. According to the Guofa [2014] No.8 Document, "people who are aged 60 and above on the day when the New Social Old-Age Insurance for Rural Area or the Social Old-Age Insurance for Urban Residents is officially launched don't need to pay contribution to the scheme if he or she hasn't received the benefit of basic pension, whose standard is set by the state; and starting from the month when the present document (Guofa [2014] No.8) is implemented, he or she can receive benefit of basic pension from the BOIFURR. People younger than 60 and with an age difference no more than 15 years before the eligible age for pension should pay contribution year by year. People in this group are allowed to compensate the contribution that they didn't pay in the past. But the period of compensated contribution cannot be over 15 years. When the age distance before the eligible age for pension is more than 15 years, people younger than 60 should start paying contribution. The minimum payment period is 15 years for being eligible to the pension." In other words, if starting from February 2014, residents aged between 45 and 59 should start paying contribution year by year, and the minimum period of contribution paying is 15 years. Otherwise, the contributor will not be eligible to get pension benefit. Obviously, this means that people who don't pay contribution according to the regulation or who don't pay contribution with enough period of time are excluded from the basic old-age

¹² National Bureau of Statistics (as of 2016), <http://data.stats.gov.cn/easyquery.htm?cn=C01>.

¹³ Ministry of Education, http://www.moe.edu.cn/jyb_sjzl/sjzl_fztjgb/201807/t20180719_343508.html.

¹⁴ Ministry of Human Resources and Social Security
http://www.mohrss.gov.cn/ghcws/BHCSWgongzuodongtai/201805/t20180521_294290.html.

¹⁵ see above

insurance system. But these excluded people are probably those who live in poverty or extreme poverty. To exclude these people is not the original intention of a non-contributory pension scheme, and it is therefore a challenge to the equity of the system.

2.2 Main Problem Resulted from Unclear Border between Non-Contributory Pension and Social Assistance (Dibao)

The BOIFURR is a non-contributory pension scheme. Covering the whole population is only an approach of the scheme, while eliminating old-age poverty is its real goal. But this brings about the problem related to the border between BOIFURR and Dibao. Different from problems of other groups, old people's poverty cannot be eliminated through employment policies, such as active labor market policy or occupational training. The only practical solution is transfer payment. For this, there are usually two approaches: 1) normal social assistance programs, which are provided to household or individual in poverty, but not specifically to old people (who are actually indirect beneficiaries); 2) income protection policy specifically designed for old people, e.g. non-contributory pension scheme, which is provided to old people by government in the form of cash transfer, of which the eligibility is usually regarding age, citizenship or residence duration (in many cases based on means test), and has nothing to do with social contribution or income in the past. The primary goal of non-contributory pension scheme is to reduce poverty. Therefore, it is also different from non-contributory welfare schemes provided for special groups (such as military force and civil servants)¹⁶. According to the multi-pillar pension system proposed by the World Bank, non-contributory pension was a part of the first pillar in the 3-pillar system of 2014, and it became an independent pillar of the 5-pillar system of 2005 (called *0 pillar*)¹⁷.

In a continuous spectrum of old-age income guarantee policies (Figure 1), social assistance and social insurance are respectively at the two ends, while non-contributory pension scheme is at the middle. This means non-contributory pension scheme is somehow related to the other two but different from them. The relations are two: 1) both non-contributory pension scheme and social assistance are financed by public finance of central or local governments, or other category of public revenue; 2) both non-contributory pension scheme and minimum pension in the social insurance are all designed for old people and for reducing old-age poverty. On the contrary, the difference includes three aspects: 1) Eligibility to benefit of non-contributory pension scheme doesn't depend on payment of contribution, which is its most important difference with minimum pension; in high-income countries where social insurance covers all the people, the two schemes' effects on poverty reduction and income redistribution are almost the same, while in many middle- and low-income countries, the effects on the two areas are very different; 2) Non-contributory pension scheme is usually financed by normal public revenue or revenue from specific sources, while minimum income is mainly financed by contribution deducted from wage (or wage tax) ; in middle- and low-income countries where informal employment accounts for large ratio and public

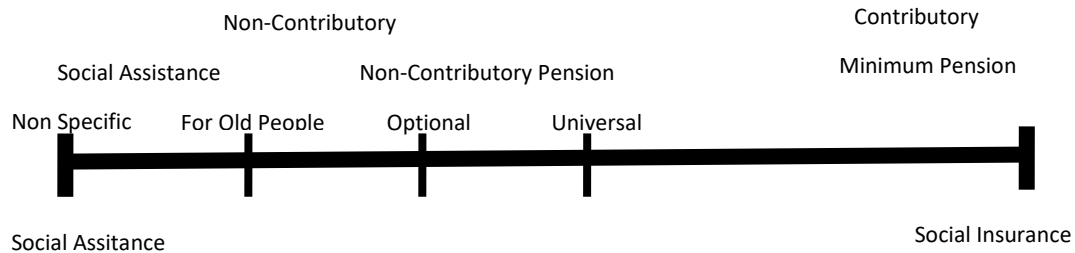
¹⁶ Palacios, Robert and Charles Knox-Vydmanov. The Growing Role of Social Pensions: History, Taxonomy and Key Performance Indicators. Public Administration and Development, 2014, 34(4): 251-252.

¹⁷ World Bank: Averting old age crisis: Policies to protect the old and promote growth [M]. Beijing: China Finance and Economy Publishing House, 1996.

Robert Holzmann et al. Old age income support in the 21st century: an international perspective on pension systems and reform [M]. Translated by Zheng Bingwen. Beijing: China Human Resources and Social Security Publishing House, 2006.

revenue is mainly based on indirect tax, the space of non-contributory pension scheme is larger; and 3) Target group of typical non-contributory pension scheme is only old people, while social assistance programs are generally for all people including old people.

Fig. 1 Policy Options of Old-Age Income Guarantee



Source: Barrientos A. Is There a Role for Social Pensions in Asia? [J]. *Asia & the Pacific Policy Studies*, 2015, 2(1):12. Figure 1.

Obviously, age of BOIFURR beneficiaries makes this scheme different from social assistance programs. BOIFURR benefit is provided to people aged 60 and above, while social assistance programs don't limit the age of beneficiaries. Besides, benefit of social assistance is provided to household according to means test, while benefit of BOIFURR is only provided to individual. However, BOIFURR fully adopts the S-I mix model of the Basic Old-Age Insurance for Urban Employees. This means "welfare" function of BOIFURR is weakened while its "insurance" function is strengthened. The reason for this is that the scheme designers want to strengthen the incentives of BOIFURR. But the problem is how effective would it be when it comes to low-income group (see below). A more serious problem is that the BOIFURR has blurred the border between a non-contributory scheme and social assistance programs. This would result in two consequences. Firstly, old people who are not eligible to the benefit because of not enough period of contribution payment would be very easy to get in poverty. But social assistance programs would cover all members of a household, which would increase the financial stress on the programs. Benefits of social assistance are determined according to means test, which poses problem to many countries to identify eligible people, especially to country like China whose population and territory are so large. Furthermore, even benefits are provided to poor household with aged member(s), it is a problem to know how much of the benefit is used for the old member(s), which would, in extreme case, even harm the traditional family moral (respect to old people).

2.3 Serious Conflict between Minimum Protection and Institutional Incentives

In 2012, ILO proposed the Social Protection Floors Recommendation, 2012 (No.202), which appeals to member states to set out the minimum social protection line, in order to prevent or relieve poverty, vulnerability and social exclusion. The proposal has gained recognition from the member states. Its appeal includes: 1) expanding coverage of pension scheme in order to protect

all old people; and 2) increasing pension benefit in order to guarantee basic income for old people. Obviously, when other factors (pressure on public finance and incentives to personal saving) are not considered, non-contributory pension scheme, which doesn't rely on individual contribution, can reach this goal.

However, the BOIFURR is not a non-contributory pension scheme in traditional sense, because the scheme also requires individual to pay contribution as a pre-condition for getting the benefit. The Guofa [2014] No.8 Document has emphasized that *“the scheme should also adopt the S-I mix model, and combine individual contribution, collectivity assistance and governmental subsidy as a mixed financing way; and benefit of the BOIFURR scheme should based on basic pension and benefit from individual account, and incentives should be strengthened for encouraging people to pay more contribution and pay it for longer period in order to save more benefit for the future”*. In the [2018] No.3 Document of MoHRSS, it is emphasized that *“local authorities should increase pension benefit according to local economic development, and should improve incentive mechanisms to encourage people to pay contribution at higher level and therefore to increase funds accumulated in their individual accounts for higher pension benefit in the future, which is a way to lead the scheme to develop with financial sustainability”*.

This means that the policies have never dropped the incentives. But the incentives are viewed as an approach to improve the financial sustainability of the scheme. This is a problem worthy discussing. In the first place, from the perspective of behavioral economics, human beings are short-sighted. Therefore, effects of short-term incentives will decrease if they take place in long term. In the second place, international experiences have shown that incentives are more effective to high-income groups instead of low-income group, because low-income group pays more attention to time. This is much more important. It is no doubt that most participants of BOIFURR are low-income people, and they are naturally more affected by short-term incentives. To long-term effectiveness, they are less sensitive. This is also proven in practice. Among the 12 levels of contribution, most participants have chosen the lowest levels. This has somehow explained the reason why participants in the Basic Medical Insurance for Urban and Rural Residents are much more than participants of BOIFURR.

According to statistics of the past 6 years, the average per-capita annual contribution to the BOIFURR in 2012 was only 168.3 RMB, and in 2016 it was only 227.2RMB. This is to say: most participants had chosen the level of 100 RMB or 200 RMB as their annual contributions. For these levels, the average annual compound growth rate is only 6.2%, far lower than the average annual compound growth rate of average disposal income of rural residents (8.2%), and the growth rate of disposal income of urban residents (11.2%) (see Table 4). This demonstrates that incentives of the BOIFURR have no prominent effects.

If the current situation goes on (with contribution to individual account being extremely low), its effect on future retirement income would be very small. Furthermore, some people would stop contributing for various reasons, which will lead them to be ineligible to get the basic pension. Therefore, they will be faced with greater risk of poverty. From a macro perspective, this would impact on another goal of the minimum protection line.

Table 4 Average Individual Contribution Paid to BOIFURR and Disposable Income of Contributors (Unit: RMB/year)

Year	Average Contribution	Average Disposable Income of Urban Residents	Average Disposable Income of Rural Residents
2012	168.3	24565	7917
2013	176.8	26955	8896
2014	186.1	28844	10489
2015	196.2	31195	11422
2016	205.8	33616	12363
2017	227.2	36396	13432
Average Annual Compound Growth Rate (%)	6.2%	8.2%	11.2%

Source: <http://www.mohrss.gov.cn/SYrlzyhshbzb/zwgk/szrs/tjgb/>; <http://www.stats.gov.cn/tjsj/tjgb/ndtjgb/>.

2.4 Too low benefit for a long time.

Generally speaking, benefit of BOIFURR is low. We don't know whether it can ensure the basic protection for old people, which is the goal of the scheme. In the initial period of BOIFURR, the benefit was only 55 RMB/person/month¹⁸. In 2015, the benefit was increased to 70 RMB/person/month, and it was increased to 88 RMB/person/month. It is evident that the starting level of the benefit was low, and its growth rate is also small. In practice, in 2012, average benefit received by BOIFURR pensioners was only 73.3 RMB, and in 2017 the benefit was increased to 126.7 RMB, with the average annual compound growth rate of 11.6%. In terms of absolute value, the benefit is much lower than benefits of both urban and rural Dibao schemes. In terms of growth rate, it is between the benefits of urban and rural Dibao schemes (Table 5).

Table 5 Comparison between Urban and Rural Dibao Schemes (Unit: RMB/Month/Person)

Year	Average Benefit Received by BOIFURR Pensioners	Average Benefit of Urban Dibao	Average Benefit of Rural Dibao
2012	73.3	330.1	172.3
2013	81.6	373.0	202.8
2014	91.5	411.0	231.4
2015	119.2	451.1	264.8
2016	117.3	494.6	312.0
2017	126.7	540.6	358.4
Average Annual Compound Growth Rate (%)	11.6%	10.4%	15.8%

Source: <http://www.mohrss.gov.cn/SYrlzyhshbzb/zwgk/szrs/tjgb/>; <http://www.mca.gov.cn/article/sj/tjgb/>.

Today, the BOIFURR is still in the beginning phase. So the benefit is only the component of basic pension. But even benefit from individual account is considered, future benefit is still low.

Let's suppose there is a typical individual at the age of 45 pays 200RMB as contribution per year. With 30RMB of subsidy from local authority, the total contribution is 230RMB. Let's calculate

¹⁸ In 2009, when Chinese government set up the New Old-Age Insurance for Rural Area, price of rice was 1.8-2.0 RMB/500g. Then for one month(30 days), the expenditure on rice is 54-60 RMB, which was close to the benefit of the scheme: 55 RMB/month. See Bian Shu, Sun Yana, Li Linxian: Appropriate Level of BOIFURR Benefit for Protecting the Minimum Livelihood [J]. Heilongjiang Social Sciences Journal, 2017 (3) :77.

the rate of return on investment at a high level as 4%. Then after 15 years, when this individual retires, the total funds in the account will be only 4789.6 RMB. According to the standard of monthly benefit from individual account, when the individual retires the funds will be divided by 139 (a same divisor for individual account of Basic Old-Age Insurance for Urban Employees). Then the monthly benefit from the individual account will be only 34.5RMB, and will not be changed until the retiree's death.

Now, let's look at the basic pension. In 2017, the benefit of this part was only 126.7 RMB/month. If we calculate the benefit with the growth rate of 11.6%, after 15 years it will be only 657.3RM/month. Thus, benefits of basic pension and individual account are totally 691.8RMB/month, with benefit of individual account only accounting for 5%. Furthermore, if disposal incomes of urban and rural residents grow at the current rate, after 15 years they will be respectively 9891.9RMB/month and 5502.1RMB/month. Then replacement rates of pensions for urban and rural residents will respectively be 7.06% and 12.6%, which means that the benefit would not increase largely. In addition, if benefits of urban and rural Dibao schemes will grow at the current rate, after 15 years the difference between benefits of the basic old-age insurances and benefits of Dibao for urban and rural residents will still be large. In other words, the BOIFURR will not be effective in preventing or relieving poverty and in protecting basic livelihood for old people. Furthermore, the scheme is not helpful to redistribute income among social members and to facilitate urban and rural economy to develop in a harmonious way.

Benefits of foreign schemes similar to BOIFURR are also low. In Latin American countries, where GDP per capita is close to China's GDP per capita, benefit of the similar schemes is similar to benefit of the Chinese one. But in these countries, benefit of non-contributory pension scheme is much higher than benefit of Chinese non-contributory pension scheme in terms of absolute and relative values. For example, in Cuba and Chile benefits of non-contributory pension schemes are relatively higher: respectively 300 USD/month (31% of per-capita GDP) and 164 USD/month (12% of per-capita GDP). Even in Mexico, where the benefit is relatively lower, the benefit is 40 USD/month, accounting for 5% of per-capita GDP. On the contrary, in China the benefit of BOIFURR in 2017 was only 126.7RMB/month, accounting for only 2.6% of per-capita GDP, which is almost equal to benefit in Jamaica. But per-capita GDP of Jamaica is only half of per-capita GDP of China (Table 6)

Table 6 Non-Contributory Pension in Latin America

Country or Region	Scheme's Name and Time of Introduction	Benefit and Its Ration in Per-Capita GDP	Eligible Age for Benefit	Approach	Ratio of Member Aged 60 and above	Ratio of Costs in GDP
Antigua and Barbuda	Old Age Assistance Programme; 1993	94 USD; 8%	77	Means-Tested	No data	0.016%
Argentina	Pensiones Asistenciales; 1994	198 USD ; 25%	70	Means-Tested	1%	0.035%
Bahamas	Old Age Non-Contributory Pension; No data	245 USD ; 12%	65	Means-Tested	6%	0.080%
Barbados	Non-contributory Old Age Pension; 1937	299 USD ; 23%	65.5	Means-Tested	22%	0.736%
Belize	Non-Contributory Pension Programme ; 2003	51USD; 12%	M65 F60	Means-Tested	21%	0.129%

Bermuda (UK)	Non-contributory Old Age Pension; No data	451USD; No Data	65	By Pension Investigation	No data	No data
Bolivia	Renta Dignidad; 1997	36USD; 15%	60	Universal	103%	1.078%
Brazil	Previdencia Rural; 1963	300USD; 31%	M60 F55	By Eligibility Investigation; Recipient must be working or getting financial sources in rural area	28%	0.984%
	Beneficio de Prestacao Continuada; 1996	300USD; 33%	65	Means-Tested	8%	0.262%
Chile	Sistema de Pensiones Solidarias; 1974	164; 12%	65	Means-Tested	39%	0.049%
Colombia	Programa Colombia Mayor; 2003	32USD; 5%	M59 F54	Means-Tested and Regional	26%	0.127%
Costa Rica	Programa Regimen No Contributivo; 1974	138USD; 15%	65	Means-Tested	20%	0.368%
Ecuador	Pension para Adultos Mayores; 2003	35USD; 7%	65	Means-Tested	42%	0.240%
Salvador	Pension Basica Universal; 2009	50USD; 15%	70	Means-Tested and Regional	5%	0.069%
Guatemala	Programa de Aporte Economico o del Adulto Mayor; 2005	51USD; 18%	65	Means-Tested	11%	0.126%
Guyana	Old Age Pension ; introduced in 194 and universalized in 1993	65USD; 18%	65	Universal	96%	1.063%
Jamaica	Programme for Advancement through Health and Education ; 2001	9USD; 2%	60	Means-Tested	18%	0.040%
Mexico	Pensión para Adultos Mayores; 2001	40USD; 5%	65	By Pension Investigation	42%	0.200%
	Regional Schemes; 2001	6USD; 1%	64-70	Regional	9%	No data
Panama	100 a los 70; 2009	50USD; 5%	70	By Pension Investigation	23%	0.166%
Paraguay	Pensión Alimentaria para las Personas Adultas Mayores; 2009	103USD; 27%	65	Means-Tested	17%	0.437%
Peru	Pension 65; 2011	45USD; 8%	65	Means-Tested	11%	0.106%
Saint Vincent and The Grenadines	Elderly Assistance Benefit; 2009	60USD; 10%	67	Means-Tested	53%	No data
Suriname	Algemene Oudedags Voorzieningsfonds; 1973	153USD; 19%	60	Universal	106%	1.608%
Trinidad and Tobago	Senior Citizens' Pension; 1939	468USD; 27%	65	Means-Tested	45%	1.414%
Uruguay	Programa de Pensiones No-Contributivas; 1919	298USD; 22%	70	Means-Tested	5%	0.238%
Venezuela	Gran Mision Amor Mayor); 2011/12	246USD; 18%	M 60 F 55	Means-Tested	19%	0.604%

Source: Qi Chuanjun: Targeted Poverty Reduction by Social Pension in Latin America and Its Effects [J], International Economic Review, 2016(6): 113, Table 1

2.5 Problems Resulted from Regional Fragmentation

For many years, the BOIFURR has suffered from the problem that the power of pooling contributions is held by low-level authority, and therefore funds in different regions cannot be pooled together for coordination. Serious fragmentation among regions has resulted in serious disparity of financing burden, and it has also increased the difficulty in fund investment and supervision. The issue has become a big social concern. However, the BOIFURR adopts the old

model where county authority is responsible for pooling and managing contributions independently. This way contains potential problems.

The first issue is the safety problem of funds, which might take place just because the funds are collected by low-level authority. To be concrete: at a county level, authority of social security is the manager of BOIFURR funds, holding the power of collecting, managing, expending and supervising the contribution and relevant issues. But in many counties, the number and professional capacity of staffs working for the BOIFURR authority are insufficient. Besides, information and procedural management of the system is not good, which has posed great pressure on local government. More serious problem is that, as the low-level authority is both manager and supervisor of BOIFURR funds, which means it is both sport player and referee at the same time, it's easy for the manager to violate rules, since the independence of supervision is weak. Though supervisory committees or powers at other levels could take the responsibility of supervision, the weak independence may still lead to weak supervision. In addition, old-age insurance is an areas requiring professional knowledge, which means the urban and rural residents are not capable of supervising the management of BOIFURR funds in an effective way. The problem is also resulted from the fact that local governments don't manage the funds with enough transparency.

The second issue is the difficulty in preserving and appreciating the value of funds, which is also resulted from funds management by low-level authority. Generally speaking, social funds' management by authority at higher level is better than management by authority at lower level, and high-level authority's capacity of preserving and appreciating the value is stronger, which can be better for reducing risks and protecting retirement income. On the contrary, when social funds are managed by fragmented authorities, it is difficult to have scale effect, and therefore modern investment portfolio technology cannot be used, resulting in big risks to preserve and appreciate the value. If the funds are trusted to a managing agent, which can form a large pool of funds, the costs would be high, and it is not easy to practice. In fact, today in most provinces, the BOIFURR funds are still under the management of county authorities, while the investment of funds is mainly in form of deposits in banks or small amount of government bonds, without any real market-oriented and diversified investment. According to the current BOIFURR rules, the interest rate of BOIFURR funds is same to the interest rate of one-year deposit in banks. But the one-year deposit interest rate is lower than the CPI. At the same time, interest rate of China's government bonds takes banking interest rates as reference. It is obvious that deposits in bank and government bonds are all weak financial instruments in terms of value appreciation. In front of inflation, they're not able to increase the value of BOIFURR funds. More seriously, they would not be able to maintain the value. If the scale of BOIFURR funds will be larger and larger, the absolute amount of devaluation will be large. Finally it would result in low stock in the individual accounts.

The third issue is that social solidarity would be harmed by the disparity of pension benefit among regions. In terms of absolute value, as of December of 2017, benefits of basic pension in 17 provincial regions were between 70RMB and 95RMB, while in 11 provincial regions the benefits were between 100RMB and 150RMB. In the three eastern state-controlled municipalities (Beijing, Tianjin and Shanghai), the benefits of basic pension were respectively 510RMB, 261RMB and 850RMB. Since the institutional function of basic pension is to protect minimum livelihood for old people, diversification of the benefits is in accordance with the disparity of provincial economies. However, when we look at the relative value, we find that in western provinces replacement rate

of the benefit is 12.7%, in eastern provinces (excluding Beijing, Tianjin and Shanghai) the replacement rate is 9.0%, and in the middle provinces it is 8.5%. In conclusion, the replacement rate is high in the west, middle in the east and low in the middle provinces. Due to this structure, provincial governments provide different financial supports to the scheme¹⁹. Of course, benefit should be different according to different levels of economic development and CPI. But if the disparity exists for a long time, it would harm the heart of citizens and solidarity of the society, and it would even harm people's loyalty to the country.

2.6 Other Problems

There are still some other problems in the BOIFURR. The first problem is the about the collectivity's subsidy, which is only set in the rules but not practiced in the reality. According to the Guofa [2014] No.8 Document, "village's collective economic organization should provide financial assistance to contributor when its economic strength allows it to do so." "The standard of financial assistance should be set by the village's resident committee through democratic meeting". "Community with sufficient economic strength should be encouraged to include the collectivity's assistance into the plan of community's public interest fund collection, and other social and organizations, charity organizations and individuals are encouraged to provide financial assistance to contributors". But in most parts of rural area in China, economy is not well developed, and village's collective economy is not a usual phenomenon. Even in villages with collective economy, the profitability and economic scale of the village is not large enough to provide the collectivity's assistance (subsidy).

The second problem is the mismatch of governmental subsidy, which makes it difficult for poor people to receive the subsidy. People covered by the BOIFURR are usually individuals without high-income, and some are even in low-income group. They have difficulty in paying contribution. The government makes incentives to encourage individuals to pay more contribution in order to gain more benefit in retirement. But this is not a good way for increasing low-income group's benefit. Low-income individuals would even loss the opportunity to get governmental subsidy simply because they are not able to pay their contributions. In the Guofa [2014] No.8 Document, it is also stated that, "to people with severe disability, local People's Government should pay partial or full amount of the contribution for him or her." But people with severe disability compose a very small group. There are many other people not able to pay the contribution because of poverty resulted from other reasons, and they are not taken into account. Some people with positive externalities, such as pregnant women, are not included as the target of government subsidy.

The third problem is that change of Hukou (local citizenship) is set as the pre-condition for migrant workers to get pension benefit in the immigrated region, which has in fact limited residents' right to move freely. According to the Guofa [2014] No.8 Document, "participants of BOIFURR who changes their Hukou to a new region and need to transfer their insurance to the new region, can apply for the transfer in the new region; and for this they can transfer all the funds accumulated in their individual accounts in the new region and go on to pay contribution according to standard of the new region; the number of contributory years would be added accordingly." This rule still

¹⁹ Chen Hao: Provincial Disparity of BOIFURR Benefits [J], Scientific Research on Aging, 2008(5):33

emphasizes on the Hukou system, which was born in the period of planning economy. Today, it has limited free movement of people, but hasn't narrowed the welfare gap among the regions.

3. Proposal for Improving the BOIFURR

3.1 Redefining the BOIFURR Scheme

The model of BOIFURR is almost the same as the model of BOI for Urban Employees. The only difference is employer in BOI for Urban Employees, who pays contribution for employees, is changed into government in BOIFURR. For the individual account, contributors can voluntarily choose a contribution level suitable to them. Thus the BOIFURR is still based on S-I mix model. But in the practice, the S-I mix model has deviated from its original purpose, because in the BOI for Urban Employees, individual accounts have been “empty accounts” for many years. Though in 2001 the Liaoning province had launched a pilot program for fully funding the accounts, in 2010 Liaoning used money of the funded accounts to provide benefit to pensioners. After that, almost all pilot projects for full funding had ceased to run in China. In fact, the BOI for Urban Employees has devolved into a PAYG scheme. In 2013, the central government made new statement on the reform on individual account, which changed the aims from “fully funding the individual account” to “improving the individual account”. In 2017, the Minister of Human Resource and Social Security announced that the individual account would adopt Book-Keeping Interest Rate for calculation. This marks that individual account is converted into NDC, which is actually a PAYG account.

So, why did BOIFURR copy the S-I mix model since the beginning? I think there are basically two reasons: 1) In 2009 when the New Social Old-Age Insurance for Rural Area was not introduced, Chinese government hadn't dropped the intention to fully fund the individual accounts of BOI for Urban Employees, and most Chinese researchers in the field insisted that the S-I mix is good model suitable to Chinese reality. The old understanding on the model and the reliance on the old approach had lead to the continuation of S-I model. 2) Policy makers and researchers believed in “linear development”. This refers to 2009 when the Western countries fell into economic crisis while China's economy kept growing at high speed. So, armed with achievement of the Reform and Opening, which had lasted for 30 years, people preferred to believe that the economic development, expansion of urbanization and formal employment would promote the BOIFURR to integrate with the BOI for Urban Employees in the near future. Therefore, a same S-I mix model was viewed as a good basis for the articulation of two schemes. However, the reality is far different from that idea.

So, it is in need of redefining the nature and functions of BOIFURR. Under the BOIFURR, there are peasants and “flexible” employees or workers for short-term jobs. These people have different residences and different costs of life, since they have different ways of life. But they share some common features: 1) Most of them are low-income persons, or even poor people. 2) Most of them are excluded from formal employment with income changing with high volatility, and their families face huge risks of unexpected expenditure. 3) Their education level is generally low, and therefore they are usually short-sighted in economy. 4) They don't have enough savings to protect themselves. These common features determine that they have low sensitivity to the incentives. In addition, their income is low, and in their mind short-term effect of money is more important than long-term effect. So, they are not so capable of protecting themselves and have no active response

to contribution subsidies. Anyway, their retirement income will heavily rely on government's transfer. This is a fact that has been proved for many times in the world's pension history. Therefore, non-contributory pension scheme is what they need for their retirement. This is to say, BOIFURR should be a 100% non-contributory pension scheme, whose nature is a "welfare" system, instead of an "insurance" scheme.

Then, the function of BOIFURR should be defined as "to prevent old-age poverty". Generally speaking, when government make arrangement for guaranteeing old people's income, there are two points to be considered: 1) Preventing old-age poverty; 2) Promoting consumption smoothing. Obviously, non-contributory pension scheme should function as a factor to prevent old-age poverty. But if promotion of consumption smoothing is also the goal, when an individual is weak in protecting him- or herself, the government has to provide high benefit to the individual. This would lead to a series of negative effects, such as increase of costs on governmental transfer and impact on financial balance during economic downturn; and it would also force people to retreat from labor market and prevent young people from saving for themselves (even low-income group is weak in saving for themselves).

3.2 Improving Institutional Design of BOIFURR

Only after clearly understanding the nature and functions of BOIFURR can we make targeted plan to improve the scheme. For this, the approaches could include the following points.

1) It is suggested to change the function of individual account while keeping the setting of basic pension. Participants should be allowed to stop paying contribution to their individual accounts. If a participant agrees, paid contribution, governmental subsidy and interest generated in the individual account can be returned to the participant (the return of governmental subsidy is helpful in maintaining the public's trust on the government), or these money can be transferred into the 3rd pillar, commercial old-age insurance with tax deferral for individual contribution. Individuals should be allowed to go on paying contribution to the commercial old-age insurance, and government should go on providing subsidy as it did in the past. This is a 100% commercial activity. Individual choose it voluntarily, while government only encourages individual to participate in commercial schemes but doesn't interfere into the affair or impose additional conditions on it. When a resident reaches the eligible age for pension, and he or she has no other pension source, this resident can receive the basic pension. In this case, there is no need to see whether his or her contribution in the individual account has been paid over 15 years. The financing of the basic pension is fully from government's transfer payment every year.

2) Gap of benefit levels should be filled in in order to have equity of outcome. China is a country with large population and territory. The reality is that disparity among regions or unbalance between urban and rural areas is large, and life costs diversify in different regions. But this should not become the rationale for differentiated welfare. In fact, the welfare gap among people should be narrowed through income redistribution, and thereby negative effects of unbalanced economic development could be eliminated. In particular, same level of benefit should be combined with differentiated purchase powers. To people living in undeveloped regions, the effect can be larger. This is actually a compensation for the inequity in the first distribution. The compensation is both for opportunity and outcome. More importantly, to a certain extent, it helps

to lead workers to move around the country in a rational way. This way, economy of undeveloped regions can be promoted, and economic disparity among regions can be reduced. It also helps to maintain population of poor regions and regions inhabited by minor ethnic groups, which in turn helps to maintain safety of border regions. To people living in developed regions, the benefit has no relative advantage. But, of course, the benefit they receive should be able to cover their basic life (in undeveloped regions, benefit at the same level is over the costs of their basic life). In conclusion, as a welfare scheme, the BOIFURR should provide same level of benefit to every participant. For China, effects of this arrangement will last for long term.

3) The benefit should be largely increased in order to really cover the basic life of beneficiaries. Since non-contributory pension scheme is to prevent or stop old-age poverty, its standard of benefit should be same to the standard of Dibao benefit. According to today's reality, the benefit of BOIFURR should be higher than the benefit of rural Dibao but lower than the rural Dibao. That is, it should be between 350 RMB and 550 RMB. This can cover the basic life in developed regions and is higher than costs of basic life in less developed regions. But it is worthy emphasizing that in today's China, even a fully non-contributory pension scheme should not provide over-high benefit. Otherwise, as the population ageing goes on, burden of public finance would be too heavy. In addition, over-high benefit would lead to moral hazard and reverse choice, which means that people would try their best to avoid participating in contributory pension scheme (the BOI for Urban Employees). Thus, the financial situation of the BOI for Urban Employees would be worse.

4) Mechanism of public subsidy should be simplified, and the central government should be the major funder. After the fiscal reform of 1994, fiscal management of the central government is separated from fiscal management of provincial governments. This has helped to develop provincial economy and improved tax collection for the provincial governments. However, after-effect of this reform becomes more and more evident in that financial and managerial powers of central and provincial governments have twisted together. In some provinces, the fiscal burden is too heavy, with huge public debt (whose reason is not only the fiscal reform). Thus the current system needs to be changed. A more important issue is that the pension scheme for universal welfare should reflect the will of central government. This helps to consolidate the patriotic feeling of Chinese people. It is not suggested to simply adopt the separated fiscal system, which would allow provincial governments to bargain with the central government. It is neither suggested to differentiate the middle and western provinces from the eastern provinces, because the idea or standard of differentiation is usually subjective. Of course, this doesn't mean that provincial governments shouldn't be responsible for improving people's welfare. In fact, on the basis of universal subsidy provided by the central government, provincial governments can provide additional subsidies according to local reality (provincial financial strength and purchase power).

5) Eligible age for pension benefit should be flexible in order to reduce financial risks. There is always a difficulty to non-contributory pension scheme. That is the conflict between the public finance's strength and the coverage and benefit level of the scheme. When the coverage becomes larger and benefit level becomes higher, the public finance would be faced with heavier stress. In the beginning phase of a scheme, the public finance is capable of covering the expenditure. But when economic downturn takes place or population aging gets more serious, public finance would not be able to provide transfer payment due to heavy burden. Of course, we can have another way: If in the institutional design of a welfare scheme, rigidity can be reduced while flexibility can be increased, the problem can be well solved. In this case, an important approach to increase

flexibility of welfare is to set flexible age eligible for the benefit, which is not necessarily equal to the eligible age set for the BOI for Urban Employees. Factor of population ageing should be taken into account in the design. By this, it is proposed to increase the eligible age every 5 years following the development of population ageing. Finally, governmental transfer can be controlled to increase within a certain proportion or at a certain growth rate.

For example, in 2017 people aged 60 and above in China were 241 million and people aged 65 and above in China were 158 million. In the same year, pensioners of BOIFURR were 156 million (who were aged 60 and above). Suppose that age distribution of the whole population in China was same with the age distribution of BOIFURR participants, it is easy to calculate that the number of pensioner whose age is 65 or over was 102 million (let's assume it as 100 million). Furthermore, average benefit was 350 – 550 RMB per person. Then transfer from the central government was, as calculated, 420 – 660 billion RMB, accounting for 0.5-0.8% of GDP in 2017. This is a moderate rate compared with international examples. Following the population ageing, the eligible age can be increased progressively in order to reduce pressure on public finance. Similarly, benefit-adjusting mechanism can be set up according to the levels of disposal income and CPI. The weight of these two factors can be, for example, respectively both 50%. But the benefit should be always within a certain ratio in the GDP, which is a definite requirement. Furthermore, it should be emphasized that today's benefits is low. So, the scheme can go on providing benefit to people aged between 60 and 64, and their benefits will not be increased. As the time goes on, benefit of this group will not form a threat on the public finance.

3.3 Some Other Thoughts

As a new scheme, BOIFURR has many points to be changed according to the needs in practice. For the moment, we list some other key issues for discussion, as follows:

1) The negative limitation of Hukou system should be eliminated in the institutional design of the BOIFURR scheme. Hukou system is a special institutional arrangement in China. It had released positive effects in the history. However, in the modern era where people have the right to move freely and labor force needs to move freely for better allocating resources, negative effects of the Hukou system become more and more obvious. Therefore, when a social scheme is being designed, the limitation of Hukou system should be avoided. The institutional design mentioned above can be an example, in which the limitation of the Hukou system is prevented.

2) When designing a social scheme, policy maker should take into account the protection on vulnerable group, which represents the moral consciousness of the society. The BOIFURR scheme should be improved in order to enable all the vulnerable people to enjoy pension rights, as every other person does. In addition, as mentioned above, individual account should be converted into tax-deferred commercial old-age insurance (voluntary). But the tax deferral is provided to formal employees, while residents in urban and rural areas can receive governmental subsidies. In this case, government should provide more subsidies to vulnerable groups, such as disabled people losing employability, and to special groups, such as pregnant women and women taking care of new babies.

3) The management of a social scheme should be simplified in order to make the scheme as

more effective as possible. An improved BOIFURR scheme should have simplified framework, in which subsidies are from the central government while administration is the charge of provincial/local authorities. The procedure of provincial or local administration should be largely simplified, reducing pressure on local authorities and having a transparent administration. Of course, it is also in need of building up a digitalized system for individual's information in order to reduce moral hazard of administrators to the lowest level.

4) It is also important to optimize BOIFURR's relation with other pensions schemes, for which the key is understanding the trend of socio-economic development. We usually expect to have a single social scheme or policy to solve all the problems. But this is impossible in the modern world. After WWII, when most countries introduced western pension schemes, contributory Bismarck model was chosen as the major component, with the expectation that the whole labor force can be formalized following the development of economy, and therefore the system can cover all the employees. However, the reality is that many developing countries had to return to non-contributory model in the beginning years of the 20th century. Therefore, it is not realistic to integrate the BOIFURR and the BOI for Urban Employees. But this doesn't mean that the two schemes have no any relation with each other. At least the benefit of BOIFURR should not be too high since it is a pure welfare scheme. Otherwise, it would pose impact on the BOI for Urban Employees.