
The Social Protection System in Aging China

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The Social Protection System in Aging China

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I. Introduction

China has made great progress in weaving the social safety net in the new century. For the first time, the social insurance programs for old pension and medical care have been introduced to the rural areas in the past decades. Aiming to increase the coverage of social programs, the Chinese government has successfully provided most of the citizens the basic social protection in a very short period.

The evolution of social protection system in China has been featured by the economic transition. Prior to the reform in early 1980s, China did not have any specific social program to secure people’s life. Instead, strict socioeconomic segmentation between rural and urban areas was applied. In urban areas where the state or collective owned economies were dominant, the employees were fully protected in employment and all the benefits were attached to it. In contrast, the social protection in rural areas was negligible while all the protection for rural residents relied on the limited outputs from the land. Although the planning economic system was given up, as we see later on in this paper, it still has effect on the social protection system in contemporary China.

China started the construction of social protection system that is compatible with the market economy in 1990s. The radical reform in SOEs brought about labor market dislocations in urban areas, as evidenced by the appearance of massive unemployment and laid-offs (Cai, et al, 2005; Giles, et al, 2006). In addition to active labor market programs, the Chinese government has devoted to establish social protection system in order to support the employees who disconnected with their employers.

The evolution of social protection system enlarges the gap of social welfare between urban and rural areas, which is a de facto barrier of labor mobility. In the new century some social protection programs have been extended to the rural areas, including the medical care system and pension system. However, both the urban and the rural social protection systems are designed based on hukou, a household registration system. Identified by the locality of hukou, the social programs vary across regions with segmentation between rural and urban areas. The hukou system significantly affects the design and implementation of social programs in China. Although the central government has made up its mind to reform the hukou system comprehensively, its attachment with social protection and the huge variations of the social programs have become the most serious block to the reform agenda.

Among the challenges with the social protection system, the rapid population ageing dwarfs the others. In 2013, 202.4 million persons are 60 years old or above, which accounted for 14.9% of total population in China. The degree of ageing in China is more serious than
many other countries with similar level of economic development. When China kicked off the main social programs in urban areas, there was no any saving in individual or social accounts. In this case, China actually implements a pay-as-you-go pension system, of which the affordability relies on secular labor productivity. The government has to bear overlapped fiscal burdens. One of them is to pay the historical deficit in social insurance, and the other is to deal with the additional burden of quick population ageing.

The rest of the paper is organized as follows. Section two introduces the current social protection framework in China, which is focused the three pillars of the system. Section three describes the segmentation of social protection system in several dimensions. The next section analyzes the challenges of population ageing and the fiscal burden for the central and local governments. Final section concludes the paper.

II. The Structure of Social Protection System in China

In the past decades, China has taken great efforts to establish its social protection network. Although the social protection system is not perfect so far, China has made great progress in trying to cover as more people into the system as possible.

1. The Framework of Social Protection System in China

The current social protection system consists of two types of social programs. One of them is contributory social insurance, for example, pension programs or medical care system. The other one is non-contributory programs, i.e., the social assistance programs. Figure 1 depicts the framework of current social protection system in China. As indicated, the social protection system mainly consists of both social insurance programs and social assistance programs as well. According to their importance, however, there are three major pillars in current social protection system, including the pension system, the medical care system, and the social assistance system. Several features of this system are worth noting here.

As shown in the figure, all the components of the social protection programs are designed segmentally between rural and urban areas. Given the legacy from dual society, the gap of social protection between urban and rural areas was substantial. Although some new programs, for instance, the New Cooperative Medical System, Rural Pension System, and etc., have been implemented, the social protection disparities between rural and urban areas are still obvious. To some extent, the rural residents have been better off since new social protection programs were introduced in rural China. Meanwhile, China has been facing with the challenges to integrate different systems and to reduce the gaps of benefit among different groups of people.

The second one is segmentation across various branches of government. As China starts to prioritize social protection as one of the most important government functions, different government agencies began to raise new programs in succession, which increases the coordination costs. For example, the rural medical system is run by Ministry of Health while the urban health care system is administered by Ministry of Human Resources and Social Security. Another example is that, in addition to rural pension programs, the Commission of Population and Family Planning kicked off special program aiming to support
the parents of one-child.

In addition, the interaction between central and local government in construction of social protection system is worth noting. Most social protection programs are funded by both central and local governments as well. Given the disparities in economic development across regions, it is easy to understand that people in some poor areas are less protected due to the constraints of limited fiscal capacity at local level. Furthermore, it leads to segmentation across regions because the rich areas tend to keep the benefit locally.

2. Pension System

As noted, the pension system in China is designed based on the locality of hukou. Current pension system consists of the following parts. For urban residents, there are two main programs including Urban Worker Basic Pension Programs and Urban Residents Pension Programs. For public servants and staff in public financed agencies, their pensions have been financed by the fiscal expenditure of the central and local governments.

**Urban Worker Basic Pension Program**

Prior to the urban reform, the urban workers had enjoyed comprehensive protection, but attached to their work units (Cai, et al, 2005). Aiming at shattering the iron bowl, the SOE restructuring in 1990s detached the lifelong connections between workers and the work unit. Meanwhile, China kicked off the construction of social safety net in urban areas.

As an essential component of social safety net, the Urban Worker Basic Pension Program (UWBP) was established in 1997. According to the *Decisions on Construction on Workers Basic Pension Schemes* issued by the State Council, the contributions to the funds for this pension program are from both individuals and the enterprises as well. With some modifications, the current policy is that the employer contributes 20 percent and the individual contributes 8 percent of the total payroll bill to the pension funds. The contribution from the employer is put into social pooling account while the one from workers is put into the individual account. The social account is pooled at the provincial level.

The benefits for retirees consist of two components, i.e., the parts from social pooling account and individual account respectively. The monthly payment to the retirees would be 20% of the average wages of all workers in the last year and the latter is the total saving in the individual account divided by 120.

The UWBP is the largest pension programs in China. By 2013, 322 million urban workers participated in the program, including 242 million employees and 80 million retirees (Ministry of Human Resources and Social Security, 2014).

**Urban Residents Pension Program**

The Urban Residents Pension Program (URPP) is to cover the urban residents who are not eligible to the UWBP. The pilot of this program was kicked off in 2011 and was quickly extended nationwide in 2012. The Scheme is similar to the New Rural Pension Program in terms of the targeted group, program design, and management.
The funds of URPP mainly consist of two parts, individual contribution and subsidies from the government. According to current policy, annual contribution includes ten levels range from RMB 100 to RMB 1000 for every RMB 100. The government subsidizes those who have already been eligible to withdraw pensions, i.e, the elderly 60 or older, since the program started. The central government subsidizes the whole expenditure on basic pension for the Central and Western regions and 50 percent for Eastern provinces.

The design on individual account and payment is same as the New Rural Pension Program, which is introduced in the following.

**New Rural Pension Programs**

Although the pilots of pension system in rural China were not very smoothly (Dorfman, et al, 2013), the New Rural Pension Programs (NRPP) has marked the great achievements in the history where the rural residents are socially supported when they are old. China started the NRPP as late in 2007, but it has been quickly expanded in all rural areas. Rural residents 16 and older are eligible to participate in the program. The NRPP aims to support the basic living of the rural elderly, which breaks though the pattern of family provision for the aged in rural China.

The NRPP scheme is subsidized by the collective and government, combining with individual contributions. The funds of the NRPP are pooled by individual contribution, and the subsidy from public expenditure and the collective. Right now, the individual contribution was set up as five levels, which are RMB 100, 200, 300, 500, and 500 respectively. Meanwhile, the local governments are allowed to set up more levels according to their own practice. The participants voluntarily choose their own level of contribution, but more contribution will be associated with more benefit when the contributors are eligible to withdraw pensions. With income growth in rural areas, national government adjusts the levels and the amount of individual contributions accordingly. Those who already reached 60 when the program started are allowed to withdraw basic monthly pensions directly without contributions, but their children should participate in the programs and pay the premiums.

At the early stage, in order to encourage rural residents’ participation, the local governments are required to subsidize individuals’ contribution no less than RMB 30 per person every year. Individual account was set up for each participant to put into individual contribution, subsidies from collective and governments, and other financial support to the participants.

The pension benefit consists two parts which would be paid to the beneficiaries lifelong. The first part is the basic pension designated by the central government, i.e, RMB 55 per month. The other part is from the savings in individual account while the monthly payment to beneficiaries equals to the total savings divided by 139 months.

The NRPP has been expanded very quickly. It was piloted in some selected regions in 2009 and extended to all rural China in 2012. In 2011 the Social Insurance Act was enacted, which specifically requires that all the provinces might merge the NRPP and URPP as one system. This requirement was put into practice in 2012 when the State Council decided to pool the two systems together so as to establish a unified residential pension system. By 2013, the participants in NRPP and URPP totaled 498 million, including 138 million old people who
are eligible to withdraw pensions already.

3. Medical Care System

Similar to the pension system, the current medical care system is run in rural and urban areas separately. The medical care system in China consists of three sub-systems, including the Basic Medical Care System for Urban Workers, the Urban Residents Medical Care System, and the New Cooperative Medical System.

**Basic Medical Insurance System for Urban Workers**

In 1997, the State Council required all the urban employers to participate in medical care schemes for their employees, i.e., the Basic Medical Care for Urban Workers. Two years later, the program was extended to all over urban China. The funds are contributed by the employers and employees where the employers pay 6% of total payroll bill and the employees contribute 2% of the wages. The individual contributions are put into individual account while 70% of the contributions from the employers are put into the public pooling account and the rest goes to the individual account too. In addition to the contribution from the employers and employees, the governments subsidize the funds too.

By the end of 2013, there are 274 million people participating in the program, including 205 million employees and 69 million retirees (Ministry of Human Resources and Social Securities, 2014). The scheme has been one of the most important pillars of medical care system in China.

**New Cooperative Medical System**

The Rural Cooperative Medical System had played significant role in improving health for rural residents when China was a low income country before 1980s. The system collapsed when the Household Responsibility System was introduced to rural China.

The New Cooperative Medical System (NCMS) was piloted in early 2000s. The rural residents may participate in the program voluntarily. The NCMS is financed by several stakeholders. The central and local governments arrange special funds every year to support the NCMS while the individuals are required to contribute their own parts.

The NCMS was run by county, which means that the funds are pooled at county level. At the early stage when the scheme was just introduced, a large variation in the design of the system was found in terms of financing, reimbursement, and eligibility (Brown, de Brauw, and Du, 2009).

The subsidies to the NCMS from government have been increasing over time, which make it possible to provide more benefits to the rural residents. At the beginning of the scheme, the central and local governments subsidize RMB 20 for each participant. By 2014, the subsidies from government totaled RMB 320 for each individual, among which RMB 120 was from the central government. Meanwhile, the annual individual contribution was raised to RMB 90. As a result, the financial resources that were put into the NCMS funds have been increasing. As indicated in table 1, funds raised per participant were RMB 50 in 2004 and
RMB 309 in 2012. Meanwhile, the beneficiaries have been increasing steadily, which means that the NCMS has played active role in health protection for rural residents. In 2012, the rural residents used the NCMS for 1.7 billion person-times.

### Table 1 Financing and Fund Uses of NCMS

<table>
<thead>
<tr>
<th>Year</th>
<th>Per Person In Total (RMB)</th>
<th>In Total (RMB, mln)</th>
<th>In Total (RMB, bln)</th>
<th>Ratio¹ (%)</th>
<th>Benefit (RMB)</th>
<th>Person-Time (mln)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>50.4</td>
<td>40.3</td>
<td>2.64</td>
<td>65.4</td>
<td>34.7</td>
<td>76</td>
</tr>
<tr>
<td>2005</td>
<td>42.1</td>
<td>75.4</td>
<td>6.18</td>
<td>81.9</td>
<td>50.7</td>
<td>122</td>
</tr>
<tr>
<td>2006</td>
<td>52.1</td>
<td>213.6</td>
<td>15.58</td>
<td>72.9</td>
<td>57.3</td>
<td>272</td>
</tr>
<tr>
<td>2007</td>
<td>58.9</td>
<td>428</td>
<td>34.66</td>
<td>81.0</td>
<td>76.5</td>
<td>453</td>
</tr>
<tr>
<td>2008</td>
<td>96.3</td>
<td>784.6</td>
<td>66.23</td>
<td>84.4</td>
<td>113.2</td>
<td>585</td>
</tr>
<tr>
<td>2009</td>
<td>113.4</td>
<td>944.3</td>
<td>92.29</td>
<td>97.7</td>
<td>121.6</td>
<td>759</td>
</tr>
<tr>
<td>2010</td>
<td>156.6</td>
<td>1308.9</td>
<td>118.78</td>
<td>90.8</td>
<td>109.3</td>
<td>1087</td>
</tr>
<tr>
<td>2011</td>
<td>246.2</td>
<td>2047.6</td>
<td>171.02</td>
<td>83.5</td>
<td>130.1</td>
<td>1315</td>
</tr>
<tr>
<td>2012</td>
<td>308.5</td>
<td>2484.7</td>
<td>24.08</td>
<td>96.9</td>
<td>138.0</td>
<td>1745</td>
</tr>
</tbody>
</table>

Note: “a”, the ratio of fund uses is the total expense in funds divided the total amount of the funds.


The introduction of NCMS is a milestone in constructing the social protection system. With comprehensive coverage in rural China, the NCMS has significantly improved the health care provisions for rural residents. By 2013, the NCMS has covered 802 million rural residents, 98.7% of total rural residents (National Health and Family Planning Committee, 2014).

#### Urban Residents Medical System

For those urban residents who are not eligible to Urban Worker Medical Insurance, in 2007 urban medical system was introduced to cover the self-employed and non-working urban residents. The funds are raised through contributions from households and subsidy from government. In 2007, the year the program started, the subsidy from government was RMB 40 for each individual and increased to 280 in 2013. By 2013, the Urban Resident Medical System covered 296.3 million urban residents (National Health and Family Planning Committee, 2014).

4. Social Assistance System

In addition to the progress in social insurance, China has made progress in providing non-contributory social assistance for those who are not able to work and live in low incomes. The two pillars of social assistance programs are *Urban Minimum Living Allowance* and *Rural Minimum Living Allowance* respectively, i.e, the so called *dibao* program. Using these two programs, the Chinese government has tried to cover all the poor in both urban and rural areas under the social protection system.
The program of urban *dibao* was firstly kicked off at the end of 1990s when serious economic restructuring took place in urban China and brought about labor market shock in urban areas. One of the negative outcomes of the shock was serious unemployment in urban areas that have not been released from official employment statistics. Some sample surveys implemented in urban China make up the drawbacks of registered unemployment rates that are widely used by Chinese government but underestimated the actual unemployment. According to Giles et al. (2006), the average unemployment rates in the five surveyed cities increased from 7.2% in 1996 up to 12.9% in 2001. Some the unemployed fell into poverty.

To deal with emerging urban poverty, the Chinese government started providing guarantees on minimum living standard for urban residents. In 1993, Shanghai first introduced the *dibao* program. The central government positively evaluated Shanghai’s experiment. In the next year, Ministry of Civil Affair proposed to extend the practice in Shanghai to the other urban areas of China. All cities and the towns where county government locate have been required to set up the *dibao* program and their local *dibao* line since 1999. According to the program design, each individual in the households who are eligible to the *dibao* program is transferred the gap between local *dibao* line and per capita incomes of the targeted households.

It is reported that *dibao* program has been established in 667 cities and 1638 county towns until September, 1999. In 2003, the Ministry of Civil Affair declared that in 2002 the urban *dibao* program has covered all the urban poor whose incomes were below local *dibao* line. As figure 1 shows, the number of the urban poor covered by *dibao* program increased dramatically in 1999 and has been kept at a stable level since 2002. In 2013, 20.6 million urban residents were covered by *dibao* program and the average *dibao* transfer per capita was RMB 264.

![Figure 1: the coverage of rural and urban *dibao*](image)


The rural *dibao* started in 2006. It is similar to urban *dibao* program in design in terms of financing, targeting, income transfer policy, and management process. In 2013, 53.9 million rural residents were covered by *dibao* program and the average *dibao* transfer per
capita was RMB 116. It has been the most important social program in rural China to reduce poverty.

As non-contributory program, it is always concerned about whether the *dibao* programs are run efficiently and whether they discourage beneficiaries’ participation in the labor market. An international comparison between *dibao* and the other similar non-contributory social programs in other countries finds that *dibao* is run quite efficiently in terms of coverage and leakage rate (Chen and Ravallion, 2006). Using evidence from micro level data, Du and Park (2007) find that *dibao* plays active role in helping the urban poor out of poverty and reducing the inequality.

Although the program is run in both urban and rural areas, there still exits significant gap in benefits between urban and rural beneficiaries. Table 2 presents the average *dibao* lines and average benefits per capita of the rural and urban programs respectively. Although the gaps of lines and benefits between rural and urban programs have been narrowed over time, the difference is still substantial now. In 2013, the average lines in urban programs were 1.84 times of that of rural program while the average benefits per capita were 1.28 times higher in urban program.

<table>
<thead>
<tr>
<th>Year</th>
<th>Monthly <em>dibao</em> Lines</th>
<th>Average Benefits per capita</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Urban (RMB)</td>
<td>Rural (RMB)</td>
</tr>
<tr>
<td>2007</td>
<td>182.4</td>
<td>70.0</td>
</tr>
<tr>
<td>2008</td>
<td>205.3</td>
<td>82.3</td>
</tr>
<tr>
<td>2009</td>
<td>227.8</td>
<td>100.8</td>
</tr>
<tr>
<td>2010</td>
<td>251.2</td>
<td>117.0</td>
</tr>
<tr>
<td>2011</td>
<td>287.6</td>
<td>143.2</td>
</tr>
<tr>
<td>2012</td>
<td>330.1</td>
<td>172.3</td>
</tr>
<tr>
<td>2013</td>
<td>373.0</td>
<td>202.8</td>
</tr>
</tbody>
</table>


Since its very beginning, the eligibility to *dibao* program has been associated with the based locality of *hukou*. This attachment with *hukou* has been obstacle for the program to play more positive role. Although the program has covered all over China, the association with *hukou* impedes its portability across regions. In particular, for the massive migrants who move from rural to urban areas and don’t hold the urban *hukou*, they are most likely ignored by the urban *dibao* program when falling into poverty in destination places (Du and Wan, 2014).

5. Other Social Programs

In addition to the pillars of social protection systems, the Chinese government also runs some other social programs.

Among those programs, some target specific groups of person. For instance, both the employers and employees are required to contribute to the unemployment insurance funds in order to provide assistance when workers are unemployed. The maternity insurance is also
Some social programs have played the role of social protection before China constructed the comprehensive social safety nets. For example, when the absolute poverty widely existed in rural China, the Chinese government has invested in the regions with concentrated poverty to promote regional economic growth and alleviate poverty. Although the nature of rural poverty has been changed, which leads to the low efficiency of poverty alleviation funds targeting regions, the poverty alleviation programs have been remaining.

In addition, there are some small programs run by some departments of government separately, although they function similarly to the basic social protection system. For example, the former Committee of Population and Family Planning has operated a program to support the rural elderly who followed the one child policy decades ago. In 2013, the public expense on the program totaled RMB 17.4 billion.

III. Integrating the Social Protection System in China

According to description on the social protection system in the previous section, one of the great challenges for China is to integrate the social protection system. The integration includes integrating the different components of each system between rural and urban areas, portability across regions, and high level of pooling.

*Rural-Urban Integration*

The segmentation and disparities in social protection system between rural and urban areas are legacy of the planning economy that has affected China for decades. In the past decade, the great achievement in social protection is the extension of social programs to rural areas, which breaks the cliché belief that the rural residents should be secured in life by the land they own. However, given the significant disparities between rural and urban areas in social protection, it seems impossible to bridge the gap in short period. That is why policy makers strategically prioritize to set up the institutions in rural areas and increase the coverage of rural residents’ participation first.

With efforts in the past decade, the goal of universal coverage of the social protection system has been achieved. By the end of 2013, the basic pension system including the three programs discussed earlier in this paper has covered 819.7 million persons, which accounted for 73% of the people 16 or above. Considering that the employees and retirees from government and public financed institutions have not participated in the basic pension system yet but secured, it is reasonable to believe that increasing coverage should not be the priority of pension system anymore. By 2013, the NCMS and urban medical system have covered all the rural and urban residents. Although the social assistance programs only target individuals with low incomes, the urban and rural *dibao* programs have covered all the regions in China.

With comprehensive coverage, it is time for Chinese government to unify the segmented systems and bridge the gaps in benefits of social protection between rural and urban areas. As noted earlier in this paper, the gaps in benefits are quite substantial in every scheme within the social protection system so far. To bridge the gap, it is unreasonable to reduce the benefits in urban programs. The only solution is to gradually increase the benefits
in rural programs. Once the schemes in rural and urban programs have converged in benefits, it is easy to integrate the segmented programs into a unified system.

Coordination across Departments

As far as the issue of management is concerned, it is necessary to reform the current systems across different Ministries for the sake of integration and efficiency improvement. The social protection schemes are often initiated by Ministries. Once the social programs are set up, they are administered by the Ministry accordingly. Although some programs are similar, as a result, they are still run by different Ministries. As indicated in table 3, each of the three pillars of social protection system is in charge of by different Ministries. For instance, the Committee of Health and Family Planning is responsible for the medical care system for urban and rural residents while the medical insurance for employees is in changed by the Ministry of Human Resources and Social Securities and the medical assistance for the poor is organized by the Ministry of Civil Affairs. The segmentation across different government agencies makes the social protection system running less efficiently.

First of all, when the programs are run by several departments of the government, it increases the coordinative costs to reach consensus among those Ministries. This partly explains why the procedure of reforms on social protection could not meet expectations of the public even though the goal of reform has already been very clear.

Second of all, as noted earlier in this paper, no matter the program is contributory or non-contributory, the government almost subsidizes every social protection program. The Ministry that is responsible for a program is also in charge of the fiscal expenditure on the program accordingly. Due to the segmentation among the government departments, it is hard to pool the inputs together since they are managed by different Ministries.

Thirdly, a social protection scheme that is segmented among various departments would cause efficiency loss in practice.

Table 3 Social Programs and the Running Agencies

<table>
<thead>
<tr>
<th>Programs</th>
<th>Running Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pension</td>
<td></td>
</tr>
<tr>
<td>Urban Worker Program</td>
<td>Ministry of Human Resources and Social Securities</td>
</tr>
<tr>
<td>Urban Residents Program</td>
<td>Ministry of Human Resources and Social Securities</td>
</tr>
<tr>
<td>Rural Residents Program</td>
<td>Ministry of Human Resources and Social Securities</td>
</tr>
<tr>
<td>Rural Elderly of One-Child Families</td>
<td>Committee of Health and Family Planning</td>
</tr>
<tr>
<td>Medical</td>
<td></td>
</tr>
<tr>
<td>Urban Worker Program</td>
<td>Ministry of Human Resources and Social Securities</td>
</tr>
<tr>
<td>Urban Residents Program</td>
<td>Committee of Health and Family Planning</td>
</tr>
<tr>
<td>NCMS</td>
<td>Committee of Health and Family Planning</td>
</tr>
<tr>
<td>Medical Assistance</td>
<td>Ministry of Civil Affairs</td>
</tr>
<tr>
<td>Social Assistance</td>
<td></td>
</tr>
<tr>
<td>Urban dibao</td>
<td>Ministry of Civil Affairs</td>
</tr>
<tr>
<td>Rural dibao</td>
<td>Ministry of Civil Affairs</td>
</tr>
<tr>
<td>Poverty Reduction</td>
<td>Poverty Alleviation Office of State Council</td>
</tr>
</tbody>
</table>
The other obvious shortcoming of the social protection system is its lack of portability, which means that one is not able to bring his/her social program when making decision to move from one place to the other. This segmentation across regions is mostly because of low level of pooling in many social programs.

Although the central government initiated most social programs, there is no any social program is pooled at national level so far. For example, the funds of New Rural Pension Program and the New Cooperative Medical System are pooled at county level, and the Urban Worker Basic Pension Program is pooled at provincial level. The dibao programs are designed and run at city level. The segmented programs across regions have become a serious barrier to block labor mobility.

The Chinese government has called for to raise the level of pooling of the social programs. However, to improve the level of pooling the central government must take the main responsibility for financing, in particular for the very basic social programs.

IV. Ageing and Its Challenges to the Social Protection System

One of the greatest challenges to the social protection system in China is the fast population ageing. No matter what types of pension schemes are applied, an ageing society has to have faster growth in labor productivity than its speed of ageing. This is particularly true for a country like China, which has large size of population and could not entirely rely on the productivity gains from global market.

Due to its quick demographic transition, China has been facing with the challenges of rapid ageing. In an ageing society, more resources are needed to support the livelihoods of the elderly. Meanwhile, the old people are more likely to spend more on health care, which challenges the medical care system. In addition, old people have very low participation rates in the labor market, which implies that social assistance programs may play more active role in securing the vulnerable groups.

**Demographic Transition and Ageing**

China has experienced a unique demographic transition. Both the strict population control policy and socioeconomic development have played active role in fertility declining in China, which made it possible for China to spend less time than many other countries to complete the procedure of demographic transition. It takes China about 30 years to complete the whole procedure of demographic transition that had taken more than a hundred years in most industrialized countries. Chinese demographic transition in the last century was not only to slow down the rapid growth in total population, but reflected by the impacts of changing population structure on socioeconomic developments, for instance, the dependency ratio and the composition of dependents, the structure of population at working age, the size and components of families, and the like. As a result, China has become an ageing society at the middle income country.

Figure 2 presents the changing population structure based on all the six rounds of population census conducted in China. It is obvious to see that age structure in China has
transferred from a typical triangle in 1950s and 1960s to a pyramid with shank bottom in 2010. The figure also indicates that the speed of changing age structure has accelerated in the new century. For example, the share of people older than 65 in total population increased 0.7 percentage point from 1982 to 1990, 1.4 percentage points from 1990 to 2010, and 1.9 percentage point from 2000 to 2010.

China’s population age profile contains some unique characteristics. The drastic fertility decline occurs within a relatively short time period, rarely seen elsewhere in the world. It is the uniqueness that has brought about some dramatic changes in the labor market and human capital accumulation. It also brings China to an ageing society at the stage of middle income.
Figure 2 Age Structure in the Census Years of China

Note: the horizontal axis is the percentage of total population, and the vertical axis is the age structure of population.
Sources: the various rounds of population census in China.

In 2013, more than 202.4 million persons are 60 years old or above, which accounted for 14.9% of total population in China; those who are 65 or above accounted for 9.7% of total population (NBS, 2014). It is estimated that, there will be 234 million people whose age are
60 or above and will account for 16% of total population in 2020; those who are 65 or above will account for 11.2% of total population in 2020.

As a middle income country, the challenges from ageing are obvious. One of biggest concerns is that China may not have enough economic resources to support the growing number of the elderly. Regardless of the pension schemes, every pension system transfers the output produced by labor forces to support the elderly. In this regard, it is good to know whether the pension resource is sufficient by looking at the growing pace of labor productivity and ageing.

Instead of using the actual number of workers, we measure the labor productivity by using the average output per person, and the denominator is the total number of persons aged between 22 and 59 while the nominator is GDP at constant price in 2001. There is some advantage of using the total number of persons at working age rather than the actual employment size. The former tells us the pure demographic effect of productivity changes without considering the labor market fluctuation which might be affected by various short term factors. The reason we define lower bound of the age group at 22 is because persons aged between 16 and 21 have very low labor participation rate due to the expansion of higher education (Du and Lu, 2013). We define the upper bound at age 59 because almost all workers retire when reaching age 60 according to current retirement age.

Figure 3 presents the annual growth rates of average labor productivity and of the total size of persons who are 60 years old or above. It is evident to see that the growth rates of productivity dropped dramatically in 2007 and have been keeping at lower platform. Considering that the potential economic growth rate is going to keep declining in the long run (Cai and Lu, 2014), the average labor productivity would not grow as fast as before anymore. The figure also indicates a trend of convergence between the growth rates of labor productivity and the speed of ageing, which implies that China needs to take the window of opportunity to improve its social protection system before the speed of ageing catches up the growth rate of labor productivity.

Figure 3 the Growth of Labor Productivity and Ageing
Source: authors’ calculation based on the data from China Statistical Yearbook 2013, China Statistical
Ageing and Fiscal Balance

Public expenditure on social protection system has been the increasing items in fiscal budget. However, in the fiscal balance sheet, there is no clear definition about how much the public expenditure on social protection is since a host of social programs have been managed by the government. Based on the existing information, we may calculate the public expense on the three pillars of social protection system in China, which gives us a foundation to estimate on how much the burden is if China wants to set up an integrated and universal social protection system.

Table 4 gives the breakdown of fiscal expenditure on pension system, medical care system, and the social assistance programs, which we define as the three pillars of social safety framework. Understanding this table may help us to know the fiscal burden, and, more importantly to be clear about the future direction of reforms on social protection system in terms of fiscal affordability.

The fiscal expenditure on pension system is basically composed of four parts, the subsidy to the funds of basic pension for urban workers, the subsidy to the new rural pension system, the subsidy to pensions for urban residents, and the direct expenditure on pensions for retirees from government and the public financed administrative institutions. In other words, to run the pension system at current level, the public expenditure would total RMB 729.4 billion.

As indication in the table, the largest two items are subsidy to urban worker’s pension and the payment for retirees from public financed agencies. To some great extent, these two items reflect the costs of transition in social protection system. As noted earlier in this paper, the restructuring of urban economy in 1990s has caused labor market dislocations. To protect the unemployed and the laid-offs, they have been included in the urban workers’ pension system although they had no contribution to the pension funds before. For this reason, the pension scheme is de facto pay-as-you-go system while the fiscal expenditure makes up the historical deficit.

As far as the retirees from government and public financed institutions are concerned, they are not applicable to social pension system, which means that the public finance directly pays their retirement pensions. The on-going reform is going to include the employees in the public financed institutions into the pensions system.

The public expense on medical care mainly includes the subsidies to urban worker basic medical insurance, the subsidies to the NCMS, the subsidies to urban resident medical insurance, and reimbursements for employees in government and public financed administrative institutions. The expense on medical care system totaled RMB 440.1 billion in 2013. With the contributions from employers and employees, the Urban Worker Basic Medical Insurance is near to self-financed. The largest public expense on medical insurance is the subsidies to the NCMS.

As dibao has been the pillar of social assistance program, it accounts for a large share of public expense on social assistance. In 2013, the expense on rural and urban dibao totaled RMB 162.4 billion, equivalent to 1.26% of total fiscal expense or 2.7% of fiscal revenue of
central government.

Table 4 Fiscal expenditure on the Social Protection System in 2013

<table>
<thead>
<tr>
<th></th>
<th>Expense (RMB, bln)</th>
<th>% of total fiscal expense</th>
<th>% of fiscal revenue in central government</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pension</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Basic Pension for Urban Workers</td>
<td>285.1</td>
<td>2.03</td>
<td>4.74</td>
</tr>
<tr>
<td>2. New Rural Pensions</td>
<td>109.6</td>
<td>0.78</td>
<td>1.82</td>
</tr>
<tr>
<td>3. Pensions for Urban Residents</td>
<td>13.9</td>
<td>0.10</td>
<td>0.23</td>
</tr>
<tr>
<td>4. Retirees from govt and admin. insts</td>
<td>320.8</td>
<td>2.29</td>
<td>5.33</td>
</tr>
<tr>
<td>Medical Care</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Urban Worker Basic Medical Insurance</td>
<td>10.7</td>
<td>0.08</td>
<td>0.18</td>
</tr>
<tr>
<td>6. New Cooperative Medical System</td>
<td>242.9</td>
<td>1.73</td>
<td>4.03</td>
</tr>
<tr>
<td>7. Urban Residents Medical Insurance</td>
<td>57.8</td>
<td>0.41</td>
<td>0.96</td>
</tr>
<tr>
<td>8. Employees from govt and admin. insts</td>
<td>41.6</td>
<td>0.30</td>
<td>0.69</td>
</tr>
<tr>
<td>9. Other Medical Care</td>
<td>87.1</td>
<td>0.62</td>
<td>1.45</td>
</tr>
<tr>
<td>Social Assistance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Urban <em>dibao</em></td>
<td>75.7</td>
<td>0.54</td>
<td>1.26</td>
</tr>
<tr>
<td>11. Other urban social assistance</td>
<td>7.8</td>
<td>0.06</td>
<td>0.13</td>
</tr>
<tr>
<td>12. Rural <em>dibao</em></td>
<td>86.7</td>
<td>0.62</td>
<td>1.44</td>
</tr>
<tr>
<td>13. Other rural social assistance</td>
<td>23.2</td>
<td>0.17</td>
<td>0.39</td>
</tr>
</tbody>
</table>

Source: *China Fiscal Yearbook* (various years), China Fiscal Press.

Although the definition of the expenditure on social security in the above table differs from that in the official yearbook, it is of great policy relevance to break down and regroup the items based on their roles in social protection.

As noted earlier in this paper, the three pillars play vital role in social protection system. The table gives a basis to estimate how much the public expense would be if the very basic social protection needs are met. Regardless of the difference of benefits among different groups of people, in 2013 the expenditure on social protection totaled RMB 1362.9 billion, accounting for 9.7% of the total public fiscal expense. Assuming that the central government take the full responsibility for providing basic pension, medical care, and guarantee minimum living standard, the level of expenditure would be equivalent to 22.7% of fiscal revenue of the central government in 2013. If the pension payments and medical spending on retirees from the government are not taken into account, in a narrow definition, the fiscal expense on social protection totaled RMB 1000.5 billion.

It’s plausible to expect growing public expenditure on social protection with population ageing. First of all, the expenditure on pension will be growing directly when more and more persons are eligible to withdraw pension benefits. Without considering the structural change of pension system, i.e, no additional fiscal expense to unify current systems, by 2020 the fiscal expense will total RMB 930.6 billion simply due to the effects of ageing if all the four groups of people in table 4 are kept at current level of benefits.

The expenditure on medical care will be growing with population ageing too. It is hard
to give estimates on how much the fiscal burden will increase due to the population ageing since the medical expense is determined by many other factors. Based on existing study observed from household survey data, it is possible to sketch the correlation between medical expenditure and aging. As indicated in figure 4, the old households tend to spend more of their incomes on health care.

Figure 4 Share of Medical Expenditure in Total Household Expense by Age Group

Source: adapted from Du and Wang (2012).

Every cloud has a silver lining. Despite of the challenges with ageing on fiscal burden, there is some room for China to deal with the issue by strengthening reforms on social protection system. First, to a large extent, a large share of fiscal expenditure on social protection is to subsidize the cohorts who did not own social insurance account during the period of planning economy. With demographic transition, the transitioning cohorts who had no individual contribution would account for a diminishing share, which will lessen the fiscal burden in the future. Second, the biggest item of fiscal burden is the payment to retirees from government and public financed administrative institutions. Once the ongoing reform includes these people into the social insurance system, their individual contributions will enlarge the funding pool. Third, integrating the segmented systems and raising the level of funds pool would make it possible to make better use of the resources, which may lessen the fiscal burden.

The Division of Burden between the Central and Local Governments

The central government dominates the process of social protection construction in terms of timing, policy design, and the agenda. The fiscal inputs from the central government also accounted for a larger share in total fiscal expenditure on social protection. The expenses from the central government are used in two ways, direct input to the fund pool or subsidize the local governments through special fiscal income transfers. Meanwhile, at the early stage, the central government also requires local government to share the burden.

To expand the new programs quickly, the central government subsidize the poor
regions. For example, in order to increase the coverage of New Rural Pension Programs, for those who are eligible to withdraw pension when kicking off the programs, the central government subsidizes the 100% of pension funds in Central and Western China and 50% in Eastern China. Assuming that the benefit per capita is kept at current level, a very low level of RMB 55 per month, the total fiscal burden in this item per se will reach RMB 102 billion by 2020. According to the current plan of fiscal burden division between central and local governments, the central government will take 75% of the total expenditure while the local governments will assume the rest (Cheng, 2011).

A similar case is found in operation of the NCMS. Although the NCMS was run by county, the central government started to subsidize the program at the very beginning. In 2014 the total subsidies from government to the NCMS are RMB 320 per person in every province. The subsidies from the central government are 120 for the East, 240 for the Central, and 280 for the West. Since the subsidies are transferred to local governments and spent though local accounts, it is hard to break down the total fiscal expenditure between the local and central government and give the exact number of spending from the central government for this specific program.

The central government takes the most financial responsibility of social assistance programs too. As indicated in table 5 which gives the total fiscal expenditure and the expenditure from the central government on both urban and rural dibao, in most years the share from central government accounted for 60% of the total.

<table>
<thead>
<tr>
<th>Year</th>
<th>Rural dibao Total Expense (RMB, bln)</th>
<th>From the Central (RMB, bln)</th>
<th>% of the total</th>
<th>Urban dibao Total Expense (RMB, bln)</th>
<th>From the Central (RMB, bln)</th>
<th>% of the total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>36.3</td>
<td>25.5</td>
<td>70.3</td>
<td>48.2</td>
<td>35.9</td>
<td>74.5</td>
</tr>
<tr>
<td>2010</td>
<td>44.5</td>
<td>26.9</td>
<td>60.4</td>
<td>52.5</td>
<td>36.6</td>
<td>69.7</td>
</tr>
<tr>
<td>2011</td>
<td>66.8</td>
<td>50.3</td>
<td>75.3</td>
<td>66.0</td>
<td>50.2</td>
<td>76.1</td>
</tr>
<tr>
<td>2012</td>
<td>71.8</td>
<td>43.1</td>
<td>60.1</td>
<td>67.4</td>
<td>43.9</td>
<td>65.1</td>
</tr>
<tr>
<td>2013</td>
<td>86.7</td>
<td>61.2</td>
<td>70.6</td>
<td>75.7</td>
<td>54.6</td>
<td>72.1</td>
</tr>
</tbody>
</table>

Source: *Communiqué of the Development of Civil Affairs in China* (various years), [www.mca.gov.cn](http://www.mca.gov.cn).

Although we have no breakdown information about the share of fiscal burden for each item listed in table 4, the Ministry of Finance does publicize some statistics of division of expense on social protection in more aggregated items. According to Ministry of Finance (2014), the central government totally transferred RMB 617.8 billion to the local government for basic pension funds including item 1 to 3 in table 4, dibao, and the NCMS, which account for 61.7% of government spending on the three pillars of social protection or 10% of the fiscal revenue of the central government.

V. Policy Discussions

With comprehensive coverage, China needs to improve the social protection system to deal with the two challenges, fast ageing and integration of social protection system. To
strengthen its three pillars, the social protection system might play more positive roles. The followings are main areas that should be concerned about by the policy makers.

**Productivity Improvement**

The first issue is how to allocate enough financial resources when a middle income country is facing with fast population ageing. The productivity improvement in the domestic economy is of particular importance for China. The total number of the elderly has already surpassed 200 million in 2013. It is hard to believe that China could secure so many people’s livelihoods through the investments external market, which is used by some small-sized economies. In addition, China’s de facto PAYG pension system relies on productivity improvement where current working people support the old generation. In this regard, to improve the productivity is not only economic concern, but related to how China deals with ageing.

**Basic Protection**

It is essential for China to identify what social programs should be the basic protection that is associated with citizenship, which implies that the central government should take the responsibility of providing the basic protection for all the people. As discussed in this paper, the basic programs should include the basic pension, basic medical care, and the basic social assistance (like *dibao*). By merging the programs of New Rural Pension and Urban Resident Pension, China would set up the basic pension programs. Similarly, the New Cooperative Medical System should also merge with Urban Resident Medical System to form the basic medical care program. The rural and urban *dibao* programs should merge as universal social assistance program. Once the basic protection is fully financed by the central government, it will encourage comprehensive and thorough reforms on the *hukou* system. Meanwhile, more benefits from social programs should be connected with individual contribution.

**Coverage**

The major achievement in the past decade is to include most of the rural and urban residents into the social protection system. Although the vulnerable groups have already been included into the major social programs, the retirees and employees in government and the public financed administrative institutions are still out of the schemes. By including this group of people into the social programs, their contribution will enlarge the funding pool and make the pensions system sustainable, which will ease the fiscal burden too.

**Efficiency**

To deal with population ageing, one of the vital solutions is to let the social programs run more efficiently. In the recent documents, the Chinese government has declared that the goal of reforms on social protection system is to form an integrated and sustainable social protection system. By raising the level of pooling, integration across regions and among
different departments of government agencies would make it possible to use the accumulated resource more efficiently.

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Abbreviations

NRP: New Rural Pension

URP: Urban Residents Pension

BPUW: Basic Pension for Urban Workers

BMUW: Basic Medical Insurance for Urban Workers
URMS: Urban Residents Medical System
NBS, National Bureau of Statistics
The Framework of Social Protection System in China: the Three Pillars

Social Protection System in China

Social Insurance

- Pension
  - Rural
  - URP
  - BPUW
  - NRP
- Unemployment Insurance
- Health Insurance
  - Rural
  - NCMS
  - BMUW
  - URMS
  - Urban

Social Assistance

- Poverty Reduction Programs
  - dibao
  - Others

- Rural
- Urban