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Special issue: Social security coverage extension in the People's Republic of China

- Social security coverage extension in the People's Republic of China
- Lessons from China on different approaches to pension coverage extension
- China's development of a multi-tier pension system
- The sustainability of China's Urban Employees' Pension Programme: A case of getting old before getting rich?
- Extension of social insurance coverage to informal economy workers in China: An administrative and institutional perspective
- China: Towards the introduction of dependency/long-term care insurance

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EDITORIAL

Social security coverage extension in the People's Republic of China

This special issue of the *International Social Security Review* selectively addresses questions on the development and expansion of social security programmes in the People's Republic of China (hereafter, China), as well as their longer-term financial sustainability.

The major focus of this issue's content – three articles – falls on policy design and administrative issues concerning China's multi-pillared, but fragmented, old-age pension system for workers and residents. Also addressed, in a fourth article, is the challenge of successfully extending social insurance coverage to informal and flexible workers in China. A fifth article presents new findings of a recent pilot, undertaken in a number of Chinese cities, to develop a new branch of social security coverage – dependency/long-term care insurance.

By the end of 2019, no less than 967 million people had been covered by China's basic old-age insurance, 255 million by work injury insurance, 205 million by unemployment insurance, 1.354 billion by medical insurance, and 214 million by maternity insurance.[1] These aggregated national figures of social security coverage in China are impressive.

Moving beyond these figures, an important contribution to the literature offered by this set of papers is to zoom in at the provincial level, as well as at lower levels of government, to compare and contrast the sometimes significant differences in effective coverage that exist for different groups in Chinese society. The rural-urban divide presents but one key challenge. In turn, a major overarching theme highlighted by the articles is that population ageing is increasingly a preoccupying social as well as economic policy concern in China. Therefore, and regardless of the unprecedented scale of recent achievements in extending coverage, the sustainable development of the China's social security system remains important work in progress.

Roddy McKinnon
Editor

1. Qian, X. 2020. "China's social security response to COVID-19: Wider lessons learnt for social security's contribution to social cohesion and inclusive economic development", in *International Social Security Review*, Vol. 73, No. 3.

Lessons from China on different approaches to pension coverage extension

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Abstract Achieving universal pension coverage is both an aspiration and a challenge for many developing economies. Traditional contributory schemes are less effective in extending pension coverage to workers who are not in the formal sectors of the economy. As an alternative, non-contributory schemes have gained popularity in recent years. China's pension reforms mirror this global trend. The introduction of a contribution-based pension scheme for urban employees (Employees' Pension) was followed by a scheme for rural and urban residents (Residents' Pension), which is partly government financed and partly contributory, with multiple options for premium payment. This study uses nationally representative survey data collected in 2016 to compare the inclusiveness of the two schemes. It finds that access to the Residents' Pension scheme is more equal than the Employees' Pension. Lower status workers in terms of education, employment, income and hukou-migration are more likely to participate in the Residents' Pension as opposed to the Employees' Pension, compared with higher status workers. The Chinese experience suggests that a workable solution for pension extension in low- and middle-income

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Data used in this article are from the China Labor-force Dynamics Survey (CLDS), produced by the Center for Social Science Survey at Sun Yat-sen University, Guangzhou, China. The opinions are those of the authors' alone. Please refer to css.sysu.edu.cn for more information about the CLDS data.

countries is to have a scheme that is flexible, affordable and responsive to the diverse needs of the population.

Keywords social security schemes, pension schemes, old-age benefit, coverage, China

Introduction

Achieving universal social security coverage is both an aspiration and a challenge for low- and middle-income countries. The United Nations Sustainable Development Goals reaffirm the international commitment to universal social protection, aiming to attain substantial coverage of the poor and the vulnerable by 2030. Much progress has yet to be made, given that currently less than a third of the world's population has access to comprehensive social security (ILO, 2017). The key challenge is to find effective ways to extend social security coverage to previously excluded individuals and groups (Hagemejer and McKinnon, 2013; Holzmann, 2013; McKinnon et al., 2014).

Insofar as pension coverage is concerned, policy reforms since the 1990s have achieved limited success (van Ginneken, 2010; McKinnon et al., 2014). The World Bank and other international organizations have promoted the funded defined contribution (FDC) pension model in developing countries (World Bank, 1994). By design, the FDC model seeks to make the pension system more sustainable by shifting from defined benefits to defined contributions. In practice, despite "different incentive structures that have been tried", various employee-employer contributory schemes have proved "ill-suited to remedy low pension coverage in developing countries" (Wang, Williamson and Cansoy, 2016, p. 86). Extending coverage to those working in the informal economy is a daunting challenge. The growth of informal employment in developing economies makes contributory pension coverage extension even more difficult (Alfers, Lund and Moussie, 2017).

As an alternative to the employee-employer contributory model, non-contributory social assistance schemes in the form of cash grants have gained popularity across Africa, Asia and Latin America (Aguila et al., 2016; Barrientos, 2013; Ferguson, 2015). Not premised on the attainment of formal employment, the non-contributory schemes are regarded as an inclusive and preferred approach to achieve universal social security coverage. Indeed, the 2012 International Labour Conference of the International Labour Organization adopted the Recommendation concerning National Floors of Social Protection, 2012 (No. 202), which seeks in the first instance to extend coverage to informal workers mainly through cash transfers and affordable basic health care (Alfers, Lund and Moussie, 2017; Deacon, 2013). Recommendation No. 202 is endorsed by the United Nations agencies and feeds into the 2030 Sustainable Development Goals (SDG) agenda.

The search for alternative models opens up space for research on the distributive effect of different pension schemes. Of particular interest is whether non-contributory schemes have substantially lowered the barriers to access and therefore reduced inequality in pension participation. For instance, Geri, de Santis and Moscoso (2019) show that Argentina's Pension Inclusion Plan is indeed pro-poor, while the traditional contributory scheme continues to privilege the better educated. It is also important to examine how the introduction of non-contributory schemes and related policy changes affect income distribution and welfare provision. In this vein, Alfers, Lund and Moussie (2017) raise the concern that the shift to non-contributory schemes financed by taxation may crowd out social spending for the poor and the vulnerable, thereby offsetting the redistributive impact brought by extended coverage.

This article focuses on pension extension, particularly the pattern of access. We seek to make two contributions to the literature. First, we argue that between the classic dichotomy of employee-employer contributory pension schemes and non-contributory social pension/assistance schemes there are hybrid forms that should not be ignored, theoretically or empirically. These hybrid forms are more flexible in terms of financing and eligibility than the often rigid and less affordable employee-employer contributory scheme. However, they are not typical cash-grant social assistance programmes financed by tax. Instead, they have both contributory and non-contributory components. The institutional features of these alternative schemes in general and their coverage extension effect in particular deserve greater academic attention. We use China's pension programme for rural and urban residents to make a case that hybrid contributory schemes that are financed only in part by contributions, if flexible and affordable, have a good chance of success in terms of pension coverage extension and in offering more equitable access.

Second, we analyse individual choices vis-à-vis different pension schemes in circumstances shaped by institutions and socioeconomic inequalities. The social security literature has come to stress population heterogeneity and recognize the need for social policies that respect and respond to individual differences (Hujo, Behrendt and McKinnon, 2017). In this light, the effectiveness of a particular pension scheme depends on how individuals with diverse needs, resources and capabilities view it in relation to alternative schemes. However, empirical research lags behind in this regard. A normal practice in past studies is to compare the "typical" or "average" characteristics of different groups to draw conclusions about which pension scheme is pro-poor. A more sophisticated approach is to assess the gender-, income- or education-based inequality in pension participation separately for each scheme, and then determine which one is more equitable. Yet, even this latter approach is not without shortcomings. It still relies on a flawed methodology that assesses inequality within one scheme in isolation from that of others. We thus move a step further, using multinomial regression analysis to model how individuals with varying demographic and socioeconomic characteristics join one scheme instead of another (or opt out altogether). This analytical strategy simultaneously considers different options and therefore gives a more rigorous assessment regarding which scheme individuals prefer according to their personal characteristics.

Access barriers to contributory pension coverage

We begin with a literature review of various barriers found in low- and middle-income countries that prevent substantial pension coverage extension through employee-employer contributory schemes. Three broad perspectives have emerged, which focus on institutional exclusion, market/employer exclusion, and employees' self-selection respectively. These perspectives differ in their analytical locus, but much less so in identifying the characteristics of groups/individuals with lower levels of pension participation.

The institutional exclusion perspective highlights the effect of laws, regulations, policies, and administrative practices that favour the privileged and/or exclude the disadvantaged. In many cases, the social protection system is designed in a discriminatory way, "wherein labour legislation and labour protection built upon a contributory or corporate base are exclusive" (Sojo, 2015, p. 70). Civil servants usually are the most privileged in terms of pension coverage and benefits (Kpessa, 2011). Formal workers are another group with high pension coverage. In contrast, the pension systems designed for formal sectors are ill fitted for workers in informal sectors (Ghai, 2015). Moreover, social security administration in low- and middle-income countries typically lacks the ability to ensure regulatory compliance and achieve administrative and operational excellence (Enoff and McKinnon, 2011). Consequently, the phenomenon of dualism – a small minority of insiders versus a majority of outsiders – has been widely observed in developing countries.

The market exclusion perspective focuses more on the behaviour of employers/firms. Research in this regard suggests that the problem of low pension participation in developing countries is not necessarily due to the lack of regulation or laws stipulating mandatory social insurance, but rather a result of calculative strategies adopted by employers/firms. Unlike in countries with well-established rule of law, where regulatory enforcement is taken for granted

(Gelepithis, 2018), "mandatory" social insurance in developing countries is not necessarily "mandatory" in practice (Sojo, 2015). Previous studies show diverse ways in which firms respond to "mandatory" social insurance. Nyland, Thomson and Zhu (2011) find that some Chinese firms defend their failure to comply by claiming that the policy is vague and complex. Some blame the lack of a level playing field, fearing that they risk losing competitiveness to non-compliant firms if they choose to comply. In particular, firms commonly use social insurance as a tool to recruit and retain highly sought after employees in the labour market. Moreover, Nielsen et al. (2005) find that to reduce social insurance costs and bypass labour regulations, many labour-intensive firms hire workers through employment agencies rather than through direct recruitment.

In comparison, the self-selection perspective focuses on employees rather than institutions or employers. This line of research stresses that individuals are stratified in terms of their resources and capabilities, and have changing needs over the life course. Consequently, different employees respond to pension participation in diverse ways. Based on fieldwork in Africa, Bester et al. (2008) report that individuals face competing priorities. Education, housing and childbearing often take precedence over pensions, especially when people are young. Expected life expectancy is another factor, as people with shorter life expectancy are less keen to save for retirement. Affordability matters as well, because the mandatory saving of a fixed proportion of income is a greater burden for low-income families than for those that are better off. Trust in the pension programme is another important factor. Individuals with a low level of trust are less likely to join the pension programme (van Ginneken, 2010). Individuals also take into account the degree of ease with which pension enrolees pay contributions and receive benefits (Enoff and McKinnon, 2011).

For our research purpose, we view these perspectives as complementary rather than mutually exclusive. Despite differences in the analytical locus, the three perspectives share much in common in identifying vulnerable individuals. Generally speaking, the groups of people with lower pension coverage are typically those of lower socioeconomic status, who are more likely to work in the informal sectors, have lower levels of education, and earn less income. In China, *hukou*[1] status matters as an additional factor. Rural-to-urban migrant workers in particular are singled out as a disadvantaged group. Below we briefly discuss four main markers of socioeconomic status.

1. Hukou status determines whether a person is a registered resident of a rural or an urban area in China, which in turn determines access to certain social/public services, including social security programmes.

Education. From the institutional exclusion perspective, education is closely associated with the insider-outsider dualism in pension coverage (Sojo, 2015). The less educated are more likely to access informal jobs that have weaker labour protection, leading to their low participation in contributory social security schemes. From the market/employer perspective, "retaining skilled workers has long been considered an important motive for employer provision of non-wage benefits" (Gao and Rickne, 2017, p. 761). Labour-intensive enterprises often use a dual strategy to reward highly educated workers with social insurance benefits while capping total labour costs by excluding the rest of their workers from contributory schemes (Nielsen et al., 2005; Nyland, Thomson and Zhu, 2011). Empirical studies using different survey data in China reach a similar conclusion. The rate of participation in contributory pensions is lower for the less educated, either among migrant workers or more broadly among urban employees including migrant workers (Cheng, Nielsen and Smyth, 2014; Gao, Yang and Li, 2012; Jiang, Qian and Wen, 2018; Qin, Zhuang and Liu, 2015; Xu, Guan and Yao, 2011).

Employment status. The three cited perspectives agree on the importance of employment status for access to pension coverage. According to the institutional exclusion perspective, the contributory scheme often excludes informal workers. The association between employment status – formal versus informal – and pension participation has been widely observed (van Ginneken, 2010; Holzmann, 2013; McKinnon et al., 2014). The market/employer exclusion perspective notes that many private enterprises extend social insurance only to "key" workers with much needed skills (Nyland, Thomson and Zhu, 2011), while rank-and-file workers are hired through labour dispatch agencies to avoid signing labour contracts and paying social insurance contributions (Nielsen et al., 2005). Such employment strategies inevitably lead to unequal access to social insurance even between ostensibly formal employees. The self-selection perspective sheds further light on why competing needs, cost-benefit calculations, as well as distrust of social insurance programmes often lead petty entrepreneurs or self-employed individuals to opt out of contributory schemes (Bester et al. 2008). Empirical research has shown that Chinese workers with lower pension coverage are those in the non-state sector (Cheng, Nielsen and Smyth, 2014; Qin, Zhuang and Liu, 2015), in the informal sector (Jiang, Qian and Wen, 2018), and individual business owners (Gao, Yang and Li, 2012).

Income. Both the institutional exclusion perspective and the market/employer exclusion perspective do not take income as a prerequisite or direct determinant of access to pension coverage. In comparison, the self-selection perspective suggests that low-income workers may opt out of contributory pension coverage because they have more urgent needs than saving for retirement or they find pension payments unaffordable (Bester et al., 2008). Evidence for the income effect is mixed. After controlling for education, employment status and other factors, some studies find that lower-income employees have lower pension coverage (Gao, Yang and Li, 2012; Nielsen et al., 2005), while some do not (Jiang, Qian and Wen, 2018). Research using consumption instead of income to measure socioeconomic inequality shows a positive association between household expenditure and pension participation among Chinese urban workers (Qin, Zhuang and Liu, 2015).

Hukou/migration. In China, the hukou system, which registers people as either rural or urban residents and limits certain locally provided social/public services to locally registered residents, has long been an exclusionary institution (Chan and Zhang, 1999; Wang, 2005). Unsurprisingly, migrant workers (typically, rural-urban migrant workers) do not enjoy the same social rights as local hukou holders (Ngok, 2016; Jiang, Qian and Wen, 2018). The low levels of pension coverage for rural-urban migrant workers is often explained by reference to hukou-based institutional exclusion. Likewise, the market/employer exclusion perspective provides a similar hukou-based explanation. Research, following the self-selection perspective, suggests that lack of trust in the pension programme discourages migrant workers from joining. Zhan (2011, p. 256) reports that migrant workers were "inclined to save for their own retirement and exhibited little desire to put their money in the hands of various levels of government". Echoing this finding, Huang and Guo (2017, p. 81) quote a migrant worker saying, "Because the policy is always changing and our earnings are quite low, we are very concerned that we will be cheated. To be frank, savings in the bank are more secure; who knows how our contribution has been spent!". Studies based on quantitative data have shown a negative effect of rural hukou on migrant workers' pension coverage (Gao, Yang and Li, 2012; Gao and Rickne, 2017; Park, Wu and Du, 2012; Jiang, Qian and Wen, 2018).

Pension coverage extension through the Urban and Rural Residents' Pension Scheme

China's pension system continues to evolve. Currently it has three schemes targeting different population groups. The Urban Employees' Pension Scheme is designed to cover urban enterprise employees, the Urban and Rural Residents'

Pension Scheme is for farmers and urban non-working residents,[2] and the third scheme is for civil servants and those working in public service units, the Civil Service and Public Service Unit scheme (Liu and Sun, 2016; Queisser, Reilly and Hu, 2016).[3]

The three schemes are structurally similar in that each has a social pooling account and an individual account. However, the Employees' Pension and the Residents' Pension differ markedly in financing and contribution rates. The current Civil Service and Public Service Unit scheme, set up in 2015, is modelled on the Employees' Pension. Nonetheless, empirical research shows a clearly stratified pension system, which privileges the Civil Service and Public Service Unit scheme over the Employees' Pension in terms of benefit levels, while the Residents' Pension lags far behind (Zhu and Walker, 2018). As the research interest of this article lies primarily with disadvantaged workers, in the following sections we will focus on the Employees' Pension and the Residents' Pension.

The Employees' Pension in its current form was introduced in 1997 and is an employee-employer contributory scheme (World Bank, 1997). Similar to other schemes in other developing countries, this programme proves ineffective in covering informal workers, particularly migrant workers. The National Bureau of Statistics (NBS) of China[4] began issuing annual reports on "peasant workers" – the Chinese term for rural-to-urban migrant workers – in 2008, but ceased releasing pension coverage and health insurance enrolment data after 2014, probably due to the insignificance of such programmes for migrant workers. Based on the NBS annual reports, Table 1 clearly shows that the overwhelming majority of migrant workers (over 100 million in absolute terms, or over 80 per cent) were not covered by the Employees' Pension or Health Insurance from 2008 to 2014.

A residents' scheme was established in 2009 for rural residents, followed in 2012 by a similar scheme for urban non-working residents. The two schemes were merged in 2014 to create the unified Residents' Pension. The Residents' Pension has expanded China's pension coverage in a remarkable manner (Chen and

2. For the sake of brevity, hereafter in this article, the Urban and Rural Residents' Pension Scheme is referred to as the Residents' Pension; the Urban Employees' Pension Scheme is referred to as the Employees' Pension.

3. Previously, civil servants and employees in public service units were covered by a non-contributory, defined-benefit pension scheme. The reform in 2015 changed the scheme to one that resembles the Employees' Pension (Dong and Wang, 2016; Liu and Sun, 2016; Queisser, Reilly and Hu, 2016).

4. See the National Bureau of Statistics (NBS) website for data. Social security coverage data for "peasant workers" from 2008 to 2013 are available here (in Chinese); and data for 2014 are available here (in Chinese).

Table 1. *Rate of enrolment in Employees' Pension and Health Insurance for rural-to-urban migrant workers*

	Number of migrant workers (million)	Employees' Pension (%)	Health Insurance (%)
2008	140	9.8	13.1
2009	145	7.6	12.2
2010	153	9.5	14.3
2011	159	13.9	16.7
2012	163	14.3	16.9
2013	166	15.7	17.6
2014	168	16.4	18.2

Source: National Bureau of Statistics (NBS) website for "Survey report on peasant workers" data. Social security coverage data for "peasant workers" from 2008 to 2013 are available here (in Chinese); and data for 2014 are available here (in Chinese).

Turner, 2015; Ghai, 2015; Liu and Sun, 2016; Queisser, Reilly and Hu, 2016; Zhang and Wu, 2016). By the end of 2017, the Residents' Pension had extended coverage to 513 million enrolees; coverage under the Employees' Pension has also grown, with coverage extended to more than 403 million (China Statistical Press, 2018). By any measure, China's extension of pension coverage in the past decade has been extraordinary. Some scholars claim that "China has achieved a degree of universalism … unprecedented in the non-Western world" (Liu and Sun, 2016, p. 15).

For our research purpose, it is noteworthy that the Residents' Pension is not exclusively for farmers and the urban non-working population. The Residents' Pension is also open to urban workers including migrant workers, provided they are not covered by the Employees' Pension. The pension policy also allows enrolees to transfer from the Employees' Pension to the Residents' Pension. However, there is a caveat: migrant workers cannot join the Residents' Pension in the hosting cities; rather, they have to enrol in the scheme at their place of household registration. Put another way, urban workers with a local hukou have an option of joining either the Employees' Pension or the Residents' Pension, both locally administered, while rural-to-urban migrant workers have the option of joining the Employees' Pension administered by the hosting city or the Residents' Pension in their home county.

If pension coverage extension is indeed a priority goal, the question is whether those not covered by the Employees' Pension would find the Residents' Pension worthwhile to join. To date, this question has not been sufficiently addressed. Recent research relying on descriptive analysis and aggregate data cannot separate those who have an option to join from those who do not (Ghai, 2015; Queisser, Reilly and Hu, 2016). The latter includes farmers and urban non-working residents who are not eligible for the Employees' Pension. Some studies use data collected prior to 2009, making it impossible to examine whether the Residents' Pension is better at accommodating disadvantaged workers than the Employees' Pension (Cheng, Nielsen and Smyth, 2014; Gao, Yang and Li, 2012; Gao and Rickne, 2017; Xu, Guan and Yao 2011). Studies that are more recent contrast those with and those without a pension, without making a finer distinction between the Employees' Pension and the Residents' Pension (Jiang, Qian and Wen, 2018). Moreover, many studies limit their analysis to migrant workers instead of a larger and more diverse pool of urban workers (Cheng, Nielsen and Smyth, 2014; Gao et al., 2012; Huang and Guo, 2017; Xu, Guan and Yao, 2011).

The existing literature has offered detailed descriptions of the structure, financing and pay out of the two schemes (Chen and Turner, 2015; Liu and Sun, 2016; Queisser, Reilly and Hu, 2016). Structurally, the Employees' Pension consists of two mandatory components: the social pooling account and the individual account. The social pooling account is funded by the employer. The rate of contribution has been lowered from 20 per cent of the payroll to 16 per cent in recent years. The individual account is funded by the employee at the rate of 8 per cent of his or her payroll. The employee-employer contribution period is subject to a minimum of 15 years. Upon reaching the retirement age (normally, 60 years for men, 55 for female white-collar workers, and 50 for female blue-collar workers), pensioners receive a monthly pension based on a formula that considers the average local wage in the previous year, the average individual monthly wage used to calculate the contribution, and the number of years of contribution (Queisser, Reilly and Hu, 2016).

The Residents' Pension is voluntary for those aged 16 or older. Structurally it also consists of two accounts: the basic pension account and the individual account. However, it differs substantially from the Employees' Pension in terms of financing. The basic pension account is fully financed by the government, either entirely by the central government (for central and western provinces) or jointly by the central government and local governments (for eastern provinces). In comparison, the individual account is financed from a variety of sources, including local government subsidies, matching contributions from village collectives and/or village enterprises, and individual contributions. Individuals can choose to pay between CYN 100 (Chinese yuan) and CNY 2,000 annually, with the optional rates differentiated by increments of CNY 100, subject to local variations in the minimum and maximum contribution (Queisser, Reilly and Hu, 2016). The pensionable age is 60 for both men and women, subject to a minimum of 15 years of contribution. The monthly pension includes both the basic pension (a flat-rate benefit funded from the social pooling account) and an additional pension (calculated by dividing the balance of the individual account at the time of retirement by 139).

Clearly, the two schemes are different in institutional design. The Employees' Pension is de jure mandatory, financed by contributions from employers and employees at fixed rates. In contrast, the Residents' Pension is voluntary, comprising a social pension component and a contributory one. The contribution rate is not fixed. Individuals can choose an affordable amount from a list of options.

Given these differences, the question is whether the new features of the Residents' Pension can attract workers not covered by the Employees' Pension. Specifically, we ask how urban workers might choose between the two schemes and whether socioeconomic status affects their choice behaviour.

We derive two sets of testable hypotheses. The first set concerns the effect of variables measuring socioeconomic status – education, employment status, income, and hukou/migration status – on the likelihood of joining the Residents' Pension as opposed to the Employees' Pension. Our earlier literature review suggests that institutional exclusion, market/employer exclusion and self-selection function to exclude or discourage from joining the Employees' Pension those with lower levels of education, who work in the informal sectors, earn lower levels of income, and hold a rural hukou. We argue that the three cited mechanisms work markedly differently as regards the Residents' Pension.

On the one hand, the first two – institutional exclusion and market/employer exclusion – are entirely absent. Institutionally, the Residents' Pension is voluntary and inclusive, open to any working and non-working adults under conditions unrelated to education, employment status, income, or hukou/migration status. Furthermore, it does not involve employers. Unlike the Employees' Pension, exclusionary institutions and/or employers cannot act as barriers for access to the Residents' Pension. On the other hand, the self-selection mechanism is highly likely to work in a different way for the Residents' Pension than for the Employees' Pension. Given that workers of lower socioeconomic status have diverse needs and prioritize affordability, the Employees' Pension is obviously ill suited due to the feature of fixed high contribution rates. By comparison, the Residents' Pension would better meet these workers' need for a flexible and affordable pension plan. Taken together, we hypothesize that: *the effect of education, employment status, income, and hukou/migration status is considerably smaller on participation in the Residents' Pension than for the Employees' Pension*.

The second set of hypotheses concerns the interaction effect of hukou/migration status and other variables such as education, employment status and income on the likelihood of joining the Residents' Pension versus the Employees' Pension. Essentially, it is about whether the pattern of access posited in the first set of hypotheses varies between rural-to-urban migrant workers and workers with urban hukou (hereafter, urban hukou workers). Given that institutional exclusion and market/employer exclusion are often based on workers' hukou status, the Employees' Pension should disadvantage migrant workers with lower socioeconomic status more than urban hukou workers with comparable characteristics. By the same token, if the Residents' Pension effectively removes these exclusionary factors, it should benefit the disadvantaged migrant workers more than comparable urban hukou workers. Hence, we hypothesize that: *the effect of education, employment status and income on participation in the Residents' Pension versus the Employees' Pension varies between rural migrant workers and urban hukou workers*. More specifically: *while the Residents' Pension is more accommodating for lower status workers than the Employees' Pension, its equalization effect is even larger for lower status migrant workers compared with lower status urban hukou workers*.

Data, variables and descriptive analysis

Data

We use the 2016 wave of the China Labor-force Dynamics Survey (CLDS), collected by the Center for Social Science Survey at Sun Yat-sen University in Guangzhou, China. CLDS is a nationally representative survey, covering 29 provinces in mainland China except Tibet and Hainan. It followed the multistage cluster, stratified, PPS (probability proportional to size) sampling method. Family members aged 15–64 in the selected households were all interviewed. Those aged 65 or older were also interviewed if they had been working at the time of the survey. One of the most widely used data sets regarding China's labour force, CLDS has detailed information on respondents' demographics, migration history, employment, and social insurance participation, making it particularly useful for this research.

The 2016 wave of CLDS has a sample size of 21,086. We exclude those who were in schools in 2016 and those younger than age 16, who were not eligible for the Residents' Pension. For our research purpose, we focus on interviewees who had active employment in cities at the time of the survey, because they are the only ones who were eligible for either the Employees' Pension or Residents' Pension. This means that we have to exclude urban non-working residents as well as non-migrant rural hukou holders. Members of these groups are not eligible for the Employees' Pension. This leaves us with 4,189 cases, comprised of 3,214 urban hukou holders and 975 rural migrant workers.

Variables and measurement

Our dependent variable is *pension participation*. The survey asked respondents a set of questions regarding whether they were covered by a pension provided by any of the following:[5]

- Work unit
- Urban Employees' Pension Scheme
- Urban Residents' Pension Scheme
- Rural Residents' Pension Scheme
- Urban–Rural Residents' Pension Scheme
- Commercial pension products

We created a multinomial variable for pension participation, coded 1 if the respondent was covered by pension provided by the work unit or the Urban Employees' Pension Scheme coded 2 if covered by the Urban Residents' Pension Scheme, the Rural Residents' Pension Scheme, or the Urban-Rural Residents' Pension Scheme and coded 0 for the remaining cases. Clearly, category 1 indicates participation in the Employees' Pension, category 2 the Residents' Pension, and the rest are cases not covered by either of these two.

Independent variables are *education*, *employment status*, *income*, and *hukou–migration*. *Education* is measured by the respondent's self-reported highest level of education, including primary education or lower (the reference group), junior secondary, senior secondary, and college. *Employment status* is a measure of the respondent's current employment based on a number of questions asked in the survey. We made the first cut based on the question that asked the respondent to self-identify his or her current employment as an employee, an employer (hiring one or more workers), as self-employed (without hiring any worker), or as a farmer. Since our analysis excludes farmers, our first cut divided respondents into one of the three categories: employee, employer, and self-employed (the reference group). We then made the second cut by dividing employees into formal employees and informal employees. One question asked those working in the public sector (such as for the Communist Party of China and government agencies, public service units, and state-owned or collective-owned enterprises) whether they were employed in a budgeted post (*bianzhi* in Chinese). We classified those with a budgeted post as formal employees. Other employees in the public sector were coded as informal employees.

5. The Rural Residents' Pension Scheme (established in 2009) and the Urban Residents' Pension Scheme (established in 2012) were merged in 2014 to create the Urban–Rural Residents' Pension Scheme. Based on the classification given by the China Labor-force Dynamics Survey (CLDS), the pension provided by the work unit refers to the pension paid out of government budget for employees in government agencies and public service units. Starting from 2015, it was reformed into a contributory scheme that resembles the Urban Employees' Pension Scheme.

For employees in the private sector, we distinguished between formal and informal employees based on the question that asked respondents to report whether they had complete, partial or no autonomy in deciding the scope, pace and intensity/amount of work. We coded those with complete and partial autonomy as formal employees, and the rest as informal employees.

Income is measured based on respondents' self-reported income from all sources in 2015. We ranked respondents and divided them into one of four groups: high income (the highest quartile); upper middle income (the second quartile); lower middle income (the third quartile); and low income (the bottom quartile and the reference group). *Hukou-migration* is a dummy, coded 1 if the respondent is a rural migrant worker. The reference group comprises urban hukou workers.

Control variables include *gender*, *marriage*, *age*, and *province* dummies. Regarding the gender effect on pension participation, previous studies have produced mixed results. Some find a female advantage (Jiang, Qian and Wen, 2018; Qin, Zhuang and Liu, 2015; Xu, Guan and Yao, 2011), while some find no gender effect (Gao and Rickne, 2017; Nielsen et al., 2005). Few studies have examined the effect of marital status on pension participation, with one reporting no effect (Xu, Guan and Yao, 2011). Age is measured either as a continuous variable or as a set of cohort dummies in the literature. Some studies show a positive age effect (Gao and Rickne, 2017; Jiang, Qian and Wen, 2018; Qin, Zhuang and Liu, 2015); some find no effect (Nielsen et al., 2005; Xu, Guan and Yao, 2011). Age is measured as a set of dummies in our analysis, including cohort 1 (born 1950–1959), cohort 2 (born 1960–1969), cohort 3 (born 1970–1979), cohort 4 (born 1980–1989), and cohort 5 (born in 1990 or after). The youngest cohort is the reference group. We measure age in this way to capture the intergenerational difference.[6]

Descriptive analysis

Table 2 presents the descriptive analysis of dependent, independent and control variables. While all respondents in our analysis are eligible for the Employees' Pension, Table 1 shows that only 53 per cent have actually joined. In line with the literature, this finding suggests that the employee-employer contributory scheme is indeed much less inclusive than expected. Notably, 30 per cent of respondents have participated in the Residents' Pension, suggesting that it plays a sizable role in pension coverage extension among working adults.

6. In China, the term "post-80" has been coined for those born in the 1980s, who are believed to have distinctive outlooks from older generations. Likewise, the term "post-90" has appeared to express the identity of those born in the 1990s as distinct from that of the "post-80" generation. Similarly, China's National Bureau of Statistics uses the term "new generation peasant workers" to denote rural migrant workers born in 1980 and after.

Table 2. *Descriptive analysis of main variables*

	Mean	S.D.	Min	Max
Pension participation				
Employees' pension	0.53	0.50	0	1
Residents' pension	0.30	0.46	0	1
Male	0.54	0.50	0	1
Married	0.85	0.36	0	1
Age cohort				
cohort 1 (born between 1950 and 1959)	0.07	0.25	0	1
cohort 2 (born between 1960 and 1969)	0.25	0.43	0	1
cohort 3 (born between 1970 and 1979)	0.31	0.46	0	1
cohort 4 (born between 1980 and 1989)	0.27	0.44	0	1
cohort 5 (born in 1990 and after)	0.11	0.32	0	1
Education				
primary and below	0.09	0.29	0	1
junior secondary	0.27	0.44	0	1
senior secondary	0.26	0.44	0	1
college	0.38	0.48	0	1
Employment status				
formal employee	0.53	0.46	0	1
informal employee	0.28	0.50	0	1
employer	0.04	0.19	0	1
self-employed	0.15	0.41	0	1
Income Quartile				
high income	0.23	0.42	0	1
upper middle income	0.29	0.45	0	1
lower middle income	0.25	0.43	0	1
low income	0.23	0.42	0	1
Hukou-migration				
rural migrant	0.23	0.42	0	1
urban hukou holder	0.76	0.42	0	1

Note: *N*=4,189.

Source: Data derived from the 2016 wave of China Labor-force Dynamics Survey (CLDS), collected by the Center for Social Science Survey at Sun Yat-sen University in Guangzhou, China. Please refer to css.sysu.edu.cn for more information about the CLDS data.

Table 3. *Pension participation (%) by hukou-migration type*

	Employees' pension	Residents' pension
Rural migrant (*n*=975)	21.5	31.4
Urban hukou holder (*n*=3,214)	62.0	29.0

Source: Data derived from the 2016 wave of China Labor-force Dynamics Survey (CLDS), collected by the Center for Social Science Survey at Sun Yat-sen University in Guangzhou, China. Please refer to http://css.sysu.edu.cn for more information about the CLDS data.

Table 2 also shows that the respondents are diverse or stratified in terms of education, employment, income, and hukou status. It is worth noting that formal employees make up slightly over half of the urban workforce in our sample. Informal employees account for 28 per cent. About 15 per cent of respondents are self-employed, and the remaining 4 per cent are employers. Where hukou status is concerned, 23 per cent are rural migrant workers, which represents a sizable minority of the urban workforce.

Table 3 shows the cross-tabulation between pension participation and hukou status. It is clear that the extent of pension coverage and the pattern of pension participation differ markedly between rural migrant workers and urban hukou workers. The former are still far from being universally covered, totalling 52.9 per cent when participation in both the Employees' Pension and the Residents' Pension are combined. The latter have achieved a high coverage of 91 per cent. Another difference is that the former are less likely to join the Employees' Pension than the Residents' Pension (21.5 per cent versus 31.4 per cent), and the latter are more likely to join the Employees' Pension than and Residents' Pension (62.0 per cent versus 29.0 per cent).

Multinomial regression analysis

Finding 1: More equal participation in the Residents' Pension than in the Employees' Pension

Table 4 presents results from the multinomial regression analysis of pension participation. We report odds ratios so that a variable has a positive effect if its coefficient is greater than 1, thus statistically significant. Model 1 compares participation in the Employees' Pension versus no pension; Model 2 compares participation in the Residents' Pension versus no pension; and Model 3 compares participation in the Employees' Pension versus the Residents' Pension. In line with the majority of past studies (Jiang, Qian and Wen, 2018;

Table 4. *Multinomial regression analysis of pension participation among people with active employment in urban China*

	Model 1	Model 2	Model 3
	Employees' pension vs. no pension	Residents' pension vs. no pension	Employees' pension vs. Residents' pension
male	0.77** (.07)	0.86+ (.08)	0.90 (.08)
married	1.30+ (.19)	1.28+ (.14)	1.01 (.15)
Age cohort[1]			
cohort 1	8.87*** (2.27)	6.07*** (1.51)	1.46 (.36)
cohort 2	7.00*** (1.37)	5.50*** (1.07)	1.27 (.26)
cohort 3	3.95*** (.73)	3.49*** (.64)	1.13 (.22)
cohort 4	2.22*** (.37)	2.35*** (.40)	0.94 (.17)
Education[2]			
junior secondary	3.14*** (.65)	1.36* (.19)	2.31*** (.48)
senior secondary	5.80*** (1.24)	1.79*** (.28)	3.24*** (.68)
college	13.35*** (3.05)	2.79*** (.50)	4.79*** (1.06)
Employment status[3]			
formal employee	7.41*** (1.22)	1.14 (.13)	6.50*** (1.04)
informal employee	6.01*** (1.03)	1.17 (.14)	5.12*** (.86)
employer	1.53 (.42)	1.08 (.23)	1.42 (.36)
Income quartile[4]			
high income	3.08*** (.47)	1.85*** (.27)	1.67*** (.24)
upper middle income	2.91*** (.38)	1.61*** (.20)	1.81*** (.23)
lower middle income	1.99*** (.25)	1.45*** (.17)	1.37** (.17)
Hukou-migration[5]			
rural migrant	0.36*** (.05)	0.77* (.09)	0.47*** (.06)
Pseudo R2	0.17	0.17	0.17

Notes: N=4,189; odds ratios are reported; standard errors are in parentheses. [1] reference group is primary education and below; [2] reference group is cohort 5 (born in 1990 and after); [3] reference group is the self-employed; [4] reference group is low income; [5] reference group is urban hukou holder. *** $p<.001$, ** $p<.01$, * $p<.05$, + $p<.10$.

Source: Data derived from the 2016 wave of China Labor-force Dynamics Survey (CLDS), collected by the Center for Social Science Survey at Sun Yat-sen University in Guangzhou, China. Please refer to http://css.sysu.edu.cn for more information about the CLDS data.

Qin, Zhuang and Liu, 2015; Xu, Guan and Yao, 2011), we find a female advantage in pension participation, regardless of whether it is for the Employees' Pension or the Residents' Pension. However, we find no gender effect between the two pension schemes. A similar pattern is found for marital status. Those who are married are more likely to join the Employees' Pension or the Residents' Pension, but are as likely as those who are not married to participate in the Employees' Pension versus the Residents' Pension. Regarding the age effect, it is noteworthy that the older cohorts are considerably more likely to join the Employees' Pension or the Residents' Pension than younger cohorts. All other things being equal, cohort 1 – the group of those born in the 1950s – is 8.87 times more likely than the youngest cohort (the "post-90" generation) to join the Employees' Pension, and 6.07 times more likely to join the Residents' Pension. However, there are no intergenerational differences in preferring the Employees' Pension over the Residents' Pension, or vice versa.

The primary focus of our research is the effect of socioeconomic status on pension participation. In our analysis, socioeconomic status is measured by education, employment status, income, and hukou/migration status. We have argued that the Residents' Pension is categorically different from the Employees' Pension in terms of the structure, financing and pension benefits. Consequently, institutional exclusion and market/employer exclusion, which disadvantage urban workers of lower socioeconomic status in gaining access to the Employees' Pension, are absent in the Residents' Pension. Moreover, self-selection works differently between the two schemes. It tends to discourage urban workers of lower socioeconomic status from joining the Employees' Pension, but much less so for the Residents' Pension. Our first set of hypotheses therefore posits that participation is more equal in the Residents' Pension than for the Employees' Pension between groups with different socioeconomic status.

Table 4 presents solid evidence for this. Model 1 shows that in line with previous research, access to the Employees' Pension is highly unequal when comparing the more and the less educated, between formal employees and other groups, between higher and lower income groups, and between rural migrant workers and urban hukou workers. Within such broad patterns, our analysis also shows that the difference between formal employees and informal employees is substantially smaller than the difference between employers and self-employed individuals. Where income stratification is concerned, our analysis shows that the sharpest distinction is between the bottom quartile and the higher income groups.

Model 2 shows a considerably smaller gap in access to the Residents' Pension in each of the four dimensions of socioeconomic status. For instance, those with at least college education are 13.35 times more likely than those with primary (or no) education to participate in the Employees' Pension, but only 2.79 times more likely to participate in the Residents' Pension. Formal employees are 7.41 times more likely than self-employed individuals to join the Employees' Pension, but the difference disappears in the Residents' Pension. Rural migrant workers are 36 per cent as likely as urban hukou workers to be covered by the

Employees' Pension, and 77 per cent as likely in the case of the Residents' Pension. This would indicate that while rural migrant workers have disadvantaged access to both the Employees' Pension and the Residents' Pension, the latter is more accommodating than the former.

Model 3 compares participation in the Employees' Pension versus the Residents' Pension. It shows clearly that education has a large effect on access, and the effect is larger for those with a higher level of education. Our results show that the less educated are less disadvantaged in gaining access to the Residents' Pension than to the Employees' Pension. Employment status also matters for participation. Formal employees and informal employees are more likely than employers and self-employed individuals to join the Employees' Pension rather than the Residents' Pension. Income is another factor that affects pension participation. Those in the upper middle income quartile are 81 per cent more likely than those in the bottom quartile to join the Employees' Pension rather than the Residents' Pension; as are, in turn, those in the top quartile and those in the lower middle income quartile. Where the effect of hukou-migration is concerned, rural migrant workers are 47 per cent as likely as urban hukou workers to participate in the Employees' Pension rather than the Residents' Pension. To varying extents, the Residents' Pension is more accommodating than the Employees' Pension for those with lower education levels, the self-employed and employers, lower income earners, and rural migrant workers. Given the finding that access to the Residents' Pension is considerably more equal across groups stratified by education, employment status, income, or hukou-migration, the first set of hypotheses is strongly supported.

Finding 2: The Residents' Pension is more accommodating to lower status rural migrant workers than is the Employees' Pension

Table 4 treats rural migrant workers as a homogeneous group. Field studies highlight that they are heterogeneous in terms of education, employment, income, aspiration, needs, and so on (Huang and Guo 2017; Li, 2006; Zhan, 2011). In subsequent analyses, we take the heterogeneity of rural migrant workers into account by considering an interaction term, between hukou-migration and education, employment status, and income, respectively. Results from these analyses are used to test our second set of hypotheses that lower status rural migrant workers are less disadvantaged in accessing the Residents' Pension than the Employees' Pension, compared with urban hukou workers of similar status.

Table 5 reports results from the multinomial regression analysis with the interaction term between hukou-migration and education. We focus on Model 3, which compares the odds ratio of participation in the Employees' Pension versus

Table 5. *Multinomial regression of pension participation among people with active employment in urban China, with the interaction term of hukou-migration and education*

	Model 1	Model 2	Model 3
	Employees' pension vs. no pension	Residents' pension vs. no pension	Employees' pension vs. Residents' pension
male	0.78** (.07)	0.98+ (.08)	0.91 (.08)
married	1.31+ (.19)	1.29+ (0.19)	1.02 (.15)
Age cohort[1]			
cohort 1	8.78*** (2.26)	6.09*** (1.52)	1.44 (.35)
cohort 2	7.22*** (1.42)	5.61*** (1.10)	1.29 (.26)
cohort 3	4.17*** (.78)	3.61*** (.67)	1.15 (.23)
cohort 4	2.31*** (.39)	2.42*** (.41)	0.96 (.18)
Education[2]			
junior secondary	2.40*** (.64)	1.30 (.29)	1.84* (.47)
senior secondary	4.14*** (.78)	1.55* (.35)	2.67*** (.68)
college	8.83*** (2.44)	2.33*** (.55)	3.79*** (.99)
Employment[3]			
formal employee	7.45*** (1.23)	1.15 (.14)	6.50*** (1.03)
informal employee	6.05*** (1.04)	1.18 (.14)	5.14*** (.86)
employer	1.52 (.41)	1.08 (.23)	1.41 (.36)
Income quartile[4]			
high income	3.13*** (.48)	1.86*** (.27)	1.68*** (.24)
upper middle income	2.99*** (.39)	1.64*** (.20)	1.82*** (.23)
lower middle income	2.03*** (.26)	1.47*** (.17)	1.38** (.17)
Hukou-migration[5]			
rural migrant	0.16*** (.07)	0.65+ (.16)	0.25*** (.10)
Interaction terms			
rural migrant * junior secondary	1.82 (.81)	1.00 (.29)	1.83 (.82)
rural migrant * senior secondary	2.11 (.98)	1.34 (.43)	1.57 (.73)
rural migrant * college	4.70*** (2.25)	1.88+ (.69)	2.50* (1.19)
Pseudo R2	0.17	0.17	0.17

Notes: N=4,189; odds ratios are reported; standard errors are in parentheses. [1] reference group is primary education and below; [2] reference group is cohort 5 (born in 1990 and after); [3] reference group is the self-employed; [4] reference group is low income; 5 reference group is urban hukou holder. *** p<.001, ** p<.01, * p<.05, + p<.10.

Source: Data derived from the 2016 wave of China Labor-force Dynamics Survey (CLDS), collected by the Center for Social Science Survey at Sun Yat-sen University in Guangzhou, China. Please refer to http://css.sysu.edu.cn for more information about the CLDS data.

the Residents' Pension. It shows that rural migrant workers are 25 per cent as likely as urban hukou workers to participate in the Employees' Pension rather than the Residents' Pension. The large gap does not change until the educational level of rural migrant workers increases to college level. Among the college educated, rural migrant workers are 62.5 per cent ($0.25 \times 2.50 = 0.625$) as likely as urban hukou workers to join the Employees' Pension as opposed to the Residents' Pension. This would suggest that rural migrant workers require college education to partially overcome their disadvantage in gaining access to the Employees' Pension.

If we use urban hukou workers with primary or no education as the reference group, rural migrant workers with primary or no education are 25 per cent as likely to join the Employees' Pension as opposed to the Residents' Pension. The odds ratio increases to 46 per cent ($1.84 \times 0.25 = 0.46$) for rural migrant workers with junior secondary education; 184 per cent for urban hukou workers with junior secondary education; 67 per cent ($2.67 \times 0.25 \approx 0.67$) for rural migrant workers with senior secondary education; 267 per cent for urban hukou workers with senior secondary education; 237 per cent ($3.79 \times 0.25 \times 2.50 \approx 2.37$) for rural migrant workers with college education; and 379 per cent for urban hukou workers with college education. Clearly, rural migrant workers with lower levels of education are much less likely to be covered by the Employees' Pension as opposed to the Residents' Pension. Put alternatively, the Residents' Pension is more accommodating to the less educated rural migrant workers than the Employees' Pension. This finding evidently supports our second set of hypotheses.

Table 6 addresses the interaction term between hukou-migration and employment status. The statistically significant interaction effects in Model 3 suggest that the impact of employment status on participation in the Employees' Pension as opposed to the Residents' Pension indeed varies between rural migrant workers and urban hukou workers. If we use self-employed urban hukou holders as the reference group, self-employed rural migrants are 21 per cent as likely to join the Employees' Pension as opposed to the Residents' Pension. The odds ratio is 98 per cent ($0.21 \times 4.69 \approx 0.98$) for the group of rural migrants who are employers; 100 per cent for the group of urban hukou holders who are employers; 257 per cent for the group of rural migrants who are informal employees ($4.22 \times 0.21 \times 2.90 \approx 2.57$); 422 per cent for the group of urban hukou holders who are informal employees; 261 per cent for the group of rural migrants who are formal employees ($5.53 \times 0.21 \times 2.25 \approx 2.61$); and 553 per cent for the group of urban hukou holders who are formal employees.

The comparison shows that among all groups, self-employed rural migrants are the least likely to join the Employees' Pension as opposed to the Residents' Pension. Next, self-employed urban hukou holders and the group of employers (regardless of being rural migrants or urban hukou holders) are much alike in their preference. They are more likely than self-employed rural migrants but less likely

Table 6. *Multinomial regression of pension participation among people with active employment in urban China, with the interaction term of hukou-migration and employment status*

	Model 1	Model 2	Model 3
	Employees' pension vs. no pension	Residents' pension vs. no pension	Employees' pension vs. Residents' pension
male	0.77** (.07)	0.86+ (.08)	0.90 (.08)
married	1.29+ (.19)	1.28+ (.19)	1.01 (.15)
Age cohort[1]			
cohort 1	8.96*** (2.30)	6.02*** (1.50)	1.49 (.36)
cohort 2	7.02*** (1.38)	5.39*** (1.05)	1.30 (.26)
cohort 3	3.94*** (.73)	3.41*** (.63)	1.15 (.23)
cohort 4	2.22*** (.37)	2.33*** (.39)	0.95 (.17)
Education[2]			
junior secondary	3.18*** (.66)	1.37* (.20)	2.32*** (.48)
senior secondary	5.91*** (1.26)	1.80*** (.28)	3.27*** (.69)
college	13.40*** (3.06)	2.75*** (.50)	4.88*** (1.08)
Employment[3]			
formal employee	7.44*** (1.36)	1.34* (.20)	5.53*** (.96)
informal employee	5.40*** (1.04)	1.28 (.20)	4.22*** (.78)
employer	1.40 (.42)	1.26 (.31)	1.11 (.31)
Income quartile[4]			
high income	3.07*** (.47)	1.84*** (.27)	1.66*** (.24)
upper middle income	2.91*** (.38)	1.60*** (.20)	1.81*** (.23)
lower middle income	1.97*** (.25)	1.44** (.17)	1.37** (.17)
Hukou-migration[5]			
rural migrant	0.21*** (.09)	0.99 (.18)	0.21*** (.10)
Interaction terms			
rural migrant * formal employee	1.44 (.69)	0.64+ (.15)	2.25+(1.09)
rural migrant * informal employee	2.29+(1.12)	0.79 (.19)	2.90* (1.42)
rural migrant * employer	2.80 (2.07)	0.60 (.29)	4.69* (3.50)
Pseudo R2	0.17	0.17	0.17

Notes: N=4,189; odds ratios are reported; standard errors are in parentheses. [1] reference group is primary education and below; [2] reference group is cohort 5 (born in 1990 and after); [3] reference group is the self-employed; [4] reference group is low income; [5] reference group is urban hukou holder. *** p<.001, ** p<.01, * p<.05, + p<.10.

Source: Data derived from the 2016 wave of China Labor-force Dynamics Survey (CLDS), collected by the Center for Social Science Survey at Sun Yat-sen University in Guangzhou, China. Please refer to http://css.sysu.edu.cn for more information about the CLDS data.

Table 7. *Multinomial regression of pension participation among people with active employment in urban China, with the interaction term of hukou-migration and income quartile*

	Model 1	Model 2	Model 3
	Employees' pension vs. no pension	Residents' pension vs. no pension	Employees' pension vs. Residents' pension
male	0.78** (.07)	0.86+ (.08)	0.90 (.08)
married	1.30+ (.19)	1.28+ (.19)	1.01 (.15)
Age cohort[1]			
cohort 1	8.83*** (2.27)	6.07*** (1.51)	1.46 (.36)
cohort 2	6.97*** (1.37)	5.52*** (1.07)	1.26 (.25)
cohort 3	3.93*** (.73)	3.50*** (.65)	1.12 (.22)
cohort 4	2.20*** (.37)	2.35*** (.40)	0.94 (.17)
Education[2]			
junior secondary	3.16*** (.66)	1.35*** (.19)	2.34*** (.49)
senior secondary	5.85*** (1.26)	1.80*** (.29)	3.25*** (.69)
college	13.68*** (3.13)	2.81*** (.51)	4.87*** (1.08)
Employment[3]			
formal employee	7.47*** (1.23)	1.14 (.13)	6.54*** (1.04)
informal employee	6.01*** (1.03)	1.17 (.14)	5.14*** (.86)
employer	1.56 (.42)	1.10 (.24)	1.42 (.36)
Income quartile[4]			
high income	2.60*** (.44)	1.79*** (.30)	1.45** (.22)
upper middle income	2.48*** (.36)	1.35* (.20)	1.83*** (.25)
lower middle income	1.66*** (.24)	1.36* (.19)	1.22 (.16)
Hukou-migration[5]			
rural migrant	0.15*** (.05)	0.67* (.12)	0.22*** (.07)
Interaction terms			
rural migrant* high income	3.54** (1.42)	0.97 (.27)	3.66** (1.50)
rural migrant* upper middle income	2.42* (.93)	1.64* (.41)	1.47 (.57)
rural migrant* lower middle income	3.50*** (1.33)	1.14 (.28)	3.07** (1.21)
Pseudo R2	0.17	0.17	0.17

Notes: N=4,189; odds ratios are reported; standard errors are in parentheses. [1] reference group is primary education and below; [2] reference group is cohort 5 (born in 1990 and after); [3] reference group is the self-employed; [4] reference group is low income; [5] reference group is urban hukou holder. *** $p<.001$, ** $p<.01$, * $p<.05$, + $p<.10$.

Source: Data derived from the 2016 wave of China Labor-force Dynamics Survey (CLDS), collected by the Center for Social Science Survey at Sun Yat-sen University in Guangzhou, China. Please refer to http://css.sysu.edu.cn for more information about the CLDS data.

than employees to join the Employees' Pension versus the Residents' Pension. Among employees, in ascending order, rural migrants who are informal employees or formal employees, urban hukou holders who are informal employees, and urban hukou holders who are formal employees are increasingly more likely to join the Employees' Pension than the Residents' Pension. Conversely, the Residents' Pension is more accommodating to the group of self-employed rural migrants than any other group. This finding fits well with our second set of analyses. Overall, except for the group of employers, in which rural migrants and urban hukou holders have little difference in choosing the pension scheme, the odd ratio of participation in the Residents' Pension as opposed to the Employees' Pension is always higher for rural migrant workers than for urban hukou holders when they have the same employment status.

Table 7 changes the interaction term to hukou-migration and income quartile. Model 3 compares the odds ratio of participation in the Employees' Pension versus Residents' Pension. If we combine the main effect of income quartile and hukou-migration and their interaction effect, we find that rural migrant workers in the bottom income quartile are the most disadvantaged group in terms of participation in the Employees' Pension as opposed to the Residents' Pension. If urban hukou workers in the lowest income quartile are used as the comparison group, rural migrant workers in the lowest income quartile are 22 per cent as likely to join the Employees' Pension as opposed to the Residents' Pension. The odds ratio increases to 67.5 per cent ($0.22 \times 3.07 \approx 0.675$) for rural migrant workers in the lower middle income quartile; 100 per cent for urban hukou workers in the lower middle income quartile; 40.3 per cent ($1.83 \times 0.22 \approx 0.403$) for rural migrant workers in the upper middle income quartile; 183 per cent for urban hukou workers in the upper middle income quartile; 117 per cent ($1.45 \times 0.22 \times 3.66 \approx 1.17$) for rural migrant workers in the top income quartile; and 145 per cent for urban hukou workers in the top income quartile. Conversely, among those who are covered by either the Employees' Pension or the Residents' Pension, rural migrant workers in the lowest income quartile are more likely to choose the Residents' Pension than any other groups. Seen in this light, Model 3 in Table 7 lends some support to our second set of hypotheses that the Residents' Pension is more accommodating to lower status rural migrant workers than the Employees' Pension, even though groups in the middle income quartiles do not neatly follow this pattern.

Conclusion and discussion

Similar to many developing economies, achieving universal pension coverage is both an aspiration and a challenge for China. To make progress in this regard, China set up a contributory pension system for urban employees in 1997. To achieve universal coverage, China established a scheme for rural residents (since 2009) and urban residents (since 2012) partly financed by government as well as being contributory. As of 2014, the merged Residents' Pension has a social pension component and a contributory component that also allows participants to choose the amount of contribution. Another notable feature is that coverage is open to all, including urban employees who are excluded from, or who opt out of, the Employees' Pension. China's pension reforms, therefore, provide a quasi-experiment for a rigorous test of the effects of pension schemes built on different principles with different features for pension coverage extension, particularly as regards individuals/groups of lower socioeconomic status.

Based on nationally representative survey data collected in China in 2016, we have analysed how those eligible for both the Employees' Pension and the Residents' Pension decide on the nature of their pension participation. We have paid special attention to lower status individuals, namely those with lower levels of education, those in informal employment or self-employment, and with lower earnings. Our main findings are twofold.

First, access to the Residents' Pension is more equal than for the Employees' Pension. The participation gap between the more educated and the less educated is considerably smaller in the Residents' Pension than in the Employees' Pension. The same pattern is found across groups with different employment status, in different income quartiles, and between rural migrant workers and urban hukou holders. Among those who have joined the Employees' Pension or the Residents' Pension, those with lower levels of education are more likely than the more educated to choose the Residents' Pension (as opposed to the Employees' Pension). Similarly, self-employed individuals and employers are more likely than formal employees and informal employees to join the Residents' Pension; just as those in the lower income quartiles are more likely to do so than those in the upper quartiles, and rural migrant workers are more likely than urban hukou holders.

Second, we find that lower status rural migrant workers are less disadvantaged in joining the Residents' scheme than the Employees' Pension. Our analysis shows that a lower status rural migrant worker is triply disadvantaged in gaining access to the Employees' Pension; namely, because of the effect of having a lower status, the effect of being a rural migrant worker, and the interaction effect of having a lower status and being a migrant worker. In comparison, a lower status urban hukou worker is only penalized for his or her lower status in gaining access to the Employees' Pension. The Residents' Pension substantially reduces each of the three disadvantages facing lower status rural migrant workers. Consequently, the most disadvantaged group under the Employees' Pension is found to benefit most from the introduction of the Residents' Pension.

Our study makes a number of contributions to the literature. Empirically, we present clear evidence that the Residents' Pension in China is effective in pension coverage extension. It is effective because the lower status workforce evidently prefer the Residents' Pension to the Employees' Pension. Theoretically, we provide an account of why the hybrid Residents' Pension is more effective in pension coverage extension than the more conventional contributory Employees' Pension. The existing literature suggests that the three mechanisms of institutional exclusion, market/employer exclusion and self-selection reinforce each other to disadvantage lower status workers in access to the Employees' Pension. We move a step further to argue that the same statement does not hold for the Residents' Pension, wherein self-selection is the major determinant, but works in a different way. Many lower status workers choose to join the Residents' Pension, because it is flexible and affordable without many of the shortcomings inherent in the Employees' Pension. Put differently, while our analysis confirms that self-selection is shaped by socioeconomic inequalities and institutions (such as the hukou system), it also shows that the impact of socioeconomic inequalities and institutions on self-selection varies substantially across schemes with different features.

Concerning policy-making, our study suggests that alternative pension schemes can take many forms. The literature largely focuses on tax-financed social pensions as an exemplary model for achieving the goal of universal coverage (Aguila et al., 2016; Alfers, Lund and Moussie, 2017; Barrientos, 2013; Deacon, 2013; Ferguson, 2015). In this vein, some studies describe China's Residents' Pension as a social pension (Liu and Sun, 2016; Wang, Williamson and Cansoy, 2016). We concur that the Residents' Pension in China is a sufficiently different alternative to the contributory Employees' Pension, and a better performing one in terms of pension coverage extension. Nonetheless, we highlight that the Residents' Pension is not a classical tax-financed social pension. It certainly has a social pension component; but it also has a contributory component. The contributory component is built into the Residents' Pension because it epitomizes the principle of self-responsibility valued by Confucian culture. A non-contributory social pension is not necessarily the only option. More attention should be paid to the cultural underpinnings of welfare provision and social protection. Where pension coverage extension is concerned, the key issue is not whether the pension scheme is contributory or non-contributory, but whether it is flexible, affordable and responsive to the diverse needs of the population, and whether it fits squarely with the cultural context.

While our findings show that rural migrant workers are a diverse group, more research is required to understand how self-selection works within this group. Nearly half of rural migrant workers in our analysis are not covered by either the Employees' Pension or the Residents' Pension. Past research suggests that rural migrant workers are heterogeneous, not only in terms of education, employment and income, but also in terms of settlement intention (Cao et al., 2015; Fan, 2011; Yue et al., 2010; Zhu, 2007). Some prefer to settle permanently in cities, some plan to return home upon retirement, while others do not rule out the possibility of returning home to farm or enter non-agricultural employment. For those who prefer to settle permanently in cities or are undecided about their future settlement, the available pension options probably are not attractive. The Employees' Pension may be as unattractive to this group as it is to other migrant workers; the Residents' Pension, which requires them to register, make payments and receive pension in their home counties, is less suited to their needs than to those considering to return "home" permanently in the future. We are not able to examine how settlement intention affects rural migrant workers' pension participation.

Also missing in our analysis is the impact of trust (or lack of it) on pension scheme participation, which is identified in past field studies as an important factor prompting migrant workers to opt out of the Employees' Pension (Huang and Guo, 2017; Zhan, 2011). Future research should pay more attention to these factors. Notably, China has been lifting hukou restrictions in recent years. In April 2020, the Chinese government announced a new policy that cities with a population of less than 3 million citizens should remove barriers for rural residents to apply for an urban hukou. For cities with a population greater than 3 million, hukou barriers should be lowered for some groups, such as migrant workers with stable jobs and college students from rural areas. It is important to examine how such hukou reforms might affect migrant workers' settlement intention and pension scheme participation. Finally, while the Residents' Pension has played a large and indispensable role in pension coverage extension in China, its low benefit levels have raised the important issue of pension adequacy.

Bibliography

Aguila, E. et al. 2016. "Costs of extending the noncontributory pension program for elderly: The Mexican case", in *Journal of Aging & Social Policy*, Vol. 28, No. 4.

Alfers, L.; Lund F.; Moussie, R. 2017. "Approaches to social protection for informal workers: Aligning productivist and human rights-based approaches", in *International Social Security Review*", Vol. 70, No. 4.

Barrientos, A. 2013. *Social assistance in developing countries*. Cambridge, Cambridge University Press.

Bester, H. et al. 2008. *Old-age saving by low-income South Africans* (report prepared for FinMark Trust and the South African Savings Institute). Johannesburg, Genesis Analytics.

Cao, G. et al. 2015. "Self-employment and intention of permanent urban settlement: Evidence from a survey of migrants in China's four major urbanising areas", in *Urban Studies*, Vol. 52, No. 4.

Chan, K. W.; Zhang, L. 1999. "The Hukou system and rural-urban migration in China: Processes and changes", in *The China Quarterly*, Vol. 160, December.

Chen, T.; Turner, J. A. 2015. "Fragmentation in social security old-age benefit provision in China", in *Journal of Aging & Social Policy*, Vol. 27, No. 2.

Cheng, Z.; Nielsen, I.; Smyth, R. 2014. "Access to social insurance in urban China: A comparative study of rural-urban and urban-urban Migrants in Beijing", in *Habitat International*, Vol. 41, January.

China Statistical Press. 2018. *China Statistical Yearbook 2018*. Beijing.

Deacon, B. 2013. "The social protection floor and global social governance: Towards policy synergy and cooperation between international organization", in *International Social Security Review*, Vol. 66, No. 3–4.

Dong, K.; Wang, G. 2016. "China's pension system: achievements, challenges and future developments", in *Economic and Political Studies*, Vol. 4, No. 4.

Enoff, L. D.; McKinnon, R. 2011. "Social security contribution collection and compliance: Improving governance to extend social protection", in *International Social Security Review*, Vol. 64, No. 4.

Fan, C. C. 2011. "Settlement intention and split households: findings from a survey of migrants in Beijing's urban villages", in *China Review*, Vol. 11, No. 2.

Gao, Q.; Rickne, J. 2017. "Inequality in social insurance participation and generosity: Do firm characteristics matter?", in *Social Policy and Administration*, Vol. 51, No. 5.

Gao, Q.; Yang, S.; Li, S. 2012. "Labour contracts and social insurance participation among migrant workers in China", in *China Economic Review*, Vol. 23, No. 4.

Gelepithis, M. 2018. "Three paths to more encompassing supplementary pensions", in *Journal of Social Policy*, Vol. 47, No. 3.

Geri, M.; de Santis, M.; Moscoso, N. 2019. "Inequality in access to the Argentinian pension system (1994-2017)", in *International Social Security Review*, Vol. 72, No. 1.

Ghai, M. 2015. "A model for universal social security coverage: The experience of the BRICS countries", in *International Social Security Review*, Vol. 68, No. 3.

Ginneken, W. van 2010. "Social security coverage extension: A review of recent evidence", in *International Social Security Review*, Vol. 63, No. 1.

Ferguson, J. 2015. *Give a man a fish: Reflections on the new politics of distribution*. Durham, NC, Duke University Press.

Hagemejer, K.; McKinnon, R. 2013. "The role of national social protection floors in extending social security to all", in *International Social Security Review*, Vol. 66, No. 3–4.

Holzmann, R. 2013. "Global pension systems and their reform: Worldwide drivers, trends and challenges", in *International Social Security Review*, Vol. 66, No. 2.

Huang, Y.; Guo, F. 2017. "Welfare programme participation and the wellbeing of non-local rural migrants in metropolitan China: A social exclusion perspective", in *Social Indicators Research*, Vol. 132, No. 1.

Hujo, K.; Behrendt, C.; McKinnon R. 2017. "Introduction: Reflecting on the human right to social security", in *International Social Security Review*, Vol. 70, No. 4.

ILO. 2017. *Universal social protection to achieve the sustainable development goals* (World social protection report 2017-19). Geneva, International Labour Office.

Jiang, J.; Qian, J.; Wen, Z. 2018. "Social protection for the informal sector in urban China: Institutional constraints and self-selection behaviour", in *Journal of Social Policy*, Vol. 47, No. 2.

Kpessa, M. W. 2011. "A comparative analysis of pension reforms and challenges in Ghana and Nigeria", in *International Social Security Review*, Vol. 64, No. 2.

Li, B. 2006. "Floating population or urban citizens? Status, social provision and circumstances of rural-urban migrants in China", in *Social Policy & Administration*, Vol. 40, No. 2.

Liu, T.; Sun, L. 2016. "Pension reform in China", in *Journal of Aging & Social Policy*, Vol. 28, No. 1.

McKinnon, R. et al. 2014. "Revisiting ISSA's dynamic social security: 2007–2014, and beyond", in *International Social Security Review*, Vol. 67, No. 3–4.

Ngok, K. 2016. "Modern Chinese welfare achievements and challenges ahead", in K. Ngok, and C. K. Chan (eds), *China's social policy transformation and challenges*, London, Routledge.

Nielsen, I. et al. 2005. "Which rural migrants receive social insurance in Chinese Cities? Evidence from Jiangsu survey data", in *Global Social Policy*, Vol. 5, No. 3.

Nyland, C.; Thomson, S. B.; Zhu, C. J. 2011. "Employer attitudes towards social insurance compliance in Shanghai, China", in *International Social Security Review*, Vol. 64, No. 4.

Park, A.; Wu, Y.; Du, Y. 2012. *Informal employment in urban China: Measurement and implications*. Washington, DC, World Bank.

Qin, M.; Zhuang, Y.; Liu, H. 2015. "Old age insurance participation among rural-urban migrants in China", in *Demographic Research*, Vol. 33, Art. 37.

Queisser, M.; Reilly, A.; Hu, Y. 2016. "China's pension system and reform: An OECD perspective", in *Economic and Political Studies*, Vol. 4, No. 4.

Sojo, A. 2015. "Including informal economy workers in contributory social protection: Current challenges in Latin America", in *International Social Security Review*, Vol. 68, No. 4.

Wang, F. L. 2005. *Organizing through division and exclusion: China's hukou system*. Stanford, CA, Stanford University Press.

Wang, X.; Williamson, J. B.; Cansoy, M. 2016. "Developing countries and systemic pension reforms: Reflections on some emerging problems", in *International Social Security Review*, Vol. 69, No. 2.

World Bank. 1994. *Averting the old age crisis: Policies to protect the old and promote growth*. Oxford, Oxford University Press.

World Bank. 1997. *Old age security: Pension reform in China*. Washington, DC.

Xu, Q.; Guan, X.; Yao, F. 2011. "Welfare programme participation among rural-to-urban migrant workers in China", in *International Journal of Social Welfare*, Vol. 20, No. 1.

Yue, Z. et al. 2010. "Floating choices: A generational perspective on intentions of rural-urban migrants in China", in *Environment and Planning A*, Vol. 42, No. 3.

Zhan, S. 2011. "What determines migrant workers' life chances in contemporary China? Hukou, social exclusion, and the market", in *Modern China*, Vol. 37, No. 3.

Zhang, X.; Wu, Y. 2016. "Social protection for informal workers in the People's Republic of China: A study of micro, small, and medium-sized enterprises", in S. W. Handayani (ed.), *Social protection for informal workers in Asia*. Manila, Asian Development Bank.

Zhu, H.; Walker, A. 2018. "Pension system reform in China: Who gets what pensions?", in *Social Policy Administration*, Vol. 52, No. 7.

Zhu, Y. 2007. "China's floating population and their settlement intention in the cities: Beyond the hukou reform", in *Habitat International*, Vol. 31, No. 1.

China's development of a multi-tier pension system

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Abstract China has made a number of major changes to its pension system in the period 2014–2020, and is in the process of establishing a multi-tier old-age pension system, consisting of programmes provided by the government, voluntary programmes provided by enterprises, and voluntary programmes established by individuals. Policy objectives are to reduce the fragmentation in its pension system; deal with population ageing; and diversify risks by involving the government, enterprises as well as individuals. This article shows that while China has a complex system for urban workers, the coverage provided by its multi-tier system is uneven, with the second and third tiers being in the early stages of development.

Keywords social security schemes, pension scheme, old-age benefit, China

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Introduction

The pension systems of many developed countries are relatively stable, with no major changes in basic institutional structures having occurred in the past few years. In China, however, the structure of the pension system continues to develop and change, in large part to address the challenges of population ageing. While its total population is projected to reach a maximum of 1.44 billion people in 2029, and then decline, its population aged 65 or older is projected to rise from 240 million in 2018 to 400 million in 2035 (Nikkei Asian Review, 2019).

In addition, it is facing the challenges of a shrinking workforce, increasing urbanization, and the transition from a planned to a market economy. It is also attempting to reduce the degree of fragmentation within the pension system that has resulted, at least in part, from China’s large geographic size, as well as regional differences in levels of economic development. At the same time, new types of programmes are being introduced in an attempt to better diversify risks. In China prior to the 1990s the responsibility to provide and finance pension benefits was borne entirely by the national government through the old-age insurance programme. Neither employers nor employees contributed.

China commenced its theoretical exploration, and then began the implementation, of a multi-tier old-age insurance system in the 1990s. The development of a multi-tier pension system implied the establishment of a new institutional approach to cope with the pressures of population ageing in China. A positive aspect of this reform is that it can help to reduce, both, the benefit level of the government-provided old-age insurance programme and the burden on national finances.

This article first discusses issues in categorizing different types of pension arrangements within a multi-tier system and the theory of an optimal pension system. It then reviews reforms over the past recent years that have considerably reduced fragmentation in the Chinese pension system. In turn, it analyses the development trajectories and major characteristics of the main old-age retirement income programmes in China. The article then evaluates the performance of China’s multi-tier old-age pension system, presenting suggestions to improve the system, before offering conclusions.

Multi-tier systems and the theory of an optimal pension system

The concept of a multi-tier pension system is used, both, to describe actual pension systems and to analyse the components of an optimal pension system. Given that pension systems are subject to economic, demographic, financial and policy risks, Whitehouse (2009) argues that “old age security is best maintained through diversified pension provision". In addition, a multi-tier system reduces the financial cost of the first tier[1] of the system. While this may imply a trade-off between adequacy and sustainability in the first tier pension, the second tier and third tier should improve the adequacy and sustainability of the multi-tier pension system.

A further advantage of developing a multi-tier system is that it will increase the role of funding in the Chinese pension system. There is relatively little funding in the first tier compared to its liabilities because the primary benefit is financed on a pay-as-you-go (PAYG) basis, but the second and third tiers are funded. Consequently, a higher level of funding will increase the demand for financial assets, which in turn will stimulate the further development of Chinese financial markets.

Data published by the Organisation for Economic Co-operation and Development (OECD, 2020) on pension assets relative to GDP indicate very large differences across countries in the role of national pension systems' funded tiers. For example, retirement plan assets relative to GDP vary significantly. At the lower end of the scale are Greece (0.8 per cent) and Hungary (5.4 per cent), while at the higher end are the United Kingdom (123.3 per cent) and the Netherlands (191.4 per cent). The OECD provides this data for 29 non-OECD countries, but does not include China.[2] In this article, we calculate the figure for China.

While pension systems are often described as comprising several tiers, different approaches can be applied when categorizing the number of tiers and the types of plans in each tier. When categorizing retirement income programmes into different tiers, a number of factors can be taken into account. These include:

- whether the programme is mandatory or voluntary;
- whether the programme is unfunded, partially funded, or fully funded;
- whether programme eligibility requires contributions by the worker;
- whether the programme's goals are income redistribution or income replacement;
- whether the programme is sponsored or provided by the government, employers or enterprises, or whether individuals or families purchase a commercial insurance product that provides an annuity or a financial market investment product.

1. This article uses the terminology of pension "tiers", as opposed to "pillars". The use of the concept of tiers is more commonly associated with the schematic pension model promoted by the International Labour Office (Gillion et al., 2000), while the concept of pillars is more commonly associated with the schematic pension model promoted by the World Bank (World Bank, 1994). We prefer the imagery of *tiers* in the case of China because the different tiers are very different in their importance, while the imagery of *pillars* suggests that each pillar is of roughly equal importance.
2. According to the OECD website, China is a non-member economy with a working relationship with the OECD.

International organizations, such as the World Bank, have influenced China's pension reform process. In 1994, the World Bank report *Averting the old age crisis: Policies to protect the old and promote growth* highlighted that old-age insurance systems were facing the challenge of population ageing, and recommended a "three-pillar" old-age pension system as a possible solution. The International Labour Organization (ILO) has also attempted to influence the development of pensions in China and elsewhere, arguing for three "tiers". Differences in what types of plans are included in their respective models set apart the World Bank and ILO approaches (Gillion et al., 2000).

The World Bank's, 1994 model has the following three-pillar structure:

1. Mandatory publicly managed anti-poverty programme
2. Mandatory privately managed savings programme
3. Voluntary savings

In this model, key issues are whether a programme is mandatory or voluntary, whether it is provided by the government or the private sector, and whether it is a "traditional" pension programme or an individual account savings programme.

The three-tier model proposed by the ILO in 2000 has a first tier mandatory, unfunded pension programme, a second tier funded pension programme that can be mandatory or voluntary, and a third tier for non-pension savings, including transfers from family members or income from work. These three tiers operate in conjunction with a "safety net" (Gillion et al., 2000, p. 467).

An optimal pension system includes both an unfunded and a funded component because the two components are subject to different risks. The unfunded component is subject to demographic and labour market risks, which in most countries are primarily domestic risks. The main demographic risks are fertility and life expectancy. The labour market risks relate to the old-age dependency ratio – the ratio of workers to retirees. They also relate to the unemployment rate. The funded component is subject to capital market risks, which includes the possibility to diversify investments internationally as well as to diversify across stocks, bonds and other asset classes, such as real estate.

The risks to unfunded systems and to funded systems generally have a low degree of correlation because the causes of the risks are different. The expected rate of return on these two components varies over time due to demographic changes and the performance of capital markets.

Another three-tier model that is sometimes used by policy-makers and policy analysts is distinguishable for focusing solely on the provider of the programme. Diversification in providers, and thus sources of funds, is important. Different providers are subject to different risks, but they also create different risks due to the biases or flaws they may have in their decision-making. In this model, the mandate for providing pensions can be accorded to three groups, as follows:

1. Government pension programme
2. Employers' pension programme
3. Individual savings

Fang and Feng (2019) adopted this three-tier approach in their analysis of the Chinese pension system.

As stated, China is in the process of establishing a multi-tier pension system. The Chinese pension system has unusual features that raise issues as to how to categorize the different programmes into tiers. The following list presents the types of major programmes found in China.

1. Mandatory government pension programme	IA
2. Mandatory government savings programme	IB
3. Voluntary government savings programme	IC
4. Government non-contributory pension programme	ID
5. Voluntary employer-provided savings programme	II
6. Voluntary individual savings programme	III

If the World Bank's 1994 three criteria are used for the number of tiers (i.e. whether the programme is mandatory or voluntary, whether it is provided by the government or the private sector, and whether it is a pension programme or an individual account savings programme), it might be argued that the Chinese system has six tiers (Table 1). Alternatively, the programmes can be grouped into three tiers, as indicated by the Roman numerals, based on the sponsor of the programmes.

According to the theory, a multi-tier old-age insurance system can balance the responsibilities of the government, enterprises and individuals. The essence of a multi-tier old-age insurance system is to adjust the structure of the entire pension system and the structure of the pension benefits. To this end, to share the responsibility and financial cost of providing old-age benefits, different old-age pension and commercial insurance products should be established.

Reforms to reduce fragmentation in the Chinese social security system

China has made great advances in extending pension coverage to its older population, in part through the development of new programmes. In 2011, 34 per cent of the population aged 70 or older was receiving a pension. By 2015, due to major pension reforms, that percentage had doubled, to 68 per cent (Perez-Arce et al., 2018).

Until 2014, China had a highly fragmented social security system, with a number of different programmes. China's population could be divided into six groups in terms of their first-tier social security coverage: 1) urban employed workers, 2) farmers in rural areas, 3) urban unemployed workers, 4) government workers,

Table 1. *Fund income, expenditure and assets of the first-tier old-age insurance system, 2010–2019 (CYN billion)*

Year	Urban Employees' Pension Programme			Basic Old-age Insurance Programme for Urban and Rural Residents		
	Fund income	Fund expenditure	Assets	Fund income	Fund expenditure	Assets
2010	1,342.0	1,055.5	1,536.5	45.3 [a]	20.0 [a]	42.3 [a]
2011	1,689.5	1,276.5	1,949.7	111.0	59.9	123.1
2012	2,000.1	1,556.2	2,394.1	182.9	115.0	230.2
2013	2,268.0	1,847.0	2,826.9	205.2	134.8	300.6
2014	2,531.0	2,175.5	3,180.0	231.0	157.1	384.5
2015	2,934.1	2,581.3	3,534.5	285.5	217.7	459.2
2016	3,505.8	3,185.4	3,858.0	293.3	215.0	538.5
2017	4,331.0	3,805.2	4,388.5	330.4	237.2	631.8
2018	5,116.8	4,464.5	5,090.1	383.8	290.6	725.0
2019	5,206.3	4,878.3	5,418.1	402.0	311.4	815.6

Notes: [a]The National Rural Pension Scheme and the Urban Residents' Pension Programme were established in 2009 and 2011, respectively. The fund income, expenditure and assets of the Basic Old-age Insurance Programme for Urban and Rural Residents in 2010 were the corresponding number for the National Rural Pension Scheme.

Source: MHRSS (2019).

5) rural migrants to urban areas, and 6) farmers who have had their land appropriated by the government. Fragmentation in the social security system arose because of the different treatment for each of these groups of workers (Chen and Turner, 2015).

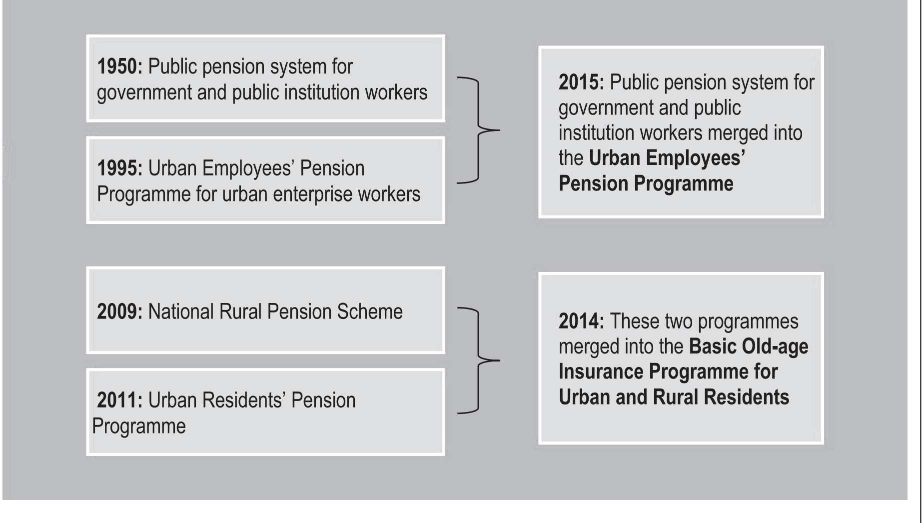
Since 2015, reforms have reduced the fragmentation of the Chinese social security system. In 2015, the first tier old-age insurance system included four major programmes: i) the basic old-age insurance programme for government workers, ii) the Urban Employees' Pension Programme, iii) the National Rural Pension Scheme, and iv) the Urban Residents' Pension Programme. Government workers and public institutions' workers were covered by a separate pension programme, financed using general revenues.

In 2015, the central government merged the public pension programme for government workers and other public institutions' workers into the Urban Employees' Pension Programme. Since then, the "basic" old-age insurance programme for government workers and other public institutions' workers was gradually reformed to be the same as for other urban workers. This is known as the Urban Employees' Pension Programme. Eligible workers are automatically covered. This programme consists of a social account and an individual account. These two accounts are financed differently: on a PAYG basis for the social account and on a notional defined contribution (NDC) basis for the individual account. This programme receives substantial fiscal subsidies from the central government (Fang and Feng, 2019).

Also, to reduce the fragmentation arising from the different programmes, the National Rural Pension Scheme and the Urban Residents' Pension Programme were merged into one programme in 2014 – the Basic Old-age Insurance Programme for Urban and Rural Residents. Rural migrants to urban areas, and farmers who have had their land appropriated by the government can choose to participate in either the Urban Employees' Pension Programme or the Basic Old-age Insurance Programmes for Urban and Rural Residents. In this programme, participation and contributions by individuals are voluntary, and paid work is not a requirement. This programme is funded.

Thus, now there are two "basic" first-tier pension programmes in China: the Urban Employees' Pension Programme for enterprise workers, government workers and other public institutions' workers; and the Basic Old-age Insurance Programme for Urban and Rural Residents for farmers in rural areas and urban unemployed workers (see Figure 1). These two programmes are part of the Basic Old-age Insurance Programme, but differ considerably in their features, as explained below. Fragmentation, however, still exists in the Chinese pension system due to regional differences within the major pension systems (Chen and Turner, 2015). China continues to address the issue of fragmentation, as we discuss.

Figure 1. *Fragmentation reduction and programme merger process in China*



Sources: Derived by the authors from the literature review.

Multi-tier pension system in China

In this article, we are focusing on whether retirement income programmes are sponsored by the government, by enterprises, or by individuals. For this reason, we use the framework of a three-tier system.

In particular, we are interested in China's development of a three-tier pension system by encouraging the development of retirement income programmes sponsored by enterprises and by individuals. Currently, the second tier has limited participation, and the third tier remains nascent. The Appendix to this article provides a schematic overview of China's three tier old-age pension system.

The first tier: Basic old-age insurance system

The first tier programmes in China are government-provided pension programmes. The following sections provide more detail about i) the Urban Employees' Pension Programme and ii) the Basic Old-age Insurance Programme for Urban and Rural Residents.

Urban Employees' Pension Programme. The Urban Employees' Pension Programme provides old-age benefits to urban employed workers, including enterprises' employees, government workers and other public institutions' workers. The Urban Employees' Pension Programme includes two different benefits programmes for all participants – a social account and an individual account – and contributions are paid by employers and employees. The social account is financed on a PAYG basis and provides benefits typically associated with a traditional social security benefit programme. The individual account was designed initially to be fully funded, but is only partially funded, and is managed as a notional defined contribution account plan. This arrangement differs substantially from the programme for workers in state-owned enterprises that was in place before this reform, which was financed entirely by state-owned enterprises, with no employees' contributions.

- **Contributions.** The contribution rate paid by employers varies across China's regions. The central government has until recently recommended a total contribution rate of 28 per cent of wages, of which the employee contributes 8 per cent to an individual account, which is the same contribution rate across China. The 20 per cent rate paid by the employer contributes to the social account for the basic pension and is a recommended standard rate, as suggested by the central government. In practice, the exact contribution rate for the social account may be decided by local governments, and can be higher or lower than the recommended rate.

China has taken steps to reduce the cost of first tier pensions for employers. In 2016, the State Council of the People's Republic of China[3] decided that provinces where the employer contribution rate exceeded 20 per cent should reduce the contribution rate to 20 per cent (MS Advisory, 2019). The central government issued a regulation in 2019 with the aim of gradually unifying nationally the contribution rate for the social account at 16 per cent. The expectation is that regions where the contribution rate is higher or lower than 16 per cent will lower or raise their contribution rates so that, eventually, there will be a uniform rate across the country. At present, the contribution rate for the social account continues to differ in different areas in China. For instance, due to relative different degrees of population ageing, the contribution rates for the social account in Guangzhou city and Shanghai city are 14 per cent and 16 per cent in year 2020, respectively. The move to a 16 per cent contribution rate is an important step toward reducing the burden on employers, compared to the former contribution rate of 20 per cent in many regions.

- **Eligibility.** Workers must contribute for a minimum of 15 years to be eligible for monthly benefits when they retire. The retirement age is 60 for men and for women working in certain professions, such as university professors; age 55 for female managers, and age 50 for other women. The retirement age is lower for those working in hazardous occupations or who are seriously ill or disabled because of work. The relatively low retirement ages in China, especially for women, is one factor that contributes to the high cost of pensions.
- **Benefits.** The retirement benefit consists of two parts – a basic benefit financed by the employer's contribution to the social account, and an individual account benefit financed in part by the employee's contribution.

The basic benefit from the social account pension is a defined benefit-type benefit, and is calculated by multiplying two elements. The first element is a percentage determined by total contribution years, where one contribution year equals 1 per cent. The second element is a number obtained by adding the social average wage of the year prior to the employee's retirement year with the average indexed monthly wage of the employee and then dividing by two. The social average wage used in this calculation is the average wage for the pooling area or region of the country where the worker resides at the time of retirement. The average indexed monthly wage of the employee is adjusted for wage increases for every year of work before the person retires.

The individual account is a notional defined contribution-type (NDC) account. The monthly benefit based on the individual account is the credited balance in the worker's individual account at retirement divided by 139, for both males and females retiring at age 60. It is considered an NDC system because the crediting

3. The State Council is the chief administrative authority of the People's Republic of China.

rate is not determined by the actual amount that is invested in the account. The credited balance is based on the amounts the worker has contributed to the account and the crediting interest rate awarded to the account balance. The divisor for calculating benefits depends on the age at which the person collects benefits, but irrespective of gender, with it being set higher for lower ages. It is 195 for those retiring at age 50 and 170 for those retiring at age 55. This calculation does not vary across regions.

Once benefit payments have started for a retired worker, subsequent retirement benefits are adjusted to take into account changes in wage and price levels and the financial health of the programme.

Data released by Ministry of Human Resources and Social Security of China (MHRSS) showed that for 2019 the total number of benefit recipients was 123.1 million and the total value of benefits paid was 4,922.8 (CYN) billion. Thus, the average monthly benefit level was CYN 3,332 in 2019 (MHRSS, 2019). The replacement rate for the Urban Employees' Pension Programme ranged from 45.5 per cent to 48.9 per cent of the worker's average monthly wage (Xue and Zeng, 2019). The benefits under this programme are considered high enough to meet basic household needs.

Basic Old-age Insurance Programme for Urban and Rural Residents. The other first tier programme is the Basic Old-Age Insurance Programme for Urban and Rural Residents. An unusual feature of the Chinese pension system is that this is a voluntary programme for people who do not have formal jobs but who are resident in China.

Introduced in 2009, the National Rural Pension Scheme was a voluntary programme for people with rural registration aged 16 or older, who were not students and who did not participate in another pension plan. Established in 2011, the Urban Residents' Pension Programme, was a voluntary programme for people with urban registration aged 16 or older, who did not have a job. As both programmes provided old-age benefits for those who did not have formal jobs (but depending on whether they had urban or rural registration), the regulations concerning contributions, the government subsidy mechanism, eligibility requirements and benefits were quite similar.

When the central government established the Urban Residents' Pension Programme in 2011, local governments were allowed to unify the National Rural Pension Scheme and the Urban Residents' Pension Programme. In 2014, these two programmes were merged into one programme – the Basic Old-age Insurance Programme for Urban and Rural Residents.

- **Contributions.** As participants in the Basic Old-age Insurance Programme for Urban and Rural Residents do not have a formal job, anyone meeting the age requirements can contribute to the programme regardless of earnings, and the amount of the individual's contributions is not a fixed amount related to earnings. The contribution level regulated by central government is divided into 12 steps, with the first ten steps ranging from CYN 100 to CYN 1,000 per year (divided into CYN 100 increments), and the last two steps being CYN 1,500 yuan and CYN 2,000.[4] However, as the programme is managed by county (district) or municipal governments, the range of choice of contribution levels differs between different areas. For instance, in Guangdong province, the contribution levels are CYN 180, CYN 240, CYN 360, CYN 600, CYN 900, CYN 1,200, CYN 1,800, CYN 3,600, and CYN 4,800.[5] Participants can choose their contribution level within the offered range. Research reveals that, in 2016, 95 per cent of participants chose the lowest contribution level of CYN 100 (Zhang and Yang, 2019).

Local governments subsidize participants' contributions by means of a matching contribution. The lowest matching contribution, set by the central government, is CYN 30 per participant per year. Local governments, however, can raise the matching rate according to their financial means. For instance, in Guangdong province, local governments subsidize CYN 30 for participants choosing the contribution levels of CYN 180, CYN 240 and CYN 360. Participants who contribute CYN 600 or higher receive a CYN 60 subsidy from local governments.[6]

- **Eligibility.** To receive benefits from this programme, the person must have contributed at least for 15 years and be at least aged 60. People aged 60 or older before the start of the system can receive the basic benefit from government without having contributed.
- **Benefits.** This programme provides benefits to two different groups of people. The first group is men and women who are currently aged 60 or older. The basic benefit provided by the programme since 2018 is CYN 88 a month. The basic benefit is financed by the central government in the central and western parts of China, but in the more prosperous eastern provinces the cost of financing is split equally between the central government and the local governments (Chen and Turner, 2014). Localities can increase the basic benefit amount if they have the financial resources to do so. For instance, in Guangdong Province, the basic benefit was CYN 55 per month in 2012 but was increased to CYN 170 per month in 2019 (Sohu.com, 2019).

The second group of people are participants younger than age 60 who must have contributed in order to receive benefits when they reach age 60. This benefit

4. Retrieved in 2014 from MOHRSS of the People's Republic of China (in Chinese).
5. Retrieved in 2020 from Guangdong Provincial Government (in Chinese).
6. Retrieved in 2020 from Guangdong Provincial Government (in Chinese).

amount is based on the accumulated value in the participant's individual account from the participant's contributions, accrued investment returns and the non-contributory basic benefit amount.

MHRSS data reports that, in 2019, there were 160.32 million benefit recipients and the value of total benefits paid across that year was CYN 311.4 billion. Thus, the average monthly benefit level in 2019 was CYN 162 (MHRSS, 2019).

The replacement rate of the Basic Old-age Insurance Programme for Urban and Rural Residents ranged from 10.7 per cent to 15.3 per cent of average monthly earnings (Xue and Zeng, 2019). The benefit level of this programme is too low to cover living expenses.

Coverage and assets of the first tier basic old-age insurance programme. The first tier basic old-age insurance programme has developed quickly in terms of participants and assets. The number of participants of the Basic Old-age Insurance Programme for Urban and Rural Residents was 102.77 million in 2010.[7] This number increased to 532.66 million in 2019 (see Figure 2), and thus covers more people than the Urban Employees' Pension Programme. The number of participants in the Urban Employees' Pension Programme was 257.07 million in 2010, and had grown to 434.82 million by the end of year 2019.

The total number of participants in the first tier's two basic old-age insurance programmes was 967.48 million by the end of 2019, compared to a workforce of 775.9 million and a population of 1,392.7 million. This demonstrates that the participation rate in the first tier in China is high. The number of participants is higher than the number of workers because of the voluntary programmes that permit non-workers to contribute.

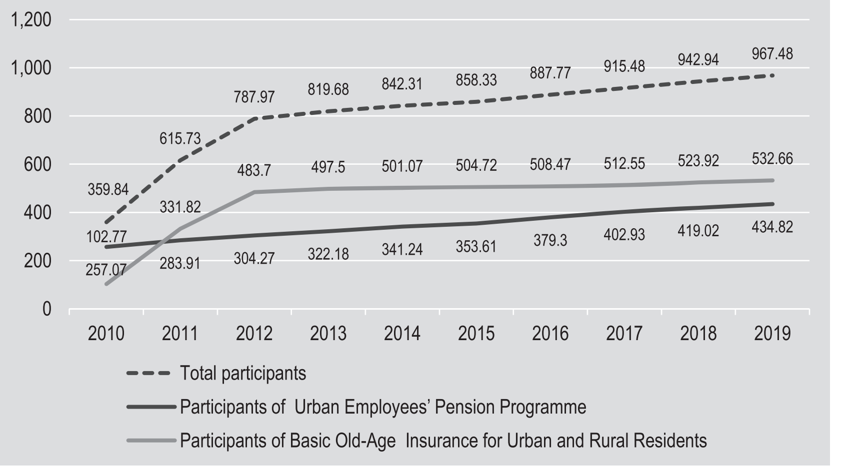
With the development of the first tier basic old-age insurance programme and the increasing number of people participating in it, its income, expenditure and assets have all increased greatly.

As show in Table 1, fund income, fund expenditure and assets of the Urban Employees' Pension Programme in 2010 were CYN 1,342 billion, CYN 1,055.5 billion and CYN 1,536.5, respectively. By 2019, these numbers had increased to CYN 5,206.3 billion, CYN 4,878.3 billion and CYN 5,418.1 billion, respectively.

By the end of 2019, fund income, fund expenditure and assets of the Basic Old-age Insurance Programme for Urban and Rural Residents were CYN 402 billion, CYN 311.4 billion and CYN 815.6 billion, respectively. These

7. As stated, the National Rural Pension Scheme and the Urban Residents' Pension Programme were established in 2009 and 2011, respectively. Thus, the number of participants in the Basic Old-age Insurance Programme for Urban and Rural Residents in 2010 referred only to participants of the National Rural Pension Scheme.

Figure 2. *Number of participants in the basic first-tier old-age insurance programmes in China (million)*



Source: MHRSS (2019).

figures were much smaller than those of the Urban Employees' Pension Programme, despite it covering more people. This can be explained by the fact that the contribution level of the Urban Employees' Pension Programme is based on wages and is much higher than the contribution level of the Basic Old-age Insurance Programme for Urban and Rural Residents. As shown in Figure 2, by the end of 2019, the total number of participants in the Urban Employees' Pension Programme (434.82 million) was lower than participants in the Basic Old-age Insurance Programme for Urban and Rural Residents (532.66 million).

The second tier – The supplementary old-age insurance system

The Enterprise Annuity and the Occupational Annuity jointly constitute the second tier of China's old-age pension system. These two programmes are supplements to the first tier Urban Employees' Pension Programme and are provided to different groups of people. The Enterprise Annuity is a voluntary old-age insurance programme for enterprise employees. The Occupational Annuity is automatically provided to government workers and other public institutions' workers. The Enterprise Annuity programme commenced in 2004 and the Occupational Annuity in 2015. The second tier applies only to people in urban areas.

Contributions. Employers and employees contribute to the Enterprise Annuity and the Occupational Annuity, with the contributions deposited into individual accounts.

The total contribution rate for the Enterprise Annuity cannot be higher than 12 per cent of wages, and the contribution rate paid by the employer cannot be higher than 8 per cent. The contribution rate for the Enterprise Annuity can be negotiated and agreed by employers and employees.

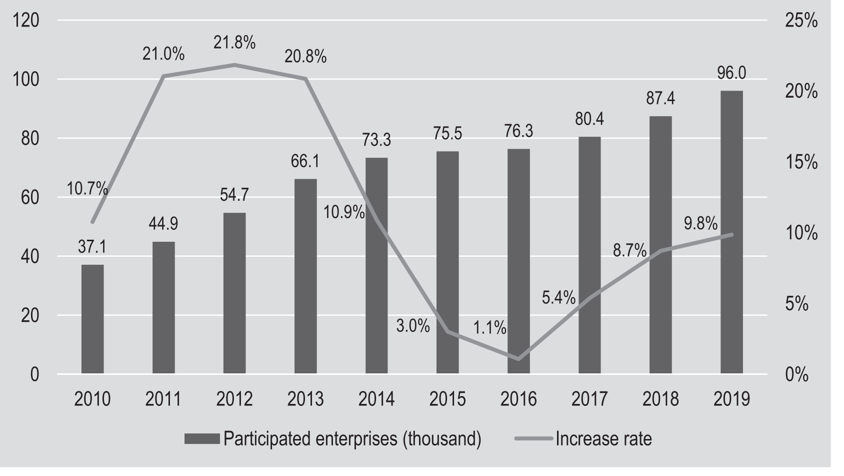
The contribution rate for the Occupational Annuity is 12 per cent of wages, with the contributions of employers and employees set at 8 per cent and 4 per cent, respectively.

Eligibility. Participants in the Enterprise Annuity and the Occupational Annuity receive benefits when they reach retirement age or when they are assessed as having lost their full ability to work. If participants of these two programmes migrate to another country, they can apply for a lump-sum payment of the accumulated benefits in their individual accounts. The balance of these two programmes is payable to eligible survivors.

Benefits. The Enterprise Annuity and the Occupational Annuity are defined contribution programmes. Participants in the Enterprise Annuity can choose to receive the benefit as monthly instalments or as a lump sum. They can also use all or part of the accumulated funds in the individual account to purchase commercial old-age insurance products, such as annuities. In this case, participants receive benefits from the commercial insurance provider according to the insurance contract regulations. Participants in the Occupational Annuity can receive the benefit as monthly instalments or use all of the accumulated funds in the individual account to purchase commercial old-age insurance products and receive these benefits according to insurance contract regulation. In 2016, the replacement rate of the Enterprise Annuity ranged from 3 per cent to 5 per cent of the monthly average wage (Wei and Wang, 2019).

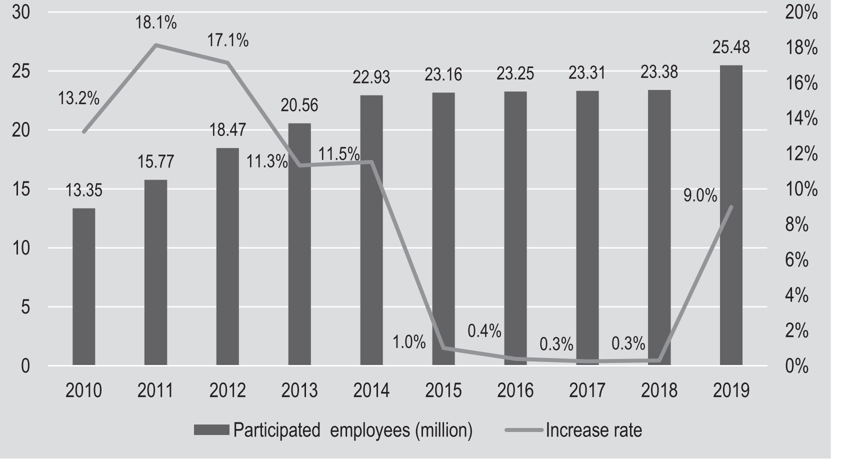
Participants. The total number of participants in the Enterprise Annuity increased across the period 2010–2019. The total number of participating enterprises was just over 37,000 in 2010, and increased to 96,000 in 2019. Figure 3 shows that the increase rate of participating enterprises was higher than 10 per cent during the period 2010–2014, and attained a peak of 21.83 per cent in 2012. The increase rate decreased to its lowest level (1 per cent) in 2016. Since 2016, the increase rate has increased, but has remained lower than 10 per cent up to the end of 2019.

Figure 3. *Participating enterprises of the Enterprise Annuity, 2010–2019*



Source: MHRSS (2020).

Figure 4. *Participating employees of the Enterprise Annuity, 2010–2019*



Source: MHRSS (2020).

As shown in Figure 4, the total number of participating employees in the Enterprise Annuity was 13.35 million in 2010, and increased to 25.48 million in 2019. The increase rate curve in Figure 4 shows that the increase rate was higher than 10 per cent during 2010–2014. Since then, the increase rate has decreased considerably, and the annual rate of increase in the period 2016–2018 was lower than 1 per cent.

Figure 3 and Figure 4 indicate that China's Enterprise Annuity has entered a low growth phase, with the number of newly participating enterprises and the number of newly insured employees continuing to decline. How to improve the take up of enterprises to strengthen the development of the Enterprise Annuity and to motivate employees to participate in the insurance system remains a challenge.

Assets. By the end of 2019, assets of the Enterprise Annuity were CYN 1,799 billion. Nonetheless, the development of the Enterprise Annuity is uneven in different regions of China. The number of participating enterprises and employees in the more developed provinces along the east coast of China is higher than in the central and western regions and in less developed provinces and cities. For example, Fujian, Shanghai, Guangdong, Shandong, Zhejiang and Beijing have more enterprises participating in the Enterprise Annuity than in other provinces.

Table 2. *Enterprise Annuity – Participating enterprises and assets in each province of China in 2019*

Province	Enterprises	Assets (CYN billion)	Province	Enterprises	Assets (CYN billion)
Zhejiang	3,978	40.2	Shaanxi	1,120	30.9
Fujian	13,851	36.0	Jiangxi	1,207	14.5
Shanghai	9,789	84.0	Shanxi	1,219	36.5
Guangdong	5,377	73.4	Hebei	1,042	17.9
Shandong	4,151	41.3	Xinjiang	893	9.2
Beijing	4,533	66.3	Chongqing	902	9.3
Guangxi	3,017	10.6	Hunan	810	18.9
Jiangsu	3,324	47.8	Neimenggu	820	14.5
Liaoning	2,645	20.7	Jilin	586	17.1
Tianjin	1,629	12.0	Gansu	545	12.8
Anhui	1,728	33.7	Guizhou	488	13.1
Yunnan	1,564	24.1	Ningxia	419	3.6
Sichuan	1,562	28.5	Hainan	241	2.1
Henan	1,426	24.1	Qinghai	223	3.5
Heilongjiang	1,113	9.5	Xizang	24	0.8
Hubei	1,210	26.3			

Source: MHRSS (2020).

In terms of assets, Shanghai, Guangdong, Beijing and Jiangsu have higher levels than other provinces. Detailed information on participating enterprises and the Enterprise Annuity assets in each province of China is provided in Table 2.

Fund investment. Enterprise Annuity funds are invested in the capital market. By the end of 2019, there were 4,327 enterprise annuity portfolios, and the value of funds invested was CYN 1,799 billion.

The third tier – Individual Tax-deferred Commercial Pension Insurance Programme

The Individual Tax-deferred Commercial Pension Insurance Programme is the voluntary fully funded third tier of China's multi-tier old-age insurance system. Commercial pension insurance is the main provider of individual pension plans, which can provide diversified and differentiated pension services for families and individuals, and meet differentiated needs in wealth management and risk control. The programme's replacement rate is estimated to be 4–5 per cent of average monthly earnings (Lu and Yang, 2019).

The Individual Tax-deferred Commercial Pension Insurance Programme has been in place for over a decade. In 2007, regulations for a pilot commercial pension insurance programme in Tianjin city were issued by the China Insurance Regulatory Commission. However, this experiment ceased soon after, because the tax preference rate was too high. On 12 April 2018, the Ministry of Finance, the State Taxation Administration, the Ministry of Human Resources and Social Security (MHRSS) of the People's Republic of China and several other Chinese government departments jointly issued the regulation on a pilot project for the Individual Tax-deferred Commercial Pension Insurance Programme. The programme was piloted in Shanghai city, Fujian Province and Suzhou Industrial Area. The pilot period was one year and ended in May 2019.

The level of growth of the Individual Tax-deferred Commercial Pension Insurance Programme during the pilot period was not as strong as expected. A number of reasons may explain this.

First, due to the reform of individual income tax policy in China, the preferential treatment of the Individual Tax-deferred Commercial Pension Insurance Programme has weakened and the target group of the pilot programme is shrinking. According to the regulations, during the pilot period, the maximum tax-deductible contribution was set at 6 per cent of wage income per month or CYN 1,000, according to whichever was lower.

Due to the increase in the monthly individual income tax threshold (from CYN 3,500 to CYN 5,000) and the implementation of an individual income tax special additional deduction, the maximum tax-deductible amount of up to CYN 1,000 is too low and thus unattractive. A higher limit, for example CYN 2,000, would be more attractive to workers.

The marginal income tax rates that workers pay range from 3 per cent to 45 per cent, set according to seven tiers. Some workers, however, have stopped contributing, apparently waiting for the tax situation to improve (Guo, 2019).

Second, the tax credit process is complex. The method of determining the pre-tax deduction according to the principle of which is lower is inconvenient and too complex for individuals and some businesses to calculate. In addition, according to the current regulations, when individuals purchase the tax-deferred commercial pension insurance for themselves, they have to use a designated online platform to download the tax-deferred commercial pension insurance deduction certificate and to provide the certificate to the enterprise/employer. Then the enterprise/employer deducts the maximum tax-deductible amount provided in the certificate before counting the individual income tax. This operational process is complex.

Uneven development of the multi-tier old-age pension system in China

In part because the second and third tiers are relatively new, the development of the multi-tier old-age pension system in China is uneven and its structure unbalanced. The first tier old-age insurance has developed rapidly in China. The participation rate of the first tier Urban Employees' Pension Programme and the Basic Old-age Insurance System for Urban and Rural Residents is high, while those of the second and third tier supplementary pensions lag behind. The resulting situation is of a dominant first tier with weaker second and third tiers.

In terms of participants, the number of people participating in the first tier (Urban Employees' Pension Programme and the Basic Old-age Insurance System for Urban and Rural Residents) is much higher than those participating in the Enterprise Annuity and Individual Tax-deferred Commercial Pension Insurance Programme. At the national level by the end of 2019, 967.48 million people participated in the first tier, including 434.82 million participants in the Urban Employees' Pension Programme and 532.66 million participants in the Basic Old-age Insurance Programme for Urban and Rural Residents.

As stated, the second and third tiers provide limited coverage; most people only participate in the first tier. However, for urban workers, this first tier consists of two different government-provided programmes: a traditional social security old-age benefit programme and an individual account programme that is partially funded. These urban workers have the advantage of participating in two different programmes. For the second tier, by the end of 2019, only 25.48 million people participated in Enterprise Annuities. For the third tier, by the end of

Table 3. *Assets in the Chinese pension system, 2019*

Plan or Tier	Assets – CYN billion (% of total)
Tier 1	**6,234 (69.0)**
Urban Employees' Pension Programme	5,418 (60.0)
Basic Old-age Insurance System for Urban and Rural Residents	816 (9.0)
Tier 2	**2,799 (31.0)**
Enterprise Annuity Fund	1,799 (19.9)
Occupational Annuity	1,000[a] (11.1)
Tier 3	**0.06[b] (0.0)**
Individual Tax-deferred Commercial Pension Insurance Programme	0.06[b] (0.0)
Total	9,033
GDP	99,000
Pension assets relative to GDP (%)	9.1

Notes: [a]finance.sina.com.cn (in Chinese); [b]Guo (2019).

Sources: Derived by the authors from the literature review.

December 2018, the pilot provinces and municipalities had covered around 35,800 people in the Individual Tax-deferred Commercial Pension Insurance Programme (Guo, 2019). Total premium income amounted to more than CYN 60 million and the average per capita premium of participants was about CYN 1,680 (Guo, 2019). Thus, the third tier is still at a very early stage of development.

Table 3 presents the value of assets in the Chinese pension system in the different tiers and their respective programmes. The first tier accounts for 69.0 per cent of assets, the second tier accounts for 31.0 per cent, and the new third tier accounts for 0.0 per cent of assets. It is expected that, over time, the relative share of assets in the first tier will decline and increase in the second and third tiers.

In terms of assets, by far the largest is the first tier Urban Employees' Pension Programme, which accounts for 60.0 per cent of pension programme assets. By comparison, the Basic Old-age Insurance System for Urban and Rural Residents, which has more participants, accounts for only 9.0 per cent of pension programme assets.

The total retirement plan assets in China are equal to 9.1 per cent of GDP. This figure is higher than for Belgium (8.4 per cent), Germany (7.4 per cent) and Austria (6.1 per cent) (OECD, 2020).[8]

8. Such differences in assets/GDP may reflect differences in the design of national pension systems, which can be characterized by a greater or lesser use of pre-funding. When comparing countries with similar levels of economic development, some countries will have, by design, a lower ratio.

Suggestions for improving the multi-tier old-age pension system

The design of, and relationship between, the different tiers are important prerequisites for the pension system's healthy and sustainable development.

First, China's first tier basic old-age insurance system has achieved the important goal of broad coverage of the population, reflecting the goal of universality of basic old-age insurance, which is a remarkable achievement for a country of 1.4 billion people. As a consequence of rapid population ageing, the dependency ratio of China's first tier old-age insurance system is increasing, and the pension fund faces great pressure. Therefore, it is urgent for China to promote the national pooling of the first tier old-age insurance system, and to introduce a marketization investment system in order to maintain and increase the value of the pension fund.

Second, the structure of the first tier old-age insurance system needs to be adjusted to provide development space for the pension system's second and third tiers. Currently, the recommended contribution rate to the social account of the Urban Employees' Pension Programme, at 16 per cent for employers, while lower than it was previously, is still high. This makes it difficult for enterprises and employees to bear the extra expenses of participating in the second and third tiers. A possible solution is to separate the social account and the individual account of the first tier Urban Employees' Pension Programme, then merge the individual account of the first tier with the individual account of the second and the third tier programmes, so that each person would have a single funded individual account.

Third, in order to increase the participation rate for the voluntary second tier Enterprise Annuity programme and voluntary third tier Individual Tax-deferred Commercial Pension Insurance Programme, supporting policies such as tax incentives need to be improved. Tax preference is an important tool to encourage enterprises and employees to participate in these programmes. The tax incentives in China for the Enterprise Annuity programme and the Individual Tax-deferred Commercial Pension Insurance Programme are relatively low, compared with similar programmes in other developed countries. Thus, it is necessary to strengthen tax incentives and other policies to support the further development of voluntary pension programmes.

For the third tier of the pension system, this article recommends a single absolute maximum tax-deductible amount and to set this at an adequate level (for example, adjust the maximum tax-deductible amount according to the changes in the average social wage level). For those whose income is lower than the tax threshold and who are willing to participate in tax-deferred pension insurance, subsidies should be given to enhance the attractiveness of the programme.

Conclusions

Since 2014, important changes have occurred in the Chinese pension system. This article has examined the early stages of the development of China’s multi-tier pension system. China is striving not only to develop a multi-tier system but also to decrease fragmentation in its pension system, deal with population ageing and develop a system that works well in the context of a market economy. Of importance, China has considerably reduced the fragmentation in its first tier social security pension system.

An advantage of a multi-tier system – even one that is as complex and difficult to categorize as that of China – is that it helps diversify risks across government as well as enterprises and individuals. While some important reform steps have been taken, and while the Chinese government continues to play a major role, the development of the second and third tiers that primarily apply to urban workers, and wherein responsibility is placed on employers and individual workers, is still in its early stages. In this regard, and as already seen in a number of provinces, the reduction in the mandatory contribution rate for first tier pensions will make it more feasible for enterprises to play a greater role in the future.

Bibliography

Chen, T.; Turner, J. A. 2014. “Extending social security coverage to the rural sector in China”, in *International Social Security Review*, Vol. 67, No. 1.

Chen, T.; Turner, J. A. 2015. “Fragmentation in social security old-age benefit provision in China”, in *Journal of Aging & Social Policy*, Vol. 27, No. 2.

Fang, H.; Feng, J. 2019. *The Chinese pension system* (PRC Working paper, No. 6). Philadelphia, PA, Pension Research Council.

Gillion, C. et al. (eds). 2000. *Social security pensions: Development and reform*. Geneva, International Labour Office.

Guo, G. 2019. 对于税延型养老保险试点政策的建议 [Suggestions on the pilot policy of tax-deferred endowment insurance] in Phoenix. Net, 22 January. In Chinese.

Lu, J. F.; Yang, Y. S. 2019. 第三支柱养老金:理论源流、保障力度和发展路径 [The third pillar pension program in China: theory of origin, benefit level and development path], in *Research on Financial and Economic Issues*, October. In Chinese.

MHRSS. 2019. 2019 年度人力资源和社会保障事业发展统计公报 [2019 Statistical bulletin on the development of human resources and social security undertakings]. Beijing, Ministry of Human Resources and Social Security of People’s Republic of China. In Chinese.

MHRSS. 2020. 2019 年度全国企业年金基金业务数据摘要 [Summary of business data of the Enterprise Annuity fund in 2019]. Beijing, Ministry of Human Resources and Social Security of People's Republic of China. In Chinese.

MS Advisory. 2019. "China cuts pension contributions for employers across all of China: implications for business", in *Regulatory News*, 9 July.

Nikkei Asian Review. 2019. "China's population forecast to peak at 1.44 bn in 2029", 5 January.

OECD. 2020. *Pension funds in figures*. Paris, Organisation for Economic Co-operation and Development.

Sohu.com. 2019. 2019 年养老金上调最新消息: 广东省最低标准提高到170元 [An update on 2019 pension increase: the basic benefit standard in Guangdong province has been raised to 170 yuan]. 19 February. In Chinese.

Perez-Arce, F. et al. 2018. *Social security coverage around the world: The case of China and Mexico* (Working paper, No. 395). Ann Arbor, MI, University of Michigan – Retirement and Disability Research Center.

Wei, Z. Q.; Wang, Y. 2019. 我国企业年金保障水平的测算及其敏感性分析 [The measurement and sensitivity analysis of China's Enterprise Annuity guarantee level], in *Journal of Fujian Normal University (Philosophy and Social Science)*, No. 6. In Chinese.

Whitehouse, E. 2009. "Pensions during the crisis: impact on retirement income systems and policy responses", in *Geneva Papers,* No. 34.

World Bank. 1994. *Averting the old age crisis: Policies to protect the old and promote growth*. Oxford, Oxford University Press.

Xue, H. Y.; Zeng, P. 2019. 公平性视角下城乡基本养老保险制度比较研究 [A Comparative study of the basic old-age insurance system in urban and rural areas from the perspective of fairness], in *Journal of Hebei University – Philosophy and Social Science*, No. 6. In Chinese.

Zhang, G. H.; Yang, H. 2019. 制度缺憾、有限理性与城乡居民养老保险缴费 [Institutional deficiencies, limited rationality and pension insurance payment of urban and rural residents], in *Economy Issues*. In Chinese.

Appendix

A.1 Old-age pension system in China

Three tiers	First tier basic old-age insurance system		Second tier supplementary old-age insurance system		Third tier
Programme	Urban Employees' Pension Programme	Basic Old-age Insurance Programme for Urban and Rural Residents	Enterprise Annuity	Occupational Annuity	Individual Tax-deferred Commercial Pension Insurance Programme
Mandatory/ Voluntary	Mandatory	Voluntary	Voluntary	Voluntary	Voluntary
Participants	Enterprises' employees, government workers and other public institutions' workers	Rural residents and urban unemployed workers older than age 16	Enterprise employees	Government workers and other public institutions' workers	Employees or self-employees of piloted areas (Shanghai city, Fujian Province and Suzhou Industrial Area)
Contribution	16% of wage contributed by the employers (into the social account);8% contributed by the employees (into the individual account)	Governments subsidize, through a matching contribution, the contributions of participants; individual contribution; governments pay for basic benefit	Both employers and employees contribute; employers contribute no more than 8% and the total contribution rate cannot be higher than 12%	Employers contribute 8% and employees contribute 4%	Individual contribution; government tax reduction
Financing (PAYG/ DB/DC)	Social account financed on PAYG basis; individual account financed on a notional defined contribution basis	Defined contribution	Defined contribution		Defined contribution
Eligibility	Contribute for at least 15 years and arrive at the retirement age	Contribute for at least 15 years and arrive at the retirement age (age 60 for both male and female)	When participants arrive at retirement age or when they entirely lose their ability to work or when they migrate to other countries		Arrive at retirement age or in case of personal death, total disability or major illness agreed upon in the insurance contract

Appendix. *Old-age pension system in China* - Continued

Three tiers	First tier basic old-age insurance system		Second tier supplementary old-age insurance system		Third tier
Benefits and/or replacement rate	Average benefit level was CYN 3,332 per month in 2019; replacement rate ranged from 45.5% to 48.9%	Average benefit level was CYN 162 per month in 2019; replacement rate ranged from 10.7% to 15.3%	Replacement rate estimated to be 3% to 5%	NA	Replacement rate estimated to be 4% to 5%

Sources: Derived by the authors from the literature review.

The sustainability of China's Urban Employees' Pension Programme: A case of getting old before getting rich?

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Abstract This article examines the sustainability of China's Urban Employees' Pension Programme – the main component in China's overall old-age support system. It looks at the sustainability of the programme generally and, in particular, at case studies of two areas (Tianjin municipality and Guangxi province) to highlight both the extent of regional variations and the common challenges facing Chinese policy-makers. It discusses a number of key issues that should assist policy-makers to address the challenge of population ageing. It concludes that the challenge facing China is no more severe than that already faced by other countries in Europe and Asia. Moreover, the ageing of the population is not uniform across the regions of China. Consequently, those areas where the demographic shift is more advanced will provide some opportunity for policy experimentation. Given the experience to date of slow progress on various aspects of pension policy reform, the article suggests that it seems unlikely that paradigmatic change will be significant. Nonetheless, the study suggests a range of parametric policy measures that China should consider. The challenge facing China's policy-makers is to ensure that China gets old and rich at the same time.

Keywords old-age benefit, pension scheme, social security financing, population ageing, China

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Introduction

This article examines the sustainability of the Chinese Urban Employees' Pension Programme – the main component in China's overall old-age support system. It looks at the sustainability of the programme overall, drawing on the recently published *China Pension Actuarial Report 2019–2050* (CASS, 2019). It also looks, in particular, at case studies of two areas (Tianjin municipality and Guangxi province) to highlight both the extent of regional variations and the common challenges facing Chinese policy-makers. It discusses a number of key issues that would assist policy-makers to address the challenge of an ageing society, although none of these can prevent the cost of pensions rising significantly.[1]

The meaning of the concept of "financial sustainability" is not self-evident. The Organisation for Economic Co-operation and Development (OECD) argues that the "most logical approach to defining financial sustainability involves some form of long-term actuarial equilibrium" (d'Addio and Whitehouse, 2012). This would mean that the pension system should be in balance over time: the stream of contributions and other revenues over a suitably long horizon (50–75 years) should be enough to pay for projected benefits over that period. However, Grech (2018) has argued against a focus solely on lowering future spending on pensions. He argues instead for a more holistic framework that takes into account the interaction between pension system goals and constraints. Given that national pension reforms must ultimately be politically acceptable to key constituents (including current and future pensioners), this seems to be a useful approach to adopt.

In the next section, the article outlines the ageing of the Chinese population and introduces China's Urban Employees' Pension Programme, including a discussion of sustainability issues that draw on a range of recent studies. It then looks in detail at how the pension programme operates in two contrasting areas: Tianjin municipality and Guangxi province. A number of policy recommendations to address the sustainability of the pension fund and, thereby, to protect future pension expectations are set out, before offering conclusions.

Population ageing and the Urban Employees' Pension Programme

Growing old

China has a relatively young population compared to European Union (EU) Member States, the United States of America (US) or Japan. World Bank data

1. Deloitte (2017) has argued that "China will get old before it fully succeeds in getting rich".

shows that in 2019, 11 per cent of the Chinese population was aged 65 or older compared to 16 per cent in the US, 22 per cent in Germany and 27 per cent in Japan.[2] However, China will face the same issues that these countries have faced in the coming decades. In addition, the dramatic fall in the birth rate that China has experienced means that while the older population grows, the working-age population will shrink (in the absence of significant immigration) (see Bruni, 2018). Thus, the World Bank estimates that the older population (aged 65 or older) will rise (as a percentage of the working-age population (aged 15–65) from 15.2 per cent in 2016 to almost 48.2 per cent by 2050.[3]

Bruni (2018) shows that the picture is not as stark when one examines the economic dependency ratio, i.e. the total number of those who do not work divided by the number of employed. Without immigrants, the economic dependency ratio in China will reach a maximum of 1.6:1 in 2060 (workers to non-workers). This is lower than that recorded in 2015 by four EU Member States: Spain, Croatia, Italy and Greece. If significant immigration were to occur, Bruni estimates that the maximum economic dependency ratio would be 1.3:1 (by 2050), which is similar to the current EU value (1.27) and is lower than the values registered by nine EU Member States. Nonetheless, even on these assumptions, this will reflect a significant increase in the proportion of older people in China's population, and this process of population ageing will place significant pressure on the pension system.

The Urban Employees' Pension Programme

The Urban Employees' Pension Programme is the most important component in the overall Chinese pension system. In 2019, 312 million workers were insured under the programme and there were over 120 million people in receipt of a pension.[4] The Urban Employees' Pension Programme includes both a "social pension" and an "individual account". In principle, the employer's contribution (20 per cent of earnings until recently) finances the social pension, while the employee's contribution (8 per cent) goes to the individual account. It was originally intended that the individual accounts would be funded, but in practice contributions were often used to meet transition costs (Chen and Turner, 2014). Currently only a minority of such accounts are funded and the remainder are "notional" accounts. Until recently, the balance in these accounts was indexed in line with bank interest rates (obviously, much lower than wage growth).

2. World Bank data: Population ages 65 and above.
3. Deloitte (2017, footnote 1) show that this is not simply a Chinese issue in the Asia region. Very similar trends will be seen in countries such as the Republic of Korea, Singapore and Thailand.
4. The extension of coverage has been significant in recent years. In 2017, there were 293 million insured and over 110 million in receipt of pensions.

The normal pension age is 60 years for men, as well as for women working in certain professions; 50 years for "blue collar" women; and 55 years for "white collar" women. Earlier retirement is possible if the worker is engaged in physical work in certain industries or posts.

The social pension pays 1 per cent of the average of the indexed individual wage and the province-wide average earnings for each year of coverage, subject to a minimum of 15 years of contributions. The indexation of the pension in payment uses a mix of wages and prices. In the case of the individual account, the accumulated balance in the fund (or the notional account) is converted into a pension at the time of retirement by dividing the balance by a government-determined annuity factor. For example, at age 60, the factor is 139 (months) for both men and women (11.58 years). In fact, this is now much lower than actual longevity at that age (currently 16.1 years at age 65). However, the individual account pension continues in payment even after exhaustion of the account.

Regional variations. One of the unique features of the Chinese social protection system is the role that different levels of government play in the design and (in particular) implementation of the system. Policy is set by central government but is interpreted and transmitted by provincial and municipal governments to the lower levels of government, which actually implement the policy.[5] As a result, national-level Ministries have limited control over the precise content and implementation of policies at the local level. Furthermore, national-level Ministries are reliant on the lower level bodies for detailed information as to the implementation of policies. This process, combined with the divergence in socioeconomic contexts in China, gives rise to wide variations in the implementation of an ostensibly national policy.

Thus, despite the national framework, there is significant variation in how the programme is implemented in different provinces (and even at sub-provincial level in some cases). In practice, some provinces (such as Guangdong) have set the employer contribution rate at less than 20 per cent of earnings, while the government recently allowed provinces to reduce the rate to 19 per cent subject to certain conditions. From April 2019, the government reduced further the employer contribution rate to 16 per cent, as part of a package of measures to reduce costs for business.

There are also certain differences between (and, in some cases, within) provinces in how the earnings base is calculated and in how the collection of contributions is implemented, which lead to significant regional variations in the

5. See, for example, Guo (2016).

Table 1. *Urban Employees' Pension Programme revenue and expenditure in Tianjin and Guangxi, 2018 (CNY billion)*

	Tianjin		Guangxi	
	Income	Expenditure	Income	Expenditure
Contributions/Pensions	53.9	69.4	49.5	
Subsidies (Central government)	16.8 (15.8)	–	16.4	–
Central Adjustment Fund (CAF)	4.8	4.2	5.0	3.6
Interest and investment return	2.6	–		–
Inter-provincial transfers				
Total	79.3	74.2	70.9	61.2

Note: Blank cells indicate that the reports provided did not include this data. This is why the columns do not add up to the final total.

Source: Annual reports of provincial Human Resources and Social Security bureaus.

extent to which the notional percentage of wages is collected. This is exacerbated by the fact that, as discussed below, contribution collection has been the responsibility of different agencies. Studies have indicated that the enforcement of social insurance coverage is very relaxed in many areas (Nyland et al., 2006; Matra et al., 2007; Rickne, 2013; Gao and Rickne, 2014 and 2017). This has led to a situation where many workers are not, in practice, covered and where social insurance contributions are paid on the basis of wages that are lower than those actually being paid. In practice, in many areas the real contribution rate (contributions as a percentage of earnings) has been much lower than the headline 20 per cent (Zhao and Mi, 2019).

There are also variations in the extent to which persons are covered by the Urban Employees' Pension Programme in practice. For example, in many areas, migrant workers, informal workers and flexible workers have low levels of insurance coverage (Nielsen et al., 2005; Wu and Xiao, 2018; Jiang, Qian and Wen, 2018).[6] Analysis of data from the 2011 Migrant Dynamics Monitoring Survey in China found that of all rural–urban migrant workers nationwide, only 16.4 per cent had participated in the Urban Employees' Pension Programme (Qin et al., 2015; Gao, Yang and Li, 2012; and Cheng, Nielsen and Smyth, 2014).

This variation in coverage can be seen in the two regional case studies discussed in this article. In 2015 (most recent data available), the China Labour Statistical Yearbook (Tables 1–6) shows that in Tianjin municipality and Guangxi province

6. These groups include rural-urban migrant workers, those working in the informal economy, platform workers and workers with atypical work contracts.

there were 4,535,000 and 7,859,000 urban workers, respectively. The same source shows that in that year there were 2,814,000 (Tianjin) and 2,489,000 (Guangxi) persons insured under the Urban Employees' Pension Programme in the two areas. While the two data series are not necessarily fully comparable, this indicates that 62 per cent (Tianjin) and 32 per cent (Guangxi) of urban workers are covered by the Urban Employees' Pension Programme.[7]

In the case of pension payments, there are again significant differences in the level of pension both in real (Chinese yuan; CNY) terms and as a percentage of previous or average wages (replacement rate). This is in part due to the significant differences in wages between different parts of China, but it is also due to differences in implementation from one area to another. For example, in Guangxi in 2017, the average monthly pension was CNY 2,387. This represents 49 per cent of the average urban wage in Guangxi.[8] In contrast, the average monthly pension in Tianjin is significantly higher at CNY 2,912. However, this is only 37 per cent of the average urban wage in Tianjin. There seems to be a pattern whereby pensions in the large wealthy urban province-level municipalities (such as Beijing, Shanghai and Tianjin) are lower than average, whereas pensions in poorer and more rural provinces are at or above the national average (Lin and Dale-Tussing, 2016).

Administration. Most aspects of the Urban Employees' Pension Programme are implemented by the bureaus of the Ministry of Human Resources and Social Security (MHRSS) at provincial, municipal and lower levels, as well as by their subordinate agencies. However, the collection of social insurance contributions is carried out either by the social security authorities or by the tax authorities, depending on the provincial arrangements. In some provinces, the two agencies are responsible for different types of contributions. The lack of an integrated approach is perceived to have contributed to low compliance with social insurance collection, which is a feature of the Chinese social security system. The Chinese government has recently decided to adopt a fully integrated approach. In early 2018, the Central Committee of the Chinese Communist Party issued an Institutional Reform Plan, which proposed that in order to increase the efficiency of social insurance contribution collection and administration, all social insurance premiums, such as basic old-age insurance premiums, basic medical insurance premiums, and unemployment insurance premiums, should be levied by the tax department. The National People's Congress adopted this plan. However, in the period covered by this article, in both Tianjin and Guangxi, the social security authorities continued to undertake the collection of social security contributions.

7. This pattern is broadly in line with that found in earlier research (Lu, 2012).
8. See China Statistical Yearbook 2018, Table 4.13.

Other pension schemes. In addition to the Urban Employees' Pension Programme for workers, which is the focus of this article, there is the Urban and Rural Residents' Pension (in the first instance, introduced for rural residents in 2009) (Lu and Stepan, 2016). This voluntary scheme, rather than being a social insurance scheme, is more in the nature of a subsidized savings scheme combined with a small non-means tested pension. Its scope is very large, but the benefits are much lower than under the Urban Employees' Pension Programme.[9] In 2017, there were 513 million contributors to the scheme and 156 million people were in receipt of a pension.

There was also previously a separate pension scheme for public servants, though this is now aligned, to a certain degree, with the Urban Employees' Pension Programme. Finally, there is an Enterprise Annuity scheme, which is voluntary and has limited coverage (mainly in state-owned enterprises and other large employers) (Zheng and Guilan, 2018).

Sustainability. There are numerous published academic studies of the Urban Employees' Pension Programme using somewhat different data and different methodology.[10] All have concluded that the programme faces significant sustainability issues in the coming decade. Of course, these concerns have been heightened in the public mind by the slowdown in the Chinese economic growth rate (the "New Normal"). These studies tend to adopt the standard approach to sustainability, focusing on whether contributions and other revenues will be sufficient to pay for projected benefits over the period covered by each study.

Most recently, the Chinese Academy of Social Sciences (CASS) published the *China Pension Actuarial Report 2019–2050* (CASS, 2019). The report shows that China's expenditure on the Urban Employees' Pension Programme is increasing rapidly and had risen from 3.24 per cent (2012) of GDP to 4.64 per cent (2017) of GDP. The CASS report (2019) predicts that the current annual surplus (excess of contributions and subsidies over payments) will cease by 2023. In fact, as we will see in more detail in the regional case studies, the current balance is heavily dependent on government subsidies (mainly from central government). If these subsidies did not exist, the pension programme would already be in negative balance. The same study predicts that the accumulated fund surplus (including the subsidies) will be exhausted by 2035.

These figures reflect the overall national picture, but there is again significant provincial variation in the financial position. Indeed, 16 provinces already run an

9. In 2015, the average monthly rural resident pension was CNY 120.

10. See, for example, Bateman and Liu (2014); Hu and Yang (2012); Liu et al. (2015); Wang (2016); Wang, Béland and Zhang (2014); Wang, Huang and Yang (2019); Zhao et al. (2017) and (2018); Zhao and Mi (2019).

ongoing deficit, including the three northeastern provinces (Jilin, Liaoning and Heilongjiang), despite efforts to address long-standing deficits in these provinces (Zheng, 2006; World Bank, 2006).

Regional case studies

As we have discussed, although there is, in principle, a national system, in reality there is significant regional variation in the operation of the pension system and provincial and lower-level governments can play an important role in policy implementation. In order to explore this in more detail, we look at two contrasting areas: Tianjin, which is a northern megacity close to Beijing, and Guangxi which is a relatively poor southern province.[11] Tianjin is much smaller in terms of population than Guangxi (15.6 million compared to 48.9 million), but is much more urbanized and much wealthier.[12] The gross regional product per capita in Tianjin is over three times that of Guangxi (CNY 119,000 per annum compared to CNY 38,000). Tianjin has twice the national GDP per capita, whereas Guangxi is well below the average.

The economies of both areas are also very different in terms of output. In Tianjin, services (58.2 per cent) dominate, but industry remains significant (40.9 per cent). In contrast, agriculture (15.5 per cent) remains important in Guangxi, with industry (40.2 per cent) and services (44.2 per cent) making a roughly equal contribution to gross regional product. The proportion of the population aged 65 or older is higher in the more urbanized Tianjin (11.3 per cent) than in Guangxi (9.7 per cent).

Provincial-level coordination

Although the national government has been promoting provincial-level pooling for pensions since the 1990s,[13] this is an area where one can clearly see an implementation gap between national policy and local practice. In practice, there are two models of provincial-level coordination in China: i) the adjustment fund model and ii) the unified collection and payment model. Both provinces have systems of coordination in place at the provincial level.[14] Tianjin follows the unified approach and effectively has municipal-level pooling with issues relating

11. For the sake of brevity, the article refers to both areas as provinces although Tianjin officially is a municipality with the same rank as a province.
12. The proportion of the population categorized as urban is 82.9 per cent in Tianjin compared to 49.2 per cent in Guangxi. The data in this section comes from the 2018 Chinese Statistical Yearbook.
13. The Social Insurance Law of 2011 further calls for the gradual complementation of national pooling.
14. For a more detailed description, see Guo (2019).

to the contribution base and levels, the pension calculation as well as fund management being common across the municipality. Tianjin also has a comprehensive IT system, which covers the entire municipality.

Guangxi adopts the adjustment fund mode and has coordination methods at provincial level, and some aspects of the Urban Employees' Pension Programme (such as the contribution base and level) are the same across the province. However, other aspects such as social insurance contribution collection and fund management remain the responsibility of lower-level units. Guangxi has established a provincial adjustment fund to support areas that have difficulty in meeting the burden of pension expenditure. Guangxi also has a fragmented IT system, with three different systems in operation in the province, which reduces the capacity to manage effectively. Information sharing between the provincial social security and finance bureaus is also subject to technical limitations.

Revenue and expenditure

In both provinces, total revenue (mainly contributions and subsidies) currently exceeds expenditure (Table 1).

However, as Table 1 shows, current expenditure on pensions significantly exceeds contributions and investment income and it is only due to central government subsidies that revenue exceeds expenditure. The Central Adjustment Fund (CAF), at present, plays a limited role.[15] Although Tianjin is one of the richer Chinese provinces and Guangxi is one of the poorer, Tianjin only pays into the Fund (net) less than 1 per cent of total pension expenditure and Guangxi receives 2.4 per cent of its total pension outlay.[16]

Both provinces have a positive fund balance (CNY 51 billion in Tianjin; CNY 61 billion in Guangxi), which means that both are in a position to pay pensions for 8–12 months (this is one of the criteria set by the Ministry of Finance for provinces in their management of the Urban Employees' Pension Programme). The fund balance is very small in the context of long-term pension commitments and indicates that the balance is simply a working balance rather than a real investment fund.

In line with Ministry of Finance requirements, both provinces prepare expenditure estimates for the coming three years. Both estimate that revenue in 2021 will exceed expenditure, but only by assuming an increase in central government subsidies. However, they also estimate that the reduction in the

15. This is a recently established system, which enables the transfer of resources from provinces with a current surplus of revenue to those with higher levels of expenditure.

16. The data provided at provincial level is somewhat different to the data recently published in relation to the CAF by the MHRSS. However, in both Tianjin and Guangxi, the MHRSS data also shows that the CAF plays a limited role (both provinces are small net beneficiaries).

employer contribution rate to the Urban Employees' Pension Programme to 16 per cent will lead to a fall in revenue.

Policy responses

This section sets out a number of policy recommendations to address the sustainability of the Urban Employees' Pension Programme and, thereby, to protect future pension expectations.[17] In line with Grech's (2018) approach, the concept of sustainability adopted here involves a holistic framework that takes into account the interaction between pension system goals and constraints. As Grech shows, in many other countries pension reform has tended to follow a cyclical approach, with reforms that are focused on reducing expenditure being followed by measures that restored generosity. A more holistic view, which attempts to balance the need for financial sustainability with the political acceptability of reforms, should avoid these policy cycles.

As we have discussed, China faces a number of challenges to the sustainability of its pension system including the ageing of the population and the reduction in the working-age population. Faced with this demographic shift, the only pension policy options to enhance the financial equilibrium of the Urban Employees' Pension Programme and protect the long-term position of insured persons are either to:

- Pay more into the pension system (more contributions and/or a higher rate of contribution, greater subsidies; better returns on investment); and/or
- Receive lower levels of pensions; and/or
- Receive pensions for shorter period (e.g. increase the pension age).

EU experience (EC, 2018) shows that there is no way to address population ageing without reforming the existing parameters of the pension scheme, which were designed in relation to a different demographic context.

A medium- and long-term approach

The first issue is the need for a long-term approach to the sustainability of the Urban Employees' Pension Programme. Given the clear challenges, it may be surprising that one of the conclusions of this article is that a key response should be to increase the awareness of policy-makers and implementers of the challenge they are facing and to move from a short-term focus on income and expenditure

17. We do not look here at issues concerning the investment of social security funds nor how to meet legacy costs (e.g. Chen and Turner, 2014). There are also a range of other issues that cannot be considered, in particular the considerable disparity in the treatment of urban and rural workers, which will become increasingly salient as China transitions to a mainly urban society.

to a long-term actuarial approach. However, while studies such as the CASS report (2019) have highlighted the challenges, such an awareness is not always apparent in terms of day-to-day policy development and implementation.

In the EU, an *Ageing Report* is published by the Ageing Working Group of the EU Economic Policy Committee and the European Commission's Directorate-General for Economic and Financial Affairs based on a mandate from the EU Council (EC, 2018). The report looks at the long-run economic and fiscal implications of Europe's ageing population (including the public finance implications) and is published every three years. It looks, in particular, at pension, health care and long-term care (LTC) costs for each of the Member States in the period to 2070.

The *Ageing Report* feeds into a variety of policy debates and processes at EU level, including the overarching Europe 2020 strategy for smart, sustainable and inclusive growth.[18] Of course, most (if not all) individual EU Member States also carry out periodic actuarial assessments of their future pension liabilities in order to inform policy development.

A similar approach should be considered in China based on actuarial data, but also looking at the very different position of Chinese provinces (including municipalities and autonomous regions). IT systems such as that of Tianjin could provide real data as regards contributions, which would help to ensure that actuarial projections reflect the actual existing pension system. The recent *China Pension Actuarial Report 2019–2050* is an important step towards such an approach.

Similarly, as part of this process, provinces should be encouraged to take a medium-term view of their pension liabilities. The current focus on the short-term (e.g. the number of months of pension reserves and three-year projections) only serves to highlight cases where expenditure is already exceeding revenue, but does not encourage a longer-term approach. This longer-term costing approach should inform decisions as to the indexation of pensions, contribution rates and the contribution base.

Parametric reforms

There have been many proposals for paradigmatic change to the Chinese pension system, such as converting the individual accounts into enterprise annuities (a "real" defined contribution scheme) or the establishment of a classic World Bank multi-pillar pension model (Dorfman et al., 2013). However, especially in

18. In particular, it is used in the context of the European Semester to identify policy challenges. Policy challenges are, among others, setting medium-term budgetary objectives, the annual assessment of the sustainability of public finances carried out as part of the Stability and Growth Pact, and analysis of the impacts of ageing populations on labour markets and potential economic growth.

the area of social security reform, Chinese policy has tended to be incremental, building on existing policies rather than changing them radically. In addition, there are a range of factors, including the decentralization of policy implementation and the feedback effects of existing pension policies (see Béland and Yu, 2004), which make it difficult to implement paradigmatic reform. Therefore, we focus here on more parametric reforms, i.e. changes within (rather than to) the existing basic structure of the pension system.

Given increasing longevity, changes to the pension age would appear appropriate and, indeed, have been considered by the government of the People's Republic of China.[19] In 2015, the Minister for Human Resources and Social Security flagged that an increase in the pension age was to be proposed on a phased basis, with the pension age being raised by perhaps a few months every year over a five-year period. However, given a negative public response, no further action appears to have been taken on this contentious issue.[20] As seen in EU Member States, it is likely to be only a matter of time until the pension age is increased in China and, while this in itself will not solve the sustainability issue, it would arguably be better to address this issue as soon as possible. Of course, increasing the legal age at which people become entitled to pensions is only one side of the equation. Unless the actual (or effective) retirement age also increases (thereby increasing contribution income and reducing the demand for social protection), any potential financial benefits to the pension system are likely to prove illusory.

Similarly, the current 15-year minimum contribution period for eligibility to pensions is very low in a comparative international context and could be significantly increased. Such changes have to be made at a national level in order to support provinces in addressing the pension burden.

The "individual account" element of the Urban Employees' Pension Programme has become, in reality, a notional defined contribution pension (NDC). However, the parameters of the pension (indexation and level of pension) are not set in line with the appropriate actuarial criteria. For example, the notional accumulated balance paid at pension age is currently divided by a factor of 139 (at age 60) although the expected duration of pension payment is much longer. For example, in Tianjin, the expected pension duration at age 60 is currently 252 months. The pension does not cease after 139 months, so, in reality, the "individual account" is subsidized from the "social pension" fund. Consideration should be given to adjusting these criteria in line with the principles of an NDC approach; for example, by adjusting the disbursement factor in line with actual

19. For the EU experience, see d'Addio and Von Nordheim (2014).

20. *South China Morning Post*, 10 March 2015. This issue was further mentioned recently in an outline of the five-year economic plan, which refers to a recommendation to "implement postponing the retirement age", with specific measures to be announced in 2021.

longevity and by allowing it to fluctuate in line with changes in longevity. Increases in the social pension should also be made on a more structured basis, having regard to the actuarial assessment proposed above.

Improving the effectiveness of social insurance contribution collection

Experience in other countries, including among EU Member States, would suggest that there are likely to be significant advantages to an integrated approach to social insurance contribution collection (Bakirtzi, 2011; Barrand et al., 2004). Indeed, as noted above, the Chinese authorities have already decided that the tax authorities should take on this responsibility. However, there is likely to be an implementation gap while the provincial authorities implement this recommendation. In particular, the current economic slowdown has led to strong opposition to any attempt to increase, what are seen as, taxes on business (Caixin, 2019).

The Chinese authorities at the national level should develop a strategic implementation plan for the move to the full integration of social insurance contribution collection at provincial level. This should be realistic, taking account of the issues involved in such as transition as well as the other challenges facing the tax agencies (e.g. the merger of national and provincial tax agencies). The plan should specify the actions required, agencies responsible, timing, resources required (including human resources and IT), future co-ordination mechanisms between key agencies, and so forth.

As part of the strategic implementation plan, the future IT platform should be identified and developed. IT can act as a motor for improved collection processes. Many countries provide for electronic data submission by the payer. IT systems also allow electronic exchange of data with other key stakeholders, which, for example, facilitates timely exchange of information (i.e. contribution records) between the tax agency and the social security authorities. It also allows real-time exchange of data with key agencies to assist in control activities. IT can also facilitate the use of management information systems (MIS) and business intelligence systems (BIS), which can improve the effectiveness and efficiency of collection processes (see National Employment Accident Insurance Institute, 2013).

The strategic implementation plan should provide for active policies to support compliance. For example, offering client-oriented facilities through call centres and help desks; electronic data submission; and "soft-measures", such as individualized follow-up,[21] etc. It should also provide for simplification of the contribution

21. For example, establishing a direct contact with the contribution payer providing for prompt solutions to resolve payment problems where a deadline for payment has been missed.

collection process, for instance by offering electronic interactive record keeping and payment management.

For the future collection of social insurance contributions, a risk-based approach should be adopted. This involves the use of automated detection tools that employ data matching and cross-checking of files. The data are obtained predominantly from internal sources, but agencies also exchange data with other key stakeholders. Integrated systems have an advantage here since they gather both tax and social contribution data. Risk analysis is also widely used as an instrument to guide audits and inspection activities. Risk analysis helps to identity high-risk sectors and activities so that investigation resources can be targeted at these areas. Some Chinese tax authorities are already using technology to address tax evasion. For example, the tax authorities in Shenzhen are working with Tencent[22] to develop an intelligent tax system that uses block-chain, cloud computing, artificial intelligence and big data to combat tax evasion.[23]

Extending pension coverage

Extending pension system coverage can help to improve the effectiveness of social insurance contribution collection. In turn, a more effective and efficient contribution collection system will ensure that those who are currently supposed to be insured are in fact covered. However, the position in relation to many groups of atypical workers is either unclear or means that they are excluded from social insurance coverage. This is a situation that varies from area to area.

At present, the ratio between the number of people contributing to the Urban Employees' Pension Programme and the number of pensioners is just over 2:1 (2.17:1 in Tianjin and 2.25:1 in Guangxi). The CASS report (2019) indicates that the ratio is likely to steadily worsen so that, by 2050, there will be close to one pensioner for each contributor (1.04:1). Moreover, the current ratio would appear to be very low, given that China is still at a relatively early stage in the population ageing process.[24] Of course, in the longer term with a worsening pension system dependency ratio, increasing the number of those covered by the Urban Employees' Pension Programme will not alone address sustainability issues since all those covered will eventually be entitled to pensions. However, in the short to medium term, expanding pension coverage is likely to increase revenue and, assuming that those who are newly included are likely to be young, they will only be entitled to pensions after contributing for, say, 30 to 40 years. Accordingly,

22. Tencent is a Chinese multinational technology company.
23. According to the South China Morning Post, Shenzhen is China's "Silicon Valley" and is home to more than 30,000 tech companies.
24. It is difficult to make precise international comparisons due to different pension ages and data limitations.

this will have a positive impact on financial sustainability in the medium term. This would suggest that the Chinese provincial authorities should attempt to ensure that all urban workers are insured under the Urban Employees' Pension Programme, including groups such as flexible/informal workers such as platform workers and workers with atypical contracts.

Central government subsidies and the Central Adjustment Fund

Central government subsidies play a very important role in the current solvency of provincial Urban Employees' Pension Programmes. In the two provinces under study here, it is estimated that the need for these subsidies will increase further in the next three years. Without significant changes to the way in which the Urban Employees' Pension Programme operates, the need for such subsidies is likely to increase dramatically in the medium to long term. At present, the basis on which decisions are taken to provide such subsidies is not clear (at least for external observers). It will be important to set out in plain terms why subsidies are provided. Similarly, it is important that objectives are widely communicated and engender support for a shared effort between central government, provinces and lower-level governments to provide a sustainable Urban Employees' Pension Programme.

The Chinese authorities should analyse the full extent of existing subsidies and identify the rationale for these. It may be that, as in many EU Member States, subsidies have been introduced on an ad hoc basis and without a thorough policy analysis. Therefore, it would be important to consider whether these objectives are still relevant and whether the subsidies are achieving their objectives in the most cost-effective manner. The study should also look at the possibility of whether there are more cost-effective approaches, such as more targeted subsidies and/or pre-subsidization. For example, the implications of moving to a more geographically targeted approach to funding (providing higher levels of subsidy to poor areas or areas with high out-migration) might be examined.

The Central Adjustment Fund (CAF), in contrast, is a recent innovation[25] and involves the transfer of resources from provinces with a current surplus of revenue to those that have higher levels of expenditure. Transfers paid into the CAF are based on the provincial average wage and the number of covered employees while transfers disbursed from the CAF are based on the number of pensioners in the province. It would appear that in its first year of operation the CAF did not have a major impact on most provinces (except Guangdong, which was a large contributor). As we have shown in Table 1, Tianjin was a small net

25. See State Council Gazette Issue No. 18, Serial Number 1629 of 2018 (*Guó fă* (2018) 18).

contributor and Guangxi was a small net beneficiary. It is understandable that the central authorities would want to ease in the implementation of the CAF. However, if it is to have a major impact, the level of transfers will need to scale up over the coming years. It will also be important to provide positive incentives to provinces to implement the Urban Employees' Pension Programme in the most efficient and effective manner. For example, payments into the CAF should be based on what provinces *should* collect rather than any lower actual figure to avoid giving provinces incentives for ineffective collection. However, it should be noted that in the medium to long term all provinces are likely to face sustainability issues, so the CAF is only a short to medium term response.

Conclusion

In conclusion, it is clear that China is facing the challenge of population ageing. This will lead to a significant increase in pension costs and no single solution, such as increasing the fertility rate or raising the pension age, can reverse this trend (Wang, Huang and Yang, 2019). Indeed, given the scale of the demographic shift and the compressed period of time over which it will take place, it is unlikely that any range of parametric measures can prevent a significant increase in costs. In addition, pensions are only one area where costs will increase, with health care and long-term care being other critical areas for policy.

However, the challenge facing China is no more severe than that already being faced by other countries. Furthermore, the ageing of China's population is regionally varied, so it will affect some areas earlier than in others, thereby providing some opportunity for policy experimentation.[26]

While we can predict with some degree of reliability the pace of population ageing, other factors – such as economic growth, productivity, fertility rate and migration policy – are much more difficult to predict. For example, Bruni (2018) has argued for a policy of significant in-migration to support economic growth and, thereby, reduce the pensions challenge. This offers a possible policy option, but one for which Chinese policy-makers have, to date, shown little enthusiasm.[27]

Given the experience of China to date, including, on the one hand, the reluctance to grasp the pension age issue and, on the other hand, the incremental progress towards provincial-level pooling as well as integrated contribution collection, it seems unlikely that paradigmatic change will be significant.

26. Albeit that this is much more limited than in other policy areas given that issues such as pension age are set nationally.

27. It is difficult to predict China's future policy route concerning encouraging immigration. Neighbouring Japan, which has similar challenges but is more advanced in the demographic transition, has remained inflexible. Deloitte (2017) reports that "Japan has kept its door strictly closed to foreign workers and immigrants".

Nonetheless, a range of parametric policy measures should be able to support China's attempts to address the challenge to the sustainability of the Urban Employees' Pension Programme. These include increasing awareness of the challenges amongst policy-makers and implementers; raising the pension age; increasing the effectiveness of social insurance contribution collection; and developing a more evidence-based and incentive-driven policy concerning government subsidies and the use of the Central Adjustment Fund.

The challenge for China's policy-makers is to ensure that China gets old and rich at the same time.

Bibliography

Bakirtzi, E. 2011. *Case studies in merging the administrations of social security contribution and taxation*. Leuven, European Institute of Social Security.

Barrand, P. et al. 2004. *Integrating a unified revenue administration for tax and social contribution collections: Experiences of Central and Eastern European countries* (IMF working paper). Washington, DC, International Monetary Fund.

Bateman, H.; Liu, K. 2014. *Pension reform in China: Racing against the demographic clock* (UNSW Australian School of Business research paper, No. 2013ACTL22). Sydney, UNSW Business School.

Béland, D.; Yu, K. M. 2004. "A long financial march: Pension reform in China", in *Journal of Social Policy*, Vol. 33, No. 2.

Bruni, M. 2018. *Ageing, the socioeconomic burden, labour market and migration. The Chinese case in an international perspective* (GLO discussion paper series, No. 222). Maastricht, Global Labor Organization.

Caixin. 2019. "Editorial: China must lighten social security burden on businesses", in *Caixin*. 15 January.

CASS. 2019. *[China Pension Actuarial Report 2019-2050]* (in Chinese). Beijing, Chinese Academy of Social Sciences.

Chen, T.; Turner, J. A. 2014. "Social security individual accounts in China: Toward Sustainability in individual account financing", in *Sustainability*, Vol. 6, No. 8.

Cheng, Z.; Nielsen, I.; Smyth, R. 2014. "Access to social insurance in urban China: A comparative study of rural–urban and urban–urban migrants in Beijing", in *Habitat International*, Vol. 41, January.

d'Addio, A. C.; Whitehouse, E. 2012. *Towards financial sustainability of pension systems. The role of automatic-adjustment mechanisms in OECD and EU countries* (Forschungsbericht, No. 8/12). Bern, Federal Social Insurance Office.

d'Addio, A. C.; Nordheim, F. von. 2014. *Towards an integrated agenda to deliver effective higher retirement ages: An issues note from the pension perspective*. Brussels, European Commission.

Deloitte. 2017. "Ageing tigers, hidden dragons", in *Voice of Asia*, September.

Dorfman, M. C. et al. 2013. *China's pension system: A vision*. Washington, DC, World Bank.

EC. 2018. *2018 Ageing Report: Policy challenges for ageing societies*. Brussels, European Commission – Ageing Working Group of the Economic Policy Committee (EPC) and the European Commission's Directorate-General for Economic and Financial Affairs (DG ECFIN).

Gao, Q.; Yang, S.; Li, S. 2012. "Labor contracts and social insurance participation among migrant workers in China", in *China Economic Review*, Vol. 23, No. 4.

Gao, Q.; Rickne, J. 2014. "Form ownership and social insurance inequality in transitional China: Evidence from a large panel of firm-level data", in *European Journal of Social Security*, Vol. 16, No. 1.

Gao, Q.; Rickne, J. 2017. "Inequality in social insurance participation and generosity: Do firm characteristics matter?", in *Social Policy & Administration*, Vol. 51, No. 5.

Grech, A. G. 2018. "What makes pension reforms sustainable?", in *Sustainability*, Vol. 10, No. 8.

Guo, Y. 2016. *Processes and activities of policy transmission and implementation carried out at central and local levels of social assistance* (EU-China Social Protection Reform Project). Beijing.

Guo, Y. 2019. *The financial management and supervision of the urban pension system in Tianjin & Guangxi* (EU-China Social Protection Reform Project). Beijing.

Hu, N.; Yang, Y. 2012. "The real old-age dependency ratio and the inadequacy of public pension finance in China", in *Population Ageing*, Vol. 5, No. 3.

Jiang, J.; Qian, J.; Wen, Z. 2018. "Social protection for the informal sector in Urban China: Institutional constraints and self-selection behaviour", in *Journal of Social Policy*, Vol. 47, No. 2.

Lin, J.; Dale-Tussing, A. 2016. "Inter-regional competition in retirement benefit growth – The role of sub-national government in Authoritarian China", in *Journal of Contemporary China*, Vol. 26, No. 105.

Liu, X. et al. 2015. "Reforming China's pension scheme for urban workers: Liquidity gap and policies' effects forecasting", in *Sustainability*, Vol. 7, No. 8.

Lu, Q. 2012. *Analysing the coverage gap in China*. London, HelpAge International.

Lu, Q.; Stepan, M. 2016. "The establishment of China's new type rural social insurance pension: A process perspective", in *Journal of Current Chinese Affairs*, Vol. 45, No. 2.

Matra, P. et al. 2007. "Firm compliance with social insurance obligations where there is a weak surveillance and enforcement mechanism: empirical evidence from Shanghai", in *Pacific Economic Review*, Vol. 12, No. 5.

National Employment Accident Insurance Institute. 2013. *Developing a Business Intelligence System for the fight against contribution evasion and elusion* (Good practices in Social Security). Geneva, International Social Security Association.

Nielsen, I. et al. 2005. "Which rural migrants receive social insurance in Chinese cities? Evidence from Jiangsu Survey Data", in *Global Social Policy*, Vol. 5, No. 3.

Nyland, C. et al. 2006. "What determines the extent to which employers will comply with their Social security obligations? Evidence from Chinese firm level data", in *Social Policy & Administration*, Vol. 40, No. 2.

Qin, M. et al. 2015. "Old age insurance participation among rural-urban migrants in China", in *Demographic Research*, Vol. 33, Art. 37.

Rickne, J. 2013. "Labor market conditions and social insurance in China", in *China Economic Review*, Vol. 27, December.

Wang, H.; Huang, J.; Yang, Q. 2019. "Assessing the financial sustainability of the pension plan in China: The role of fertility policy adjustment and retirement delay", in *Sustainability*, Vol. 11, No. 3.

Wang, L. 2016. "Actuarial model and its application for implicit pension debt in China", *in Chaos, Solitons and Fractals*, Vol. 89, August.

Wang, L.; Béland, D.; Zhang, S. 2014. "Pension financing in China: Is there a looming crisis?", in *China Economic Review*, Vol. 30, September.

World Bank. 2006. *China: Evaluation of the Liaoning Social Security Reform Pilot* (Working paper, No. 38183-CN). Washington, DC.

Wu, Y.; Xiao, H. 2018. "Social insurance participation among rural migrants in reform era China", in *Asian and Pacific Migration Journal*, Vol. 27, No. 4.

Zhao, Q.; Mi, H. 2019. "Evaluation on the sustainability of urban public pension system in China", in *Sustainability*, Vol. 11, No. 5.

Zhao, Y. et al. 2017. "Quantitative analyses of transition pension liabilities and solvency sustainability in China", in *Sustainability 2017*, Vol. 9, No. 12

Zhao, Y. et al. 2018. "Stochastic assessments of urban employees' pension plan of China", in *Sustainability*, Vol. 10, No. 4

Zheng, B. 2006. "Assessment for social security pilot in Jilin and Hei Longjiang of China", in *China &World Economy,* Vol. 14, No. 5.

Zheng, B.; Guilan, L. 2018. *The role of enterprise annuity funds in Chinese social security* (EU-China Social Protection Reform Project). Beijing.

Extension of social insurance coverage to informal economy workers in China: An administrative and institutional perspective

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Abstract This article reviews administrative issues in the context of decentralized social protection in China. In particular, what are the main obstacles to expanding social insurance coverage for workers in the informal economy? Over the last two decades, China has achieved remarkable progress toward universal social protection when this target was set as a national policy priority. However, the social insurance enrolment of informal economy workers still lags significantly behind. This article reviews the application of the International Labour Organization's definition of informality in the Chinese context and overviews existing pension and health insurances in China. This article discusses the impact of China's inter-governmental fiscal relations and decentralized social protection in the multilevel government system. The

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article highlights that under a system of decentralized managed social insurance many informal economy workers choose to opt out of the system because of low benefits and high compliance costs. This result in deficits in social insurance coverage amongst informal economy workers.

Keywords social insurance, informal workers, informal employment, coverage, China

Introduction

This article discusses social insurance for workers in the informal economy in China. The International Labour Organization's Recommendation on the Transition from the Informal to the Formal Economy, No. 204 (2015), refers to the informal economy as "all economic activities, excluding illicit activities, by workers and economic units that are, in law or in practice, not covered or insufficiently covered by formal arrangements". Formal arrangements include labour legislation, income taxation, entitlement to social protection or certain other employment benefits (advance notice of dismissal, severance pay, paid annual or sick leave …) (OECD and ILO, 2019, p. 26).

Informality can be defined by an enterprise-based definition of the informal sector with an extensive, labour-based concept of informal employment. The informal sector is an "enterprise-based" concept that "consists of unincorporated enterprises not constituted as separate legal entities independently of their owners engaged in the production of goods or services with the primary objective of generating employment and incomes to the persons concerned" (ILO, 2015). Employment in informal sector enterprises refers to those working in informal own-account enterprises (depending on national legislation).

Informal employment includes informal jobs in formal sector enterprises, informal sector enterprises, or households (ILO, 2013). Employers (independent contractors with employees) and own-account workers (independent contractors without employees) are considered informal when their economic units belong to the informal sector (ICLS, 1993). Informally employed workers are employed in the formal sector, but are not protected by labour regulations. For the International Labour Organization (ILO) and the Organisation for Economic Co-operation and Development (OECD) "the substantial share of informal employment in large formal enterprises can be significant and may result from lack of recognition of the employment relationship or from contracts that provide no social protection and other benefits" (OECD and ILO, 2019, p. 38).

Employment in the informal economy is not officially defined in China. Therefore, for the purpose of this article, the concept will be further refined based on the Chinese context, as the discussion proceeds. One important distinction to make is between the concept of flexible work, as used in China's Social Insurance Law 2011, and the notion of work in the informal economy. Flexible work involves the use of non-standard forms of employment (ILO, 2016).[1] These new forms of employment tend to experience a higher prevalence of informality than standard forms of employment, but they are not all informal jobs (ILO, 2016 and 2018b). Flexible work can be well regulated and protected. The reason for the higher prevalence of informality amongst non-standard forms of work is that, very often, labour regulation is not always appropriate for these new types of employment. For example, non-standard employment involves working time that goes beyond normal standard practices or work conducted in normal workplaces (outwork) that remain insufficiently regulated (ILO, 2016). In this sense, the concept of informality adds to the notion of flexibility the fact that there is not an adapted regulatory environment or that the implementation of regulation is weak.

Informal economy workers are notably characterized by the absence of social protection coverage. Social protection shields workers from income insecurity caused by sickness, maternity, employment injury, unemployment, old age and other social risks.

Social protection can be financed under three broad modalities. First, some forms of social protection may be paid to workers directly by an employer, subject to the status of labour relations and the employment contract. For example, in China, sickness pay during periods of absence from work due to work-related injuries is a direct liability of the employer, as is severance pay for laid-off workers. Such protection does not exist for self-employed workers. Therefore, informal economy workers, but those in informal employment in particular, are more likely to fall into poverty in times of sickness or injury.

Second, social protection in the form of social insurance refers to a contributory and collectively financed mechanism based on solidarity and risk-pooling (ILO, 2014). The benefits received by individual claimants and the financial sustainability of social insurance schemes are partly dependent on enrolees' contributions. The social insurance enrolment rate for informal economy workers generally lags behind that of workers in the formal sector (ILO, 2018b).

1. The ILO distinguishes between four types of non-standard employment (ILO, 2015, p. 7): (1) temporary employment; (2) part-time and on-call work; (3) temporary agency work (TAW) and other forms of employment involving multiple parties; and (4) disguised employment relationships and dependent self-employment. According to the Social Insurance Law in China, flexible employment excludes temporary or short-term contracts that are full-time employment covered by labour relations and social security.

This is due to the fact that contributory schemes may not be sufficiently adapted to the labour market situation of informal economy workers, which tends to be different from that of formal full-time workers (Behrendt and Nguyen, 2020). For example, the rise of informal employment is largely attributed to the increase in non-standard forms of work due to labour market deregulation and other structural economic factors (Chen, 2012, p. 2). Hence, dual labour markets limit access to the legal right to contributory social protection provision that should be enjoyed by increasing segments of the flexible and mobile workforce (Cooke and Jiang, 2017; ILO, 2018b).

Finally, workers in the informal economy may be covered by non-contributory schemes (e.g. social assistance) paid by general taxes. Under-coverage of workers in the informal economy tends to be associated with poverty (Kanbur, 2017). However, where state-financed schemes are established to guarantee basic income security, informal economy workers may also not benefit from these, due to their earnings being just above the eligibility thresholds of social assistance means tests (Behrendt and Nguyen, 2020). In addition, benefit levels under schemes paid out of general taxation may be too low to offer adequate protection to workers in the informal economy.

Examining under-coverage of social insurance from an institutional perspective

To analyse the reasons for the low social insurance coverage of China's informal economy workers, this article discusses social insurance in China from an institutional perspective. The article dwells on the complexity of aligning policy and implementation capacities and incentives for the extension of social protection to workers in the informal economy, given China's multilevel government system, intergovernmental fiscal relations and decentralized social security institutional arrangements. The article argues that institutional arrangements and the different behaviour of workers as well as employers, and the interaction between these three elements, contribute to explain deficits in social insurance coverage amongst informal economy workers.

In general, deficits in social insurance coverage can be found at three levels. At a legal level, workers may be excluded from general labour and social security laws (for example due to the size of companies, or their occupation). In turn, they may also be adversely incorporated in laws and regulations, for example by having to meet stricter social security eligibility or entitlement conditions, or have access to levels of protection that are lower than those granted to regular full-time permanent employees. At a practical level, there may be insufficient application in practice of the existing laws (a problem of compliance with the legal institutional set up).

Compliance with existing laws and regulations can be promoted by mechanisms of deterrence, incentives and persuasion efforts (ILO, 2018b). The first, deterrence, refers for example to stronger inspection services, the existence of credible sanctions (such as high penalties) and their enforcement but also the early detection and prevention of social insurance contribution evasion through the exchange of data between tax authorities and social security institutions. The second mechanism, the use of incentives, refers for example to linking the payment of enterprises and workers' social insurance contributions to the access accorded to enterprises and workers to business support services and markets, and by subjecting the proof of social security registration to other interactions with public administration. The third mechanism, of persuasion, involves increasing legal awareness among employers and workers, promoting higher tax morale and a culture of compliance, and communicating better to economic actors the benefits of formalization. All these require significant efforts from the authorities responsible for implementing social security policy.

Many countries have made significant progress in addressing gaps in legal social security coverage by including informal economy workers, notably those in non-standard and flexible employment, within the scope of laws and regulations. Thus, current gaps in effective coverage are largely the consequence of the non-application of the law in practice (ILO, 2016). According to the ILO and OECD, the impact of compliance measures, such as labour inspections, on informality depends also on the workers' valuation of the tangible benefits of compliance. As such, compliance, incentives and persuasion mechanisms are complementary. The decision of workers and employers to comply with social insurance regulations is likely to be taken only after having made a comparison between the costs and benefits of formalization. At the individual level, many factors influence the costs and benefits of non-formality (ILO and OECD, 2019). Assuming that workers tend to underestimate the benefits of social insurance,[2] the costs of becoming insured play an important role in individuals' decisions to comply with regulations. To encourage formalization, it is therefore critical to minimize the cost of formalization for individuals and enterprises (ILO and OECD, 2019, p. 55). However, institutional arrangements may contribute to raising the costs of formalization and discourage compliance with regulations. As a result, some workers may opt out of social insurance arrangements even when it is mandatory. Therefore, to address compliance problems, balanced approaches combining deterrence with incentives and promotional measures are more effective.

2. Individuals tend to minimize the risks of becoming sick and are short sighted to the risks of outliving their savings.

Social insurance in China

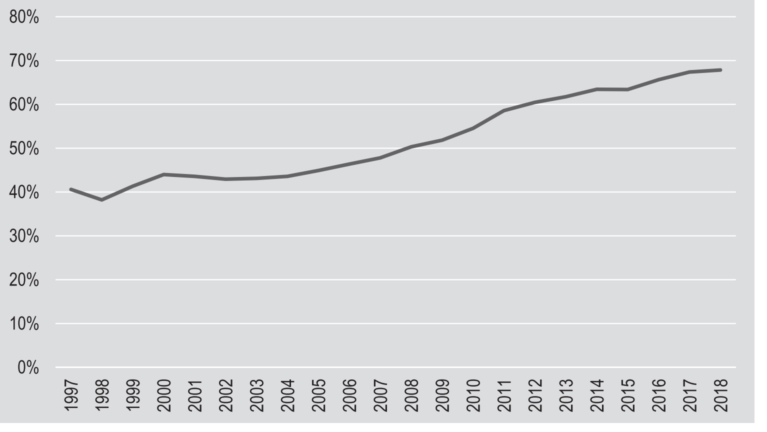
China faces similar policy challenges to those of other countries in providing universal social protection to informal economy workers.[3] Social insurance is the main approach used to provide social protection to its citizens. Before the 1980s, Chinese urban citizens enjoyed full employment and their needs for public services were met through the socialist work-unit welfare system (Gu, 2001). Since the mid-1980s, the Chinese government has initiated various types of social insurance schemes to protect millions of laid-off urban workers and facilitate the reform of state-owned enterprises (Wong and Ngok, 2006; Hu, 2015). In this article, the focus is on pension and health insurance (including both employment-based and residence-based schemes), the backbone of China’s social insurance institutions that are supposed to cover all Chinese citizens according to the Social Insurance Law. The article does not consider unemployment insurance or employment injury because, unlike pensions and medical benefits, these schemes are not yet available for flexible workers (notably self-employed and business owners), as one major group of informal economy workers in China.

Since 2003, the Chinese government has raised social policy as a national policy priority and has aimed to develop an inclusive social citizenship regime (Shi, 2012; Wen, 2015; Mok and Qian, 2019). In 2007, universal social insurance coverage was singled out as one of the national policy goals to build a “moderately prosperous society” by 2020. The 12th Five-Year Plan (2011–2015) issued in 2011 set social insurance coverage expansion, such as for pension and health insurance, as an “obligatory target”. The 13th Five-Year Plan on Human Resources and Social Security Development set a national objective for the full coverage of all who should be covered by compulsory social insurance by 2020. New social insurance schemes have been introduced to cover social groups, such as rural and urban residents as well as workers in the informal economy, that previously were excluded from such schemes (Gao, Yang and Li, 2013; Giles, Wang and Park, 2013; Huang, 2014; Ngok, 2016). As a result, China has achieved remarkable progress in coverage expansion in the last decade. According to the 13th Five-Year Plan (2016–2020) issued in 2016, the enrolment rate for the pension scheme was expected to reach 90 per cent in 2020 compared with 82 per cent in 2015. The coverage rate of the basic employees’ pension scheme for the urban labour force was about 68 per cent in 2018, up from 43 per cent in 2003 (Figure 1).

However, the persisting differences in rural–urban residence regulations that limit access to social insurance schemes for certain categories of workers, as well as the diversity of social insurance regulations applicable to different forms of

3. See web page of ILO in China and Mongolia.

Figure 1. *Enrolees of the Basic Employees' Pension Scheme as a share of urban labour force in China, 1997–2018*



Source: CEIC database.

employment, have resulted in the fragmentation of the social insurance system in China (Ngok, 2016).

The first fracture line is household registration status and locality. The household registration system (*hukou*) divides the population into two categories; namely, rural and urban residents based on their residential location. In the past few years, China has launched household registration reforms to support the coverage expansion of social insurance. For example, China consolidated two separate programmes for rural and urban residents to form schemes that apply to both urban and rural residents (pensions in 2014 and health insurance in 2016, respectively). In April 2019, China relaxed the hukou regulation for cities with fewer than 3 million inhabitants and similarly, in December 2019, for cities with 3–5 million inhabitants.

The second fracture line relates to differences in the social insurance regulations applicable to different forms of employment. Social insurance schemes, generally managed by local governments at and above the county level, vary across regions in terms of their scope, coverage and benefit levels, including sometimes within the same province (Gao, Yang and Li, 2013; Ngok, 2016). China's social insurance system is structured as a tiered system according to the form of employment. Urban workers with formal employment, residents, and workers in the informal economy are enrolled into different social insurance schemes with different regulations concerning contributions and benefits (Ngok, 2016; Ringen and Ngok, 2017). Contributions from employers and employees, which are paid in proportion to wages, are required for enrolment in employment-based social insurance. Contribution rates to social insurance in China are complex, with different employer rates set according to the province or city, and remain comparatively high for the self-employed and business owners (Table 1). The definition of benefits also varies across social insurance schemes. For coverage for residents (urban and rural), the contributions and benefits for pension and health insurance are a lump sum decided by the local government. Workers without social insurance contributions paid by an employer are encouraged to contribute to social insurance on a voluntary basis under the residence-based social protection system.

In sum, social protection in the form of social insurance in China varies across locations and forms of employment. In addition to this, China's fiscal and administrative decentralization has made interregional benefit transfers relatively difficult. Since the implementation of the Social Insurance Law in the early 2010s, several official documents have specified the mechanism to improve portability. For example, recent documents allow enrolees' pension contributions to be calculated in a way that takes into account different periods of contribution to different schemes, while the benefit can be paid in a unified manner. However, portability is yet to become a reality in practice across the country. There are still important variations in local social insurance policy design as well as in the local implementation of national policy guidelines. Moreover, the regulations are restricted to workers in full-time permanent positions (Giles et al., 2018; Yuan, 2020). In practice, some provinces, especially those that attract many migrant workers, resist exporting the portions of the contributions paid by local employers or by local governments to other provinces.

Table 1. *Rates of contributions and benefits to pension and health insurance in urban China*

Programme	Contribution		**Are the benefits proportional to contribution?**
Insurance schemes for employees			
	Employer (payroll)	Employee (monthly wage)	
Basic pension	16%	8%	✓
Basic health	6%	2%	✗
Insurance schemes for residents			
	Resident		
Pension	Annual lump sum		✗
Health	Annual lump sum		✗

Source: Compiled by the authors.

Social insurance for workers in the informal economy in China

In China, urban workers in informal economy enterprises and informal employment have accounted for more than half of the total urban labour force in recent years. According to the 2013 China Household Income Project (CHIP), a nationwide household survey, about 54.4 per cent of the total employed (urban and rural) workforce were in the informal economy, ranging from freelancers and private contractors to migrants working without employment contracts and proprietors of small-scale private enterprises (ILO, 2018a).

China's Labour Contract Law was passed in 2008 to regulate industrial relations and the Social Insurance Law was enacted in 2010 to regulate various social insurance schemes. It is compulsory for all full-time workers, regardless of enterprise type and household registration *(hukou)* status, to enrol in the employee insurance scheme. However, enrolment for the flexibly employed/self-employed is voluntary, both for the employment-based pension and social health insurance schemes.

While the extension of social insurance coverage has been significant in recent years, the coverage rate for urban informal economy workers still lags behind their counterparts in the formal economy. Examining individual-level data from China Labour-force Dynamics Survey (CLDS) 2012, a nationally representative household survey, Jiang, Qian and Wen (2018) found that the enrolment rate of formal economy workers ranges from 90 per cent to 95 per cent, which is nearly double that of informal economy workers (see Table 2). For informal economy enterprises, the enrolment rates of employers are lower than those of employees.

Table 2. *Enrolment rates of different groups in social insurance schemes (in percentage)*

Urban Labor Force (N=3,160)	Urban Pension Scheme (including urban employment based and residence based pension)	Urban Social Health Insurance (including urban employment based and residence based health insurance)
Formal economy workers (N=1,093)	90.29	94.84
Informal economy workers (N=2,067)	46.66	57.71
Employers (N=531)	33.60	41.22
Employees (N=1,536)	51.66	64.03

Note: Sampling weights from CLDS 2012 are applied on the enrolment rates.
Source: Jiang, Qian and Wen (2018).

Institutional reasons for the under-coverage of informal economy workers in social insurance

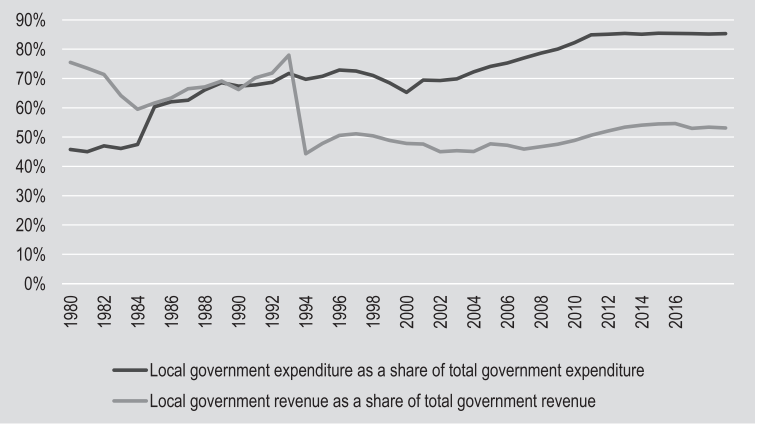
The central-local fiscal system in China, the performance evaluation system for local officials, and the hukou system contribute to low levels of social insurance coverage for the informal economy. This section presents factors to help explain the weak enforcement of social insurance enrolment for informal economy workers at the local level and the low level of promotional efforts aimed at informal economy workers in flexible work patterns.

Central-local fiscal relations. As China’s social insurance schemes are mainly managed at the local level, local government capacity and incentives are critical for implementing social insurance regulations. The responsibility for the cost to serve a growing and multifaceted workforce, to enforce social insurance regulations, and to take proactive measures to ensure that all workers who should be adequately covered by social insurance arrangements are effectively so, falls on local governments. Indeed, China’s decentralized fiscal system channels major tax revenues to the central government, but local government retains the responsibility for financing and providing public services (Wong and Bird, 2008; Ngok, 2013). In particular, there are no fiscal transfers from central to local government earmarked for the administration of social security. Local governments prioritize the operational costs for social security from their general budgets. Therefore, the general fiscal condition of local governments is crucial for handling caseloads and enforcing social insurance regulation (Qian, 2017).

In recent years, local governments have been responsible for over 80 per cent of government expenditure but only accounted for about 50 per cent of total fiscal revenue (Figure 2). Thus, in general, there is a huge discrepancy between local governments’ fiscal capacity and their responsibility for expenditure. Further, local government rely to an important extent on fiscal transfers from the central government.

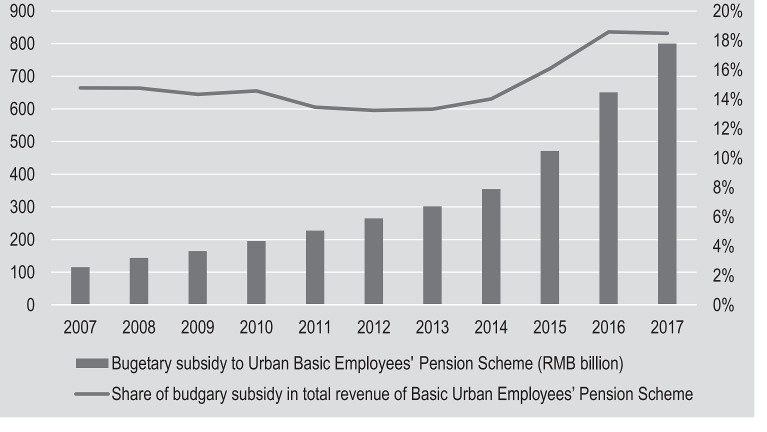
In terms of financial transfers for social insurance contributions and benefit payments, in China, the central government normally provides supplements for pension benefits while local governments provide matching grants for individual contributions. For example, in 2020, all levels of government were required to provide a subsidy of 550 Chinese yuan (CNY) per enrolee in the basic urban employees’ pension scheme. In addition, all lower levels of government were requested to allocate budgets to match the subsidy to benefits from the central government. Figure 3 shows that in recent years governments at all levels have augmented the budgeted subsidy for the basic urban employees’ pension scheme from CNY 115 billion (equivalent to 14.8 per cent of pension fund revenue) in

Figure 2. *The central-local share of fiscal revenue/expenditure, 1980–2019*



Source: CEIC database.

Figure 3. *Increasing share of budgetary subsidy for Basic Urban Employees' Pension Scheme, 2007–2017*



Source: Statistical Communiqués, Ministry for Human Resources and Social Security, various years (in Chinese).

2007 to over CNY 800 billion (equivalent to 18.5 per cent of the pension fund revenue) in 2017.

In this context, by providing matching grants to individuals' contributions and to support government efforts, local governments with limited fiscal capacity may not be able to provide sufficient social protection for informal economy workers. Based on prefecture-level fiscal data from 2003 and 2012, Mok and Qian (2019) suggest that social expenditure at the prefecture level increased with fiscal revenue and the size of the formal sector. Examining a nationwide labour force survey in 2012, Jiang, Qian and Wen (2018) find that the enrolment of informal economy workers in social insurance is likely to be higher in cities with larger fiscal capacity.

To counter the disparities in fiscal capacity, China has sought to streamline the collection of social insurance contributions across the country. International experience has shown that some countries improved their levels of compliance and efficiency in the collection of social insurance contributions by merging the body responsible for social insurance contribution collection with the tax administration (Bakirtzi, Schoukens and Pieters, 2011). Similarly, China's national and local tax collection and management reform, initiated in January 2019, has aimed to centralize the collection of social insurance contributions and merge these responsibilities with those of the tax authorities (Chipman Koty, 2018). This would significantly improve the administrative capacity of collecting social insurance contributions (see Liu, 2011; Tang and Feng, 2019). It would streamline operations with tax collection (contributions being based on the monthly reporting of income for individual income tax returns), triggering more automatic auditing practices and would allow to reduce underpayment and enforce social insurance regulations more uniformly. However, due to the strained economic environment in 2019, concerns regarding an increased tax burden led to a pause in the implementation of the reform. The reform was recommenced in the second half of 2020 (Liao and Li, 2000). For example, since 1 November 2020, all social insurance contributions from employees and employers in Beijing are now collected by the Beijing tax bureau.[4]

Performance management systems

Turning to the issue of the limited numbers of inspectors who enforce compliance with the social insurance system, international evidence suggests that realizing improvements in the effectiveness of inspection relies on organizational changes and reforms in the structure of incentives. As an example, in Brazil an incentive scheme for inspectors links part of their wages to individual and group performance. In addition, special inspection teams deal with situations that are more complex in certain sectors (Maurizio and Vásquez, 2019, p. 34).

In China, since the mid-1990s, a performance evaluation system has been applied to align the incentives of local officials with those of the upper-level governments (Whiting, 2004; Landry, 2008). This performance evaluation system

4. See Beijing Municipal Tax Service, State Taxation Administration (in Chinese).

for officials plays an important role in social security contribution enforcement efforts at the local level. More generally, studies show that local officials at the grassroots level are more likely to be promoted if they have achieved better economic performance as indicated by GDP or fiscal revenue growth, or have met more immediate targets concerning, for example, job retention or promotion.

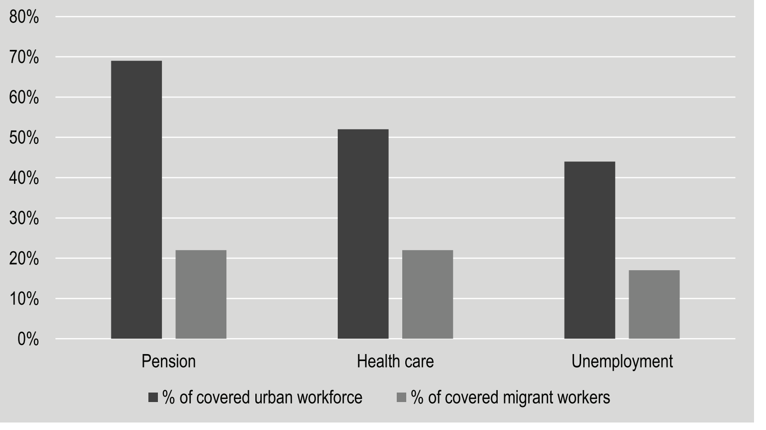
Local authorities are concerned especially with the financial health and economic survival of smaller enterprises in labour-intensive industries. These industries are more at risk of failing to make social insurance contributions (Wildau and Jia, 2018). Enhanced controls and tougher sanctions for non-compliance with labour regulations should act as an incentive for the improved payment of workers' social insurance contributions by employers as well as the regularization of labour relations. However, an intensification of labour inspections may also produce the opposite effect, as it could destroy informal jobs, resulting in an increasing number of unemployed (Maurizio and Vasquez, 2019, p. 34).

Persisting limitations of the hukou system for informal workers' access to social insurance

The hukou system still imposes practical restrictions on social insurance enrolment in some provinces. Social insurance benefits and policy varies according to household registration (hukou) status. The hukou system initiated in the 1950s segregates people by their hometown and by urban versus rural status. It regulates migration between cities and between rural and urban areas. There are two major dimensions of hukou status: (1) "agriculture" and "non-agriculture" hukou, with the latter assigned to urban residents; and (2) hukou location. In most cases, hukou status no longer affects the participation of migrant workers in stable full-time jobs. Workers in flexible forms of employment who do not have hukou at their place of work, however, are still unable to participate in the social insurance system on a voluntary basis in their usual place of work. For example, Figure 4 shows that only 22 per cent and 17 per cent of migrant workers are enrolled in pension and unemployment insurance schemes for urban employees respectively, levels which were much lower than the national average of 69 per cent and 44 per cent in 2017 (National Bureau of Statistics, 2018).

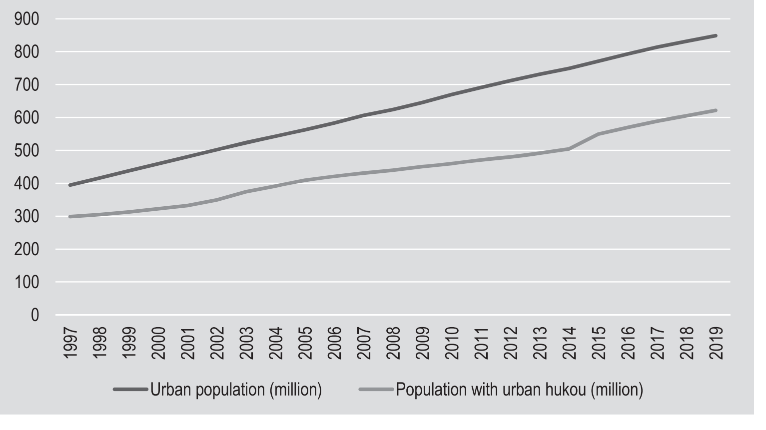
Figure 5 shows the gap between the number of urban residents and urban hukou holders. The number of urban residents without hukou (i.e. the floating population), which includes migrant workers and their family members, is large. Most of these migrants come from rural areas. Migrant workers from other cities constitute about 20 per cent (World Bank and DRC, 2014). Figure 6 shows the

Figure 4. *Enrolment rate of social insurance schemes in China, 2017*



Source: Statistical Communiqués, Ministry for Human Resources and Social Security, 2018 (in Chinese).

Figure 5. *Urbanization and household registration system (hukou) in China (million), 1997–2019*

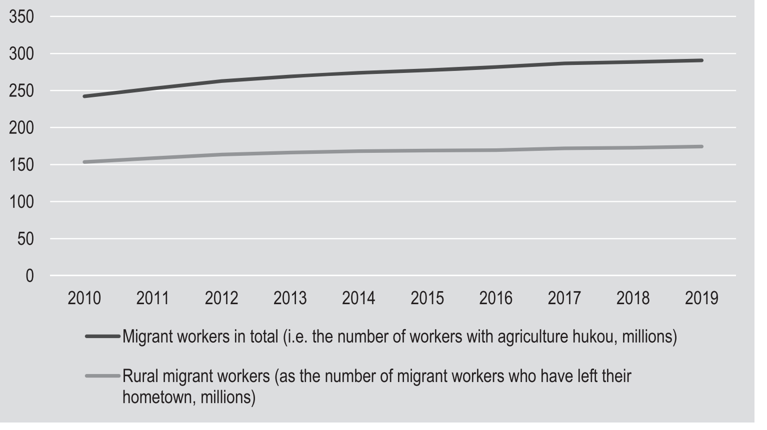


Source: Statistical Communiqués on national economic and social development, National Bureau of Statistics, various years (in Chinese).

number of workers with agriculture hukou as well as the number of migrant workers who have left their hometown. Over 60 per cent of migrant workers have left their hometown to find jobs.

The efforts necessary for affiliating the mobile/floating population with the social insurance system are greater than for registering the local stable working

Figure 6. *Number of migrant workers (million), 2010–2019*



Source: National Bureau of Statistics, Monitoring report on rural migrant workers, various years (in Chinese).

population. In addition, the contributions of mobile workers impose a risk to the funds to which they contribute. Under the current pension administrative structure, local governments collect contributions and pay benefits. Local governments who receive migrant workers are responsible to meet any deficits in social security funds by using local fiscal resources. Therefore, they have incentives to protect their local pooling funds, and avoid transferring migrant workers' contribution records and financial balances to other provinces.

In sum, institutional factors and limited fiscal capacity can limit local governments' ability to enforce social insurance regulations for full-time employees, which may contribute to informal employment. In addition, local officials may lack the incentives to enforce labour obligations, as their performance is more commonly evaluated based on measures of GDP growth, attracting investment, and preserving jobs, rather than on enhancing social protection. Finally, in some provinces, social protection may not be directly accessible in the place of work for some workers in the informal economy, most notably migrants in flexible forms of employment. In this case, the hukou system limits the responsibility of local authorities to make additional efforts to promote access for these workers to social security. Where such limitations exist, informal workers will not be able to contribute to social insurance schemes at their place of work and will therefore lack access to benefits comparable to those of local residents. Hence, for all these reasons, institutional barriers increase the cost of compliance and participation in social security for enterprises and individual workers.

Compliance by workers and employers mandated to enrol and contribute to social insurance

Compliance with regulatory requirements implies costs for enterprises and workers and are considered one possible reason for under-coverage in the social insurance system. Lack of compliance with social insurance regulations may involve the non-declaration of jobs or employees. One the one hand, employer may underreport the number of migrant workers in their employment. On the other hand, employers may not inform workers, notably migrants, about their social security rights and obligations. Although the Labour Contract Law of China recognizes the concept of de facto employment relationships, and generally requires employers in such relationships to respect the same responsibilities as when written contracts are in place, it does not specify how de facto employment relationships should be established or proven. This makes it more costly for workers with unwritten contracts to demand compliance with the Social Insurance Law. Therefore, contribution evasion is more likely in the absence of signed contracts or when contracts are not compliant with labour protection-related laws. Finally, international studies show that informal employment may take the form of false full-time independent contractors, or the underreporting of pensionable wages sometimes with the collusion of employees (ILO, 2016).

Self-employed workers as well as employers may respond to the institutional constraints of social insurance in various ways. Workers' responses are generally heterogeneous based on their socioeconomic characteristics, such as employment status (e.g. employer or employee), as well as the location of hukou.

First, the self-employed and small business owners who are without urban/local hukou are more likely than those with urban/local hukou to not participate in social insurance schemes, as they perceive little benefit from contributing to social insurance. Indeed, according to the results of regression analysis in a nationwide survey in 2012, the high-income self-employed in the informal economy are likely to opt out of the basic employees' insurance scheme and instead enrol themselves in commercial pension and health schemes (Jiang, Qian and Wen, 2018). There may be several explanations for this.

Even when they are legally eligible to contribute on a voluntary basis in their place of work, informal self-employed workers may not be able to continue contributing in another province if the regulation is different. Since migrants are often highly mobile, this will compromise the accrual of rights over their lifetime. In addition, even when a worker travels to another province and is able to continue contributing on a voluntary basis, the portability of the rights they have accrued in the province of origin is not guaranteed for flexible workers as it is the case for formal employees. Moreover, workers in the informal economy who do not have legal entitlement to contribute on a voluntary basis in their place of work, have to resort to residence-based social security, which provides a lower level of benefits than urban employees' schemes. Finally, as the self-employed and small business contractors of the urban informal economy are not required to enrol with the urban employees' social insurance scheme, they have discretionary power to choose between different types of insurance schemes (e.g. between public and private insurance) (Jiang, Qian and Wen, 2018). They are thus more likely than other informal economy workers to enrol in privately managed commercial insurance programmes.

Second, as argued above, the effective enforcement of obligations to contribute to social insurance should make informal employment less attractive by making it more costly. When local governments do not prioritize the enforcement of social insurance obligations, the cost of informality is reduced. From the perspective of the worker, the impact of enforcement measures on informality also depends on his or her valuation of the benefits of compliance. Workers may not participate in social insurance if the costs of participating outweigh the potential benefits, even if participation is mandatory.

Qian and Mok (2016) explore fiscal data and social assistance data at the city level between 2003 and 2011. Their study find a crowding-out effect between various social protection institutions with urban informal employees preferring not to contribute and benefit from unemployment insurance but rather to claim social assistance benefits when they have no work (for which they are likely to qualify since they have ceased to earn any income). This crowding-out effect is confirmed by Gilli, Li and Qian (2018), who conducted a study using more recent city-level data between 2007 and 2013. They cross-checked the status of social programmes managed by the Ministry of Human Resources and Social Security (MHRSS) (i.e. unemployment insurance) and the Ministry of Civil Affairs (i.e. social assistance). Especially attractive for workers in the informal economy are not the social assistance cash benefits per se, which are generally lower than that of unemployment insurance, but the access they gain to a basket of subsidies for housing, education and health care that are attached to social assistance eligibility (Lei and Chan, 2017; Qian and Mok, 2016).

Article 12 of the ILO Recommendation No. 204 concerning the transition from the informal economy advises that countries should ensure coordination across different levels of government and cooperation between the relevant bodies and authorities, such as tax authorities, social security institutions, labour inspectorates, customs authorities, migration bodies and employment services.[5] Whilst some local authorities are making efforts to increase coordination in service delivery in China, there is still a horizontal misalignment across different

5. See the full text of ILO Recommendation, 2015 (No. 204).

social protection policies and a vertical mismatch between policy objectives and local capacities and incentives for their implementation. These misalignments crowd out efforts to secure adequate protection of workers in the informal economy.

Social insurance coverage for the informal economy after the outbreak of COVID-19

To mitigate possible adverse labour market effects during the initial period of the COVID-19 outbreak, contributions to social insurance were reduced or their payment could be delayed. Unemployment insurance coverage eligibility was expanded to include workers who had yet to acquire full rights and to those whose right to benefits had expired.

However, it has been workers in the informal economy that have been hardest hit by the ongoing COVID-19 pandemic, accentuating their vulnerability (ILO, 2020) as well as highlighting existing gaps in social protection for informal economy workers.

Moreover, while the long-term policy objective is to formalize the labour market in China,[6] employment in the informal economy is likely to increase in the short- to medium-term as a consequence of the COVID-19 pandemic. Indeed, at the National People's Congress meeting in May 2020, Chinese Premier Li Keqiang applauded mobile stalls and vendors in Chinese cities for injecting life and economic vitality after economic activity recommenced.

Flexible employment (e.g. part-time jobs, task-based jobs and self-employment) has been singled out since the outbreak of the COVID-19 pandemic as an area that provides employment opportunities. It was estimated by the National Bureau of Statistics that the number of workers in flexible employment had increased by 20 per cent in the first quarter of 2020 compared to that of 2019 (National Bureau of Statistics, 2020). Many delivery drivers contracted by digital platforms are in flexible employment or work part-time.[7] The government is set to support digital platforms to promote flexible employment and job-sharing. These platforms can provide services of job-matching and job-search in the labour market.

However, under-coverage of social insurance for workers contracted with the digital platforms has been a serious concern. As recently as 2018, over

6. For example, social insurance contributions uniformly collected by tax authorities is one of the formalization initiatives in recent years in China.

7. Between 20 January 2020 and 30 March 2020 (i.e. after the outbreak of COVID-19), there were a reported 458,000 newly registered food delivery drivers working for the online Chinese shopping platform Meituan (*Guangming Daily*, 2020). This has continued the trend that had already seen about 3.99 million people working for Meituan as food delivery drivers in 2019, a 23 per cent increase compared to 2018.

47 per cent of food delivery drivers were without social insurance coverage (Qian, 2019). After the COVID-19 outbreak, the government proposed to provide access to social insurance for new jobs such as freelance designers, ride-hailing drivers, food delivery workers, online match-makers, online fitness coaches and other freelance workers (National Development and Reform Commission and Cyberspace Administration of China, 2020). However, the details of this proposed social insurance coverage have yet to be made known.

To face the existing financial limitations in its operations, the administration of China's social security system[8] relies increasingly on the use of information systems to offer services online. These services include providing information to clients, including through Artificial Intelligence empowered social media channels and live streaming hotlines; online registration and changes in status; biometric proof of life; and mobile payments via Wechat and Alipay systems. This trend to adopt online services has been accelerated in response to the COVID-19 pandemic. For example, in the province of Zhejiang, 80 per cent of interactions with the social security system are now undertaken online.[9] The implementation and development of information systems and data exchange mechanisms at provincial and national level will be critical to reduce institutional barriers to register with the social security system and will contribute to the goal of reducing informal employment in China.

Conclusion

The informal economy is likely to remain a very important part of the urban labour market in China with economic recovery partly reliant on flexible and platform work. How to expand social insurance coverage to informal economy workers therefore remains an important challenge.

In China, the effectiveness of government policy is constrained by the level of compliance of its subnational governments that are responsible for policy implementation. While the central government has defined clear national priorities for universal social security coverage, this article has identified some barriers to their implementation at the local level.

First, fiscal constraints limit local government expenditure that can improve the reach of social insurance operations at the local level. Local government is also constrained in its ability to match central level subsidies for social insurance contributions or benefits for informal economy workers. Though this shortfall may be partly compensated in poorer provinces by transfers at the national level,

8. Key actors in social security administration are the bureaus of the Ministry of Human Resources and Social Security (MHRSS) and tax authorities including local bureaus.
9. See Native City news (in Chinese).

the article shows that there is a growing mismatch between local government expenses as part of total expenses and local government revenues as part of total revenues in the country. Second, there is a possible mismatch between national and local policy priorities due to the stronger focus of lower levels of government on economic and job stabilization indicators. The article highlighted efforts in China to increase the efficiency of the social insurance contribution collection system by streamlining collaboration with tax authorities. In addition, the article contrasted the weak incentives in existing performance management systems at lower levels of government in China. The case of Brazil demonstrates that it is possible to improve the effectiveness of national inspection services by embedding incentives in the inspectors' performance management system. Third, local governments who receive migrant workers are responsible to meet deficits in their social security funds by using local fiscal resources. Therefore, they have incentives to protect local funding pools. This creates incentives to discourage informal workers in non-standard forms of employment from accessing voluntary coverage in their places of work. With informal workers in non-standard forms of employment often being migrant workers, the risk is that migrants will claim benefits in the future after having returned to their hometowns, necessitating the export of "local" funds to finance the benefits to be paid out by other provinces.

As a result of these institutional features, some workers in the informal economy are shown to have opted out of contributing to social insurance, and instead contribute to commercial personal insurance plans. This shows that many such workers do have the capacity to contribute to social insurance, but choose not to do so. In addition, the article offers evidence that the lack of coordination between different policy areas at the local level accentuates disincentives to contribute to social insurance.

To address these institutional shortcomings, the government has been promoting streamlined national social insurance contribution collection mechanisms, and has established the objective of having provincial pension insurance pools and, in due course, a national pension insurance pool. In the communiqué of the 5th plenary session of the 19th Chinese Communist Party central committee as well as in the proposals for the 14th Five-Year Plan released in early November 2020, the objective to build the national pension insurance pool was presented as a policy target to be implemented during the 14th Five-Year Plan (2021-2025).[10]

The communiqué also accentuated the push for the better integration of data information systems across provinces as well as nationally. For example, since 2020, it is possible to use the national social insurance platform to register and claim unemployment benefits anywhere in China. However, given the fact that

10. See the full text (in Chinese).

policy delivery systems remain decentralized at the local level, this still permits social insurance bureaus to experiment, innovate and be responsive to local circumstances. This also constitutes an opportunity for the formalization of labour markets, since this will require a set of integrated economic and social protection policy approaches designed with the end-user in mind.

In short, addressing institutional constraints is critical to ensure the achievement of universal coverage. However, such improvements alone might not be sufficient for the expansion of social insurance coverage to informal economy workers. Workers' responses to policy changes also play a role. Future social policy reforms must take into consideration the varying preferences of informal economy workers and their behaviour, including their calculations of the costs and benefits of formalization and their heightened expectations concerning labour market flexibility and mobility.

Bibliography

Bakirtzi, E.; Schoukens, P.; Pieters, D. 2011. *Case studies in merging the administrations of social security contribution and taxation*. Washington, DC, IBM Center for the Business of Government.

Behrendt, C.; Nguyen, Q. A. 2020. *Extending social security to workers in the informal economy* (Policy resource package). Geneva, International Labour Office.

Chen, M. A. 2012. *The informal economy: Definitions, theories and policies* (WIEGO working paper, No. 1). Cambridge, MA, Women in Informal Employment: Globalizing and Organizing.

Chipman Koty, A. 2018. "China's tax bureau to collect social insurance", in *China Briefing*, 18 September.

Cooke, F. L.; Jiang, Y. 2017. "The growth of non-standard employment in Japan and South Korea: The role of institutional actors and impact on workers and the labour market", in *Asia Pacific Journal of Human Resources*, Vol. 55, No. 2.

Gao, Q.; Yang, S.; Li, S. 2013. "The Chinese welfare state in transition: 1988-2007", in *Journal of Social Policy*, Vol. 42, No. 4.

Giles, J. et al. 2018. *Can information influence the social insurance participation decision of China's rural migrants?* (Policy research working paper, No. 8658). Washington, DC, World Bank.

Giles, J.; Wang, D.; Park, A. 2013. "Expanding social insurance coverage in urban China", in C. Giulietti, K. Tatsiramos and K. Zimmermann (eds), *Labour market issues in China* (Research in labour economics, No. 37). Bingley, Emerald Group.

Gilli, M.; Li, Y.; Qian, J. 2018. "Logrolling under fragmented authoritarianism: Theory and evidence from China", in *Public Choice*, Vol. 175, No. 1–2.

Gu, X. 2001. "Dismantling the Chinese mini-welfare state? Marketization and the politics of institutional transformation, 1979–1999", in *Communist and Post-Communist Studies*, Vol. 34, No. 1.

Guangming Daily. 2020. "Shuzi Jingji, Ruhe Chengshiershang Genghao Fazhan", 27 April. (In Chinese).

Hu, A. 2015. *China's social insurance in the twentieth century: A global historical perspective*. Leiden, Brill.

Huang, X. 2014. "Expansion of Chinese social health insurance: Who gets what, when and how?", in *Journal of Contemporary China*, Vol. 23, No. 89.

ICLS. 1993. *Resolution concerning the measurement of employment in the informal sector* (15th International Conference of Labour Statisticians, Geneva, 28 January). Geneva, International Labour Office.

ILO. 2013. *Measuring informality: A statistical manual on the informal sector and informal employment*. Geneva, International Labour Office.

ILO. 2014. *Building economic recovery, inclusive development and social justice*. (World social protection report 2014/15). Geneva, International Labour Office.

ILO. 2015. *Recommendation No. 204 concerning the transition from the informal to the formal economy*. Geneva, International Labour Office.

ILO. 2016. *Non-standard employment around the world: understanding challenges, shaping prospects*. Geneva, International Labour Office.

ILO. 2018a. *Women and men in the informal economy: A statistical picture*. Third edition. Geneva, International Labour Office.

ILO. 2018b. *Informality and non-standard forms of employment* (G20 Employment Working Group Meeting, Buenos Aires, 20–22 February). Geneva, International Labour Office.

ILO. 2020. *COVID-19 crisis and the informal economy: Immediate responses and policy challenges* (ILO Brief). Geneva, International Labour Office.

Jiang, J.; Qian, J.; Wen, Z. 2018. "Social protection for the informal sector in urban China: Institutional constraints and self-selection behaviour", in *Journal of Social Policy*, Vol. 47, No. 2.

Kanbur, R. 2017. "Informality: Causes, consequences and policy responses", in *Review of Development Economics*, Vol. 21, No. 4.

Landry, P. F. 2008. *Decentralized authoritarianism in China: the Communist Party's control of local elites in the post-Mao era* (Vol. 1). New York, NY, Cambridge University Press.

Lei, J.; Chan, C. K. 2017. "Does China's public assistance scheme create welfare dependency? An assessment of the welfare of the urban minimum living standard guarantee", in *International Social Work*, Vol. 62, No. 2.

Liao H.; Li, J. 2020. "China's tax authorities to collect social insurance: Managing labour cost and compliance", in *Corporate Commercial Client Alert*, 11 November.

Liu, J. 2011. "Dynamics of social health insurance development: Examining the determinants of Chinese basic health insurance coverage with panel data", in *Social Science & Medicine*, Vol. 73, No. 4.

Maurizio, R.; Vásquez, G. 2019. *Formal salaried employment generation and transition to formality in developing countries. The case of Latin America* (Employment Working paper, No. 251). Geneva, International Labour Office – Employment Policy Department.

Mok, K. H.; Qian, J. 2019. "A new welfare regime in the making? Paternalistic welfare pragmatism in China", in *Journal of European Social Policy,* Vol. 29, No. 1.

National Bureau of Statistics. 2018. *Monitoring report on rural migrant workers 2017*. Beijing. (In Chinese).

National Bureau of Statistics. 2020. 张毅:就业形势随复工复产有所好转 压力下保持稳定具有基础和条. Beijing. (In Chinese).

National Development and Reform Commission; Cyberspace Administration of China. 2020. 《关于推进"上云用数赋智"行动 培育新经济发展实施方案》的通知. Beijing. (In Chinese).

Ngok, K. 2013. "The recent social policy expansion and its implications for inter-governmental financial relations in China", in *Australian Journal of Public Administration*, Vol. 72, No. 3.

Ngok, K. 2016. "Modern Chinese welfare achievements and challenges ahead", in N. Ngok and C. Chan (eds), *China's social policy: Transformation and challenges*. London, Routledge.

OECD. 2017. *Government at a glance 2017*. Paris, Organisation for Economic Co-operation and Development.

OECD; ILO. 2019. *Tackling vulnerability in the informal economy* (Development Centre Studies). Paris, Organisation for Economic Co-operation and Development.

Qian, J. 2017. "Increasing government social expenditure and intergovernmental fiscal relations in China", in *East Asian Policy,* Vol. 9, No. 4.

Qian, J. 2019. "Why informal workers are opting out of China's welfare system", in *Sixth Tone*, 9 October.

Qian, J.; Mok, K.-H. 2016. "Dual decentralisation and 'fragmented authoritarianism' in governance: Crowding out expansion of social programmes in China", in *Public Administration and Development,* Vol. 36, No. 3.

Ringen, S.; Ngok, K. 2017. "What kind of welfare state is emerging in China?", in I. Yi (ed.), *Towards universal health care in emerging economies: Opportunities and challenges*. London, Palgrave Macmillan.

Shi, S. J. 2012. "Towards inclusive social citizenship? Rethinking China's social security in the trend towards urban–rural harmonisation", in *Journal of Social Policy*, Vol. 41, No. 4.

Tang, J.; Feng, J. 2019. "Collecting system of social insurance and contribution compliance: Evidences from Chinese firm-level data", in *China Economic Quarterly*, Vol. 18, No. 3.

Wen, Z. 2015. "Towards solidarity and recognition? Changing social citizenship in China after a decade of social policy development", in *Asian Journal of Social Science*, Vol. 43, No. 1–2.

Whiting, S. 2004. "The cadre evaluation system at the grass roots: The paradox of party rule", in B. J. Naughton and D. L. Yang (eds), *Holding China together: Diversity and national integration in the post-Deng era*. Cambridge, Cambridge University Press.

Wildau, G.; Jia, Y. 2018. "China steps up social security collection as it cuts corporate taxes", in *Financial Times*, 12 September.

Wong, C.; Bird, R. 2008. "China's fiscal system: A work in progress", in L. Brandt and T. G. Rawski (eds), *China's great economic transformation*. Cambridge, Cambridge University Press.

Wong, L.; Ngok, K. 2006. "Social policy between plan and market: Xiagang (off-duty employment) and the policy of the re-employment service centres in China", in *Social Policy & Administration*, Vol. 40, No. 2.

World Bank; DRC. 2014. *Urban China: Toward efficient, inclusive, and sustainable urbanization*. Washington, DC, World Bank; Development Research Center of the State Council.

Yuan, R. 2020. *Financial sustainability of the pension system in China: Impact of fragmented administration and population ageing* (Thesis). Melbourne, University of Melbourne.

China: Towards the introduction of dependency/long-term care insurance

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Abstract The Chinese social security system has been the subject of numerous publications, which have made policy developments more accessible to researchers and administrators from all countries. However, the steps introduced in response to growing demands for intervention by the authorities in favour of dependent persons have remained poorly documented in the international literature. The purpose of this article is to take stock of pilot experiments in this field since the beginning of the 13th Five-Year Plan (2016–2020) with regard to their policy objective, operating mode and financing modalities.

Keywords long-term care, social security planning, China

Introduction

Article 25.1 of the United Nations Universal Declaration of Human Rights (1948)[1] recognizes the right to access the necessary social services to ensure

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1. See full text of United Nations Universal Declaration of Human Rights (1948). For an overview of international legal instruments that address the rights of older people, see Cabinet d'avocats Duperoy-Paour (Various years).

the health and well-being of all, including older people. The ageing of the population of the People's Republic of China (hereafter, China) led the Government, within the framework of its 12th Five-Year Plan (2011–2015), to pay special attention to living conditions for seniors, for whom the one-child policy and economic development had weakened traditional family solidarity.

It was in 2016 that the competent bodies decided to "implement policies to support the development of services for older persons" and to establish "a long-term care system that brings together insurance, social well-being and social assistance components" (*Xinhuanet*, 2016).

In 2018, the number of people in China aged 60 or older exceeded 240 million, representing 17.3 per cent of the total population, of which 45 million had varying degrees of disability. By 2050, there will be an estimated 480 million older persons in China, or 35 per cent of the total population, and over 100 million of this group will have disabilities. The need for elder care has never been so pressing in the country. It is reported that, in 2015, 15.3 per cent of the elderly population in China said they needed different types of daily care services, among whom persons older than age 80 had the highest waiting rate, at 41 per cent (Fan, 2018). At present, the percentage of older persons with serious or moderate disabilities continues to rise, and this is accompanied by growing demand for care as well as unprecedented pressure, both personal and economic, on family members.

To meet this growing demand for care and services for people with reduced autonomy, the Chinese Government, in June 2016 (MHRSS, 2017a), launched a ministerial-level pilot project[2] for the creation of dependency/long-term care insurance.[3]

Fifteen cities across China were chosen as pilot sites (see Table 1). This article sums up the steps taken by different pilot cities with regard to the provision of financing for dependency insurance and describes the corresponding levels and modalities of intervention.[4]

Specifically, the article presents summaries of the experiences of six "pioneer pilots" selected from the 15 "first wave" pilots undertaken across China. The

2. It is common in China to conduct pilot experiments to test different options before adopting a procedure nationwide. Pilots are selected on the basis of local characteristics to ensure a representative sample. The localities chosen benefit from compensation and material benefits provided by the central and regional governments.

3. The Chinese term 长期护理保险 [chángqī hùl boxin], although commonly translated as "long-term care insurance", refers to the protective notion of care for the person rather than that of medical care, hence the parallel use by the authors of the term "dependency insurance".

4. For a detailed overview of the question, see Zhang and Yang (2019). See also Huang, Zhang, and Zhuang (2019).

Table 1. *Pilot cities for dependency insurance*

City	Province	Region	Population	GDP per capita (CNY)
Chengde	Hebei	North	3,500,000	38,500
Changchun	Jilin	Northeast	8,540,000	95,700
Qiqihar	Heilongjiang	Northeast	5,500,000	23,000
Shanghai	Shanghai	East	24,200,000	135,000
Nantong	Jiangsu	East	7,300,000	128,000
Suzhou	Jiangsu	East	10,720,000	174,000
Ningbo	Zhejiang	East	8,000,000	123,000
Anqing	Anhui	East	4,600,000	31,000
Shangrao	Jiangxi	East	6,700,000	24,600
Qingdao	Shandong	East	9,500,000	124,000
Jingmen	Hubei	Centre-south	2,900,000	48,000
Guangzhou	Guangdong	Centre-south	15,300,000	156,400
Chongqing	Chongqing	Southwest	31,000,000	75,800
Chengdu	Sichuan	Southwest	16,300,000	94,800
Shihezi	Xinjiang	Northwest	380,000	132,900

Notes: The cities are presented according to their order in the “Guiding Opinions”, which defines their legal base. China is divided into five regions, North (dominated by Beijing), Northeast (previously, an area of heavy industry), East (dominated by Shanghai), Centre-South (dominated by Canton-Hong Kong), Southwest (previously rural, undergoing rapid development), Northwest (rural, relatively less developed).

Source: Compiled by the authors.

discussion then deals with the practical challenges for the national provision of dependency insurance. Before we address the pilot experiences, to help frame this policy debate, in the next section we provide an overview of public health insurance in China.

Health insurance in China

In China, public health insurance currently covers almost the entire population under two different schemes whose characteristics are similar in terms of in-kind benefits: the essentially contributory scheme for salaried and public employees, and the largely non-contributory scheme, so-called for “residents” that also covers farmers, the self-employed and workers in the informal sector. Pensioners continue to be paid out of their original scheme.

Benefits are funded from two sources: first and foremost, individual insured-persons accounts; once these accounts have been exhausted, use is made of the schemes' pooled resources. A benefit limit is set at six times the average salary for the previous year. However, this limit may be exceeded in the event of a particularly costly illness.

Pensioners are subject to tighter limits than the economically active population, for both treatments covered and benefit ceilings. This is so given that they paid little or nothing into health insurance during their working life. A medical aid system for vulnerable persons who have reached the end of their entitlement to health coverage operates within the broader framework of social assistance. The introduction of specific insurance for dependency/long-term care should lighten the load on the medical aid system, which benefits some 60 million people every year.

Covered health care is provided in hospitals on referral, depending on insured persons' location or socio-professional category. Families or colleagues are often obliged to cover patients' non-medical well-being, including meals and care needs during the night. As a result, a clear distinction is not always made between medical care and in-patient care in a hospital setting.

Using health insurance to cover long-term care is justified by the universal nature and stable funding of the latter. In addition, this approach makes it possible to indirectly bridge two coverage gaps in the social protection system: the absence of specific disability coverage and limitations in the material scope of coverage, which preclude satisfactory coverage for persons whose state of health requires continuous care of a medical or non-medical nature.

The predominant role of health insurance in the construction of the long-term care system can overshadow the importance of the non-medical component of such care – which is, however, present in the pilots – an importance that may be highlighted only when families are unable to meet the daily needs of dependent persons.

Pilot content

All the pilot projects were framed by “Guiding Opinions”, which offer a certain amount of flexibility in terms of programme funding and management. The Guiding Opinions entrust the pilot experiments on long-term care with the mission of helping to protect the fundamental human rights of dependent persons. Even if long-term care insurance must be seen against the backdrop of the general ageing of the population, older persons as such will only benefit from specific protection to the extent that they themselves are no longer able to perform necessary everyday activities, given that dependency is equated with a disability. Consequently, the pilots have focused on both the services necessary for beneficiaries' daily living and the care directly linked to these activities (Huang, Zhang and Zhuang, 2019).

Key statistical indicators for the pilot regions as a whole (*Xinhuanet*, 2020) are as follows:

- almost 90 million participants;
- some 430,000 service providers;
- annual average payment of 9,200 Chinese yuan (CNY);[5]
- coverage of 77 per cent (uncovered remainder 23 per cent);
- relatively small contributions – between CNY 30 and CNY 250 per insured person per year;
- substantial reimbursements:[6] CNY 1,200–6,000 per month for hospital care; CNY 750–2,000 per month for care in a retirement home; CNY 600–1,500 per month for outpatient aftercare (community monitoring).

Six pioneers among the pilots

This section presents vignettes of the "pioneer" long-term care pilots undertaken in six cities; namely, Qingdao in Shandong province; Changchun in Jilin province; Nantong in Jiangsu province; Shangrao in Jiangxi province; Jingmen in Hubei province; and the direct-administered municipality of Shanghai.

Qingdao

In 2012, Qingdao (9 million inhabitants) was the first city in China to launch long-term care insurance at the municipal level.[7] Coverage included salaried employees and urban residents under the basic medical insurance system. In January 2015, it was extended to residents of rural areas under the new cooperative scheme for rural health care (Yi, 2018).

Funding comes from several sources: 20 per cent of the accumulated balance of the health insurance fund for urban salaried employees, contributions of up to 0.5 per cent of the accumulated pooled health insurance contribution (urban employees), and 0.2 per cent of the amount of individual accounts (Qingdao Municipal People's Government, 2018). Within the framework of the basic medical insurance system for urban and rural residents, the funding source is 10 per cent of the total health insurance fund. The municipality covers

5. As at 1 December 2020, CNY 10 equated to EUR 1.30 (2019 value in purchasing power parity: USD 4.20/CNY 1)
6. By way of comparison the 2019 national average salary was CNY 90,500 per year; the average pension: CNY 37,840 (system for salaried employees; CNY 1,830 (residents' system, 2018). See MHRSS Statistical bulletins (Various years) (In Chinese).
7. Details on the Qingdao pilot are available on the local Municipal Health Insurance Bureau website.

administration and management (Yuan, 2013) in addition to providing overall and per capita municipal grants (Deng and Guo, 2015).

Five types of long-term care services are covered by the insurance systems:

- home medical treatment;
- residential medical treatment;
- medical treatment in geriatric wards;
- periodic mobile medical examination;
- in 2018, an essential daily care service was included in the programme for severely disabled older persons suffering from severe mental disorders (Zhang and Yang, 2019; Qingdao Social Security Bureau, 2018a). The beneficiaries are those whose disability affects their daily living activities.[8]

The amounts paid by the dependency insurance differ according to the different categories of services provided (Table 2). The reimbursement rate for service charges varies between 70 per cent and 90 per cent (Qingdao Social Security Bureau, 2018a).

In 2015, the administration and management of the system was delegated to the State commercial insurance company PICC Health Insurance, creating a new model for cooperation between the Government and private enterprise in the field of social insurance. Social enterprises and private medical care facilities supply the bulk of long-term care services, particularly in the field of home care, which accounts for 89.6 per cent of all types of care provided. Nearly 700 facilities have been established and help provide long-term medical care in Qingdao, of which 90 per cent are from the private sector and provide 98 per cent of long-term medical care services. The city employs almost 15,000 service providers to this end (Ping, 2018).

Changchun

In 2015, the city of Changchun (8 million inhabitants) in Jilin province launched its pilot project on long-term health insurance[9] covering two population groups: urban employees and urban residents under their respective basic medical insurance systems.

Funding comes from 10 per cent of the accumulated balance of the basic medical insurance fund as well as a monthly tranche of 0.2 to 0.3 per cent of total health insurance contributions (scheme for salaried employees). Payments

8. From level III to level V in daily living activities according to the *Evaluation of long-term care needs* established by the municipality of Qingdao. See Qingdao Social Security Bureau (2018b).

9. Details on the Changchun pilot are available on the local Municipal Bureau of Health Care Security website.

Table 2. *Benefits for different categories of services covered by long-term care insurance in Qingdao*

Type of service	Payment limit			
Medical care in the geriatric ward	Tertiary hospital		Secondary hospital	
	CNY 210/day		CNY 180/day	
Residential medical care	CNY 65/day			
	CNY 50/day for day medical care provided to older persons with severe dementia in institutions			
Medical care at home	CNY 50/day			
Periodic mobile medical inspection	Urban employees	Level 1 scheme for residents	Children and students	Level 2 scheme for residents
	CNY 2,500/yr	CNY 2,200/yr	CNY 2,200/yr	CNY 1,500/yr
Daily essential care (scheme for urban employees only)	Establishments and geriatric and facilities	Level 3	Level 4	Level 5
		CNY 660/mo	CNY 1,050/mo	CNY 1,500/mo
	At home or mobile	Level 3	Level 4	Level 5
		3 hrs/wk at CNY 50/hr	5 hrs/wk at CNY 50/hr	7 hrs/wk at CNY 50/hr

Note: Home care provided by institutions for elderly people with listed mental disorders covered by long-term care programmes is paid for up to 60 days per year.

Source: Compiled by the authors.

of CNY 30 per year and per person are made from the medical insurance fund for urban residents (Changchun Municipal Bureau of Healthcare Security, 2019). Other sources of municipal grants are also tapped depending on available financial resources.

Long-term medical care services were initially intended for severely disabled, terminally ill cancer patients. They were gradually broadened to include persons disabled in undertaking daily living activities (Changchun Municipal Bureau of Healthcare Security, 2015) and the very old (State Council Information Office, 2016).

The delegation of services is based on an agreement between the competent governmental entity and the institutions that are qualified to provide long-term medical care to the population (Changchun Municipal Bureau of Healthcare Security, 2019).

The payment rate for long-term medical services in retirement homes and private medical care facilities is set by the municipality and institutions at CNY 107 per person and per day, of which CNY 97 is for medical care and/or essential daily care and CNY 10 for consumables. Hospital benefits vary depending on the specification of diseases. The reimbursement ceiling for services is 90 per cent for salaried employees and 80 per cent for urban residents (MHRSS, 2017b). Until 2017, there were 35 retirement homes for older persons and 20 private medical care facilities in Changchun authorized by the Municipal Bureau of Healthcare Security to provide long-term medical care services (*Sina Jilin*, 2017).

Nantong

The city of Nantong (7 million inhabitants) in Jiangsu province launched a pilot project for long-term basic care insurance in January 2016. The experiment attaches particular importance to essential daily care. Coverage includes urban employees and residents within the framework of their respective medical insurance schemes. The population covered exceeds 1.1 million out of 2 million urban residents.[10]

Per capita financing needs were set at CNY 100 per person and per year in the initial phase of the pilot, which is equivalent to 0.3 per cent of citizens' available per capita income for the previous year. This amount is then divided between three funding sources: CNY 30 comes from the common fund for basic medical insurance, CNY 40 comes from the municipal budget in the form of a subsidy, and the remaining CNY 30 is deducted from the individual medical insurance accounts. In addition to these sources, a sum of money is also pooled from the public lottery fund.

Persons who have been assessed as heavily dependent and have been receiving treatment for at least six months are entitled to benefits. In January 2017, insurance benefits were broadened to include persons considered moderately dependent. As of 1 January 2019, persons assessed as having severe mental disorders are also included in the system of benefits.

The services covered by the long-term basic care insurance include, but are not limited to, personal hygiene, helping the person to prepare for bed, dietary support, safe prone positioning, clinical observation, mental well-being, infusion therapy, rehabilitation services, disease prevention and health care services. Beneficiaries are entitled to services provided in retirement homes for older persons, in-home by accredited agencies and establishments, or in hospitals for certain types of illnesses (Nantong Social Security Bureau, 2017).

Insurance pays up to 60 per cent of the costs for basic care provided in a designated hospital, and beneficiaries remain entitled to their hospital benefits in

10. Details of the Nantong pilot are available on the local Human Resources and Social Security website.

conjunction with the basic medical insurance system. The maximum rate is 50 per cent of the cost of the basic care provided in designated nursing homes for older persons. For basic home care services, insurance covers up to CNY 1,200 per month. Insurance reimbursement covers bed occupancy, service fees, the use of basic care equipment and consumables.

The municipality has entrusted the administration and management of long-term basic care insurance to four commercial insurance companies, which won the Government's tender and share responsibility for managing basic care insurance in Nantong (*China Social Security Journal,* 2018).

Marketing basic care insurance provided a boost for the human services and nursing care industry in Nantong. Private investors have injected more than CNY 600 million since the pilot was launched (Nantong Social Security Bureau, 2018).

Shangrao

The city of Shangrao (7 million inhabitants) in Jiangxi province officially adopted the policy of long-term care insurance in 2017. Initially, only urban employees under the basic medical insurance scheme were covered. In 2019, insurance was extended to urban and rural residents.[11]

The insurance is financed based on CNY 90 per person and per year, of which CNY 50 comes from individual accounts or personal contributions, CNY 35 comes from the common basic medical insurance fund and CNY 5 comes from organizational contributions or municipal grants.

Insurance benefits are payable to persons covered by the long-term care insurance system who are assessed as severely disabled and/or suffering from severe mental disorders and who have been receiving treatment for at least six months.

Insurance covers payments occurring at the time of the disability assessment, the monthly home care grant, home care and rental fees for assistive devices, institutional care and other kinds of expenses such as third-party assessment, etc.

The municipal government has entrusted the management and supervision of the long-term care services industry to commercial insurance companies by service delegation (Lei, 2017).

In 2019, there were 20 new nursing homes in Shangrao, out of a total of 35 establishments. More than 550 persons have undergone training as home care providers (*Xinhuanet,* 2019).

11. Details on the Shangrao pilot are available on the local Human resources and Social security website.

Jingmen

The city of Jingmen (3 million inhabitants) in Hubei province launched the pilot project on long-term care insurance in 2016. Full coverage was reached in 2018 (People's Government of Jingmen City, 2016).

The insurance fund is financed based on 0.4 per cent of per capita personal disposable income, broken down as follows: 37.5 per cent from individual accounts or personal contributions, 25 per cent from the pooled medical insurance fund, and 37.5 per cent from municipal finances. To encourage continued participation in the insurance scheme, the Jingmen municipal government decided to increase the level of benefits depending on the total number of contribution years.

In 2019, the Jingmen government adjusted its insurance policy to categorize severe disability on three levels, with the level of home care or institutional services corresponding to the level of disability.[12]

Three types of services are covered: home care, institutional care for older persons, and hospital care.

The home care benefit ceiling is CNY 100 per person and per day with a reimbursement rate of 80 per cent. The insurance pays up to CNY 100 per person and per day for institutional care with a reimbursement rate of 75 per cent. The hospital care ceiling is CNY 150 per person and per day with a reimbursement rate of 70 per cent (Gao, 2018).

The Hubei provincial branch of Taikang Insurance Group [泰康人寿] has signed a service-level agreement with the municipal bureau. A special working group has been set up within the insurance company.

In 2019, 115 establishments were providing nursing care services within the framework of the long-term care insurance scheme. More than 23,000 persons have completed professional training as caregivers, and 4,500 jobs have been created since 2017 (Chu, 2019).

Shanghai

Shanghai (27 million inhabitants) launched the pilot project on long-term care insurance in January 2017 in the three local areas of Xuhui, Putuo and Jinshan. One year later, the pilot project was extended to all areas of the municipality.

Urban employees and residents older than age 60 who come under the basic medical insurance schemes may request an assessment of long-term care needs

12. Details on the Jingmen pilot are available on the local Human Resources and Social Security local website.

for older persons (Zhang and Yang, 2019). The assessment costs CNY 200 and is reimbursed at a rate of 80 per cent (*CN-Healthcare*, 2020).

For urban salaried employees older than age 60, the dependency insurance fund periodically deducts from the pooling 1 per cent of contributory base for the basic medical insurance of urban salaried employees.[13]

There are three types of long-term care services for older persons. The first type consists of community-based home care. Insured older persons (*Shanghai Aged Care,* 2018) are entitled to various types of services provided by professional caregivers at home or in community ambulatory care. To encourage home care, the insurance grants one or two additional service hours or a cash grant of CNY 40 to those who opt for home care for more than one month; or CNY 80 for more than six months.

Payment standards for nursing care services vary depending on the service provider. Long-term care insurance covers 90 per cent of the cost of home care and community ambulatory care (*CN-Healthcare*, 2020).

The second type of service pertains to nursing care or daily care for beneficiaries living in residential care homes for older persons. The payment standard varies from CNY 20 to CNY 30 per person per day, depending on the degree of dependency. The insurance reimburses 85 per cent.

The third type of service encompasses hospital nursing care, which is governed by the basic medical insurance (*Sohu*, 2017).

Service-level agreements have been signed by the Municipal Healthcare Guarantee Office, healthcare institutions and authorized service providers, which specify the service pricing standards and payment limits for the long-term care insurance.

The target set for Shanghai is to devote two-thirds of efforts to institutional care and services and a third to ambulatory care and services (community and neighbourhood centres) or home care (Gruat and Xu, 2016).

Table 3 summarizes the main financial arrangements adopted by each of the six pioneering pilot projects. As seen in the table, there are wide variations, which also reflect managers' capacity for initiative in interpreting Central Guidelines.

Widening of the pilots

A nationwide pilot campaign on promoting and experimenting with long-term care insurance was launched in 2017. This was done on the basis of the rich experience of the pioneer cities with regard to financing, the definition of benefits and conditions for the granting of benefits, insurance management and

13. Details on the Shanghai pilot are available on the Municipal Human Resources and Social Security webpage.

Table 3. *Summary of financial provisions for the six pioneering pilot projects*

	Initial allocation	Urban employees	Urban/rural residents	Municipal grant	Additional grant	Total estimate
Qingdao	20% from the account balance, medical insurance	0.5% from the pooling plus 0.2% from the individual accounts	10% from the resident medical insurance funds	CNY 20 M from the public well-being fund + 100 M over 5 years of the social lottery	CNY 30/yr/ urban employee; CNY 50/yr/ resident	CNY 1.5 billion
Changchun	10% from the account balance, medical insurance	0.3% from the pooling plus 0.2% from the individual accounts			CNY 50/yr/ resident	n.a.
Nantong	CNY 30 per eligible person	CNY 30		CNY 40		CNY 100/eligible person (3‰ of disposable income, urban residents)
Shangrao	CNY 30 (since 2019, CNY 35, from the pooling)	CNY 40 (2019: 50)		CNY 30 per eligible person (2019: 5)		CNY 100 per eligible person (since 2019: CNY 95)
Jingmen	25% of the total	37.5% of the total		37.5% of the total		0.4% of per capita income
Shanghai		1% contribution rate	Ad hoc			n.a.

Source: Compiled by the authors.

administration, the provision of long-term care services, cooperation between the public and private sectors, etc. As a result, the following nine cities (eight cities and one municipality) launched their own pilot programme for the creation and promotion of dependency insurance: Anqing (Anhui province); Chengdu (Sichuan province); Shihezi (Xinjiang Uighur Autonomous Region); Chengde (Hebei province); Suzhou (Jiangsu province); Guangzhou (Guangdong province); Ningbo (Zhejiang province); Qiqihar (Heilongjiang province); and the municipality of Chongqing.[14]

In addition to the 15 pilots, over 50 cities nationwide have now launched long-term care insurance systems on a voluntary basis.

14. Details on these pilots are available on the following local Human Resources and Social Security websites: Anqing, Chengdu, Shihezi, Chengde, Suzhou, Guangzhou, Ningbo, Qiqihar, and Chongqing.

By June 2018, some 57 million participants[15] were covered by long-term care insurance.

On 6 May 2020, the National Healthcare Administration, the body which in 2019 took over for health insurance management from the Ministry in charge of social security, launched an appeal for comments[16] from specialized circles on a project concerning “Guidance for the expansion of the pilot programme on the system of long-term care insurance” (National Healthcare Security Administration, 2020a). The objective was to take stock of the pilots of the first phase. Following this consultation, the National Healthcare Administration and the Ministry of Finance published on 16 September 2020 the finalized version of this document, in an annex to which 14 other cities were selected by the central government as second-round pilots[17] for a 2-year period.

This Guidance contains two fundamental elements for the next stage:[18] namely, dependency insurance should form an autonomous branch of social insurance, rather than a subset of health insurance;[19] and the beneficiaries will be those insured under the healthcare scheme for salaried employees,[20] who have been unable to independently meet their daily living needs for at least six months. Costs incurred by or for the beneficiaries should be covered at a level of 70 per cent.

Restricting insurance to those enrolled in the scheme for salaried employees, which since 2015 has included civil servants and public employees of the State or territorial authorities, limits population coverage to some 329 million persons, including 87 million retirees.[21] Although this defers to a later date the goal of

15. By way of comparison, basic health insurance covered some 700 million directly insured persons nationwide.

16. See “Long-term care insurance pilots to be expanded” – in China Policy.

17. These are Shijingshan district of Beijing; the city-province of Tianjin; the city of Jincheng (Shanxi province); the city of Hohhot (Inner Mongolia Autonomous Region); the city of Panjin (Liaoning province); the city of Fuzhou (Fujian province); the city of Kaifeng (Henan province); the city of Xiangtan (Hunan province); the city of Nanning (Guangxi Autonomous Region); Qianxinan Buyei and Miao Autonomous Prefectures (Guizhou province); the city of Kunming (Yunnan province); the city of Hanzhong (Shaanxi province); Gannan Tibetan Autonomous Prefecture (Gansu province); the city of Urumqi (Xinjiang Uighur Autonomous Region).

18. See “Long-term care insurance pilots to be expanded” – in China Policy.

19. The choice to create an autonomous social insurance branch to cover dependency risk is one original feature of the Chinese system. As highlighted in two recent studies (Morciano, 2017; OECD, 2020), the use of a specific, contributory social insurance mechanism to fund dependency insurance is relatively infrequent.

20. The exclusion from insurance of “residents”, primarily farmers and city dwellers in precarious employment or outside the labour force, is due to the fact that their extremely small pensions (10–13 per cent of net rural income) (Zheng, 2017) are almost exclusively non-contributory. The groups concerned have only very limited financing capacities but can, in case of need, access basic coverage through social insurance mechanisms.

21. These 2019 statistics are cited in National Healthcare Security Administration (2020b). The figure of 87 million potentially covered retirees can be seen in relation to the size of the population aged 60 or older of 240 million.

universal coverage, by defining the scope of the commitment expected from the new scheme, it offers the advantage of better ensuring sustainability.

Otherwise, the steps taken by the "new pilots" have been largely inspired by the "pioneer pilots", with the notable exception of the city of Ningbo that, with regard to funding, opted for a one-off initial allocation of CNY 20 million.

Most cities provide lump-sum financial contributions, albeit under a number of different headings (medical insurance fund, individual account, municipal grant), thereby limiting redistribution. Municipal grants are present in all cases. Interestingly, funding taken from the medical insurance pool is in one instance limited to employees aged 40 or older, which limits solidarity between generations but can facilitate the acceptance of funding.

Eligibility criteria for benefits do not differ substantially from what was seen in the "pioneer pilots". As regards maximum amounts for daily cash benefits, the same cautious thresholds can be seen as with the pioneer schemes. As limits are expressed in nominal values, indexation will rapidly become a critical issue.

The management agreements all opt for the delegation of responsibility to insurance companies, whereas some pioneers had chosen public management via social insurance institutions. Among the new pilots, all nine cities partnered with commercial insurance companies for the management and administration of long-term care insurance, via governmental delegation of public service.

These arrangements apparently inspired confidence among private-sector investors, whose participation in the provision of long-term care services in the pilot cities is regarded as "vigorous". Over CNY 7 billion had been invested in the personal and nursing care industry by the end of 2017, which created more than 40,000 jobs and stimulated the development of the healthcare industry (Fan, 2018).

In addition to the 15 pilot cities for long-term care insurance, Shandong and Jilin provinces were also designated as "main liaison provinces" for the design and practice of a pilot project on long-term care insurance. In addition to Qingdao (Box 1 illustrates the assessment process for eligibility for coverage in Quingdao), four cities participated in pilots for long-term care insurance in Shandong: Dongying, Liaocheng, Weifang and Rizhao, which benefited from Qingdao's experience while taking into account their own socioeconomic situation. In Jilin province, apart from Changchun, pilot projects on long-term care insurance were implemented in Songyuan, in the city of Jilin, and in Tonghua, Baishan and Mei Hekou. In addition to the 15 pilot cities and the two main liaison provinces, nearly 50 cities have launched pilot projects on long-term care insurance in parallel to the mandate of the central government (*Baidu*, 2019). At present, only the regions of Ningxia, Qinghai, Tibet and Hainan Island province are not part of the system.

Box 1. How it works

The example of Qingdao, the “pioneer” among the pioneers, illustrates how the assessment for eligibility for coverage in performed:

- Beneficiaries in a situation of dependency submit a coverage request to the care/accommodation institutions.
- After a brief evaluation, the institutions refer the request to an accredited evaluating organization.
- The evaluation must be performed within 20 days. A written evaluation is undertaken, based on a visit with the person in the presence of a third party.
- The evaluation is then submitted to a Commission, which decides on eligibility for coverage for a period of six to twelve months, after which a new evaluation must be performed.

Source: Qingdao Social Security Bureau (2018b).

Problematic comparisons

Given the high degree of flexibility in the pilot experiments on collective coverage for long-term care, it is necessary but difficult to make comparisons between the different approaches.

Beyond the differences in terms of the populations covered and the management and funding methods, it is useful to look at the systems in place from three angles; namely, beneficiary satisfaction, the value of benefits provided, and the practical scope of the scheme. That said, even if experience has shown that China is characterized by distinctive features in the economic and social policy fields and that international comparisons must be made with great circumspection, later in this article we summarize the situation in France and Germany, both of which have introduced large-scale long-term care measures.

Beneficiary satisfaction

In 2019, researchers from Jilin University in Changchun (one of the pioneer pilot cities) published the findings from an evaluation study on dependency insurance policy in the 15 first pilots (Yanzhe and Xiao, 2019).

The study, conducted on the basis of 1,500 interviews with people older than age 60 in the pilot cities (100 participants per site), provides useful insights. The value of these insights comes not necessarily from the high degree of satisfaction with the insurance mechanisms – out of the 1,167 replies received, 72 per cent of respondents expressed their satisfaction, 20 per cent their disappointment and 8 per cent had no opinion. Rather, the value is found in the variations in this figures analysed in the light of respondents' characteristics.

Indeed, it is hardly surprising to see such strong support for a new mechanism providing supplementary social protection in an area of particular concern for the respondents. Such support would only be expected among older or even very old people worried about what will happen to them in an increasingly urbanized society marked by a loosening of family ties, not least by reason of the one-child policy. It is therefore worth looking at whether the satisfaction rate varies depending on such criteria as participants' age, income level, family situation, health status and place of residence.

In this respect, the survey shows fairly clearly that the categories whose social protection needs are at first glance the most acute are indeed those who tend to be the most satisfied with the pilot mechanisms. For example, 82 per cent of respondents living in the western regions – the poorest in China – were satisfied, compared with "only" 69 per cent in the eastern (richest) provinces. Likewise, interviewees with only one child – on whom fell the entire responsibility for caring for their parents – were more inclined to say they were satisfied (75 per cent) than respondents with two children (50 per cent) or no children (66 per cent). Among people living in institutions, those living in hospital wards were more inclined to express a positive opinion than those living in special care facilities (79 per cent compared to 71 per cent). This is doubtless due to the dual effect of relief in relation to the cost of residential nursing care and the hope of an improvement in living conditions via an increase in external funding, given that long-term hospital stays are both more costly and less comfortable for older persons than residence in a special care facility.

However, the degree of dependency or the level of resources only seems to have an impact on the level of satisfaction for the highest socio-professional categories, who perhaps envisage the possibility of discontinuing or reducing the additional private protection to which they may have subscribed.

The value of benefits provided

When converted into US dollars or euros, the effective nominal benefits in the different pilots can sometimes seem ridiculously low in light of the costs for services charged in the countries regarded as the most developed. Indeed, medical care and so-called essential care in specialized care facilities or at home are capped at amounts that do not exceed a few hundred euros per year.

It is, however, important to note that these amounts make it possible, given the structures and price levels in China, to limit uncovered remainders in proportions (between 10–30 per cent) that some would judge particularly generous in light of the situation, for example, in France or Germany (see Box 2) (Le Bihan, 2018; Gerlinger, 2018).

Moreover, if we take as a reference pension income – often the sole income source of beneficiaries who, in the absence of the insurance scheme, would have to use this income to cover expenses for medical and other care justified by their health status and social situation – the benefits provided are largely comparable with those received in other countries.

Box 2. Two European examples

Dependency insurance in Germany

- Specialized branch of social insurance, backed by health insurance.
- Classification of beneficiaries by degree of dependency (five degrees).
- Lump-sum benefits depending on the degree of dependency.
- 2018 – a maximum benefit EUR 2,005 per month, with an uncovered remainder EUR 587 (22 per cent). Net uncovered remainder EUR 1,691.
- Value of benefits as a percentage of the average pension (EUR 1,400 per month) according to a minimum/maximum degree of dependency:
- home-based cash benefits 9 per cent/64 per cent;
- home-based in-kind benefits 49 per cent/142 per cent;
- residential benefits 55 per cent/143 per cent.

Dependency insurance in France

- Responsibility of the local authorities, with the financial backing of the State, health insurance, and the National Solidarity Fund for Autonomy (*Caisse nationale de Solidarité pour l'autonomie*) (respective shares 26 per cent, 9 per cent, 56 per cent, 9 per cent).
- Entitlements available according to the degree of dependency (six levels, benefits for the four most severe), means-tested.
- Residential benefits as a percentage of the average pension (EUR 1,306 per month in 2019) between 51 per cent and 131 per cent. Lump-sum cash benefit, 38 per cent. Institutional uncovered remainder between 139–222 per cent; in-home, 107 per cent.
- Breakdown of overall expenditure for dependent persons:
- Care: 61 per cent;
- Support for independent living: 30 per cent;
- Accommodation: 9 per cent.

Sources: Hocquet (2018), Gabanyi (2017), Authors' calculations.

For an average monthly pension amount (scheme for salaried employees) of CNY 3,153 in Qingdao, the pioneer city for dependency insurance, the varying coverage of institutional care came to more than 50 per cent of retirement benefits, with a similar level for home help services (heavily dependent people). Accordingly, the benefits covered by the dependency insurance pilots are far from being insignificant, which naturally contributes to their popularity with beneficiaries (see Box 3).

Practical scope of the pilots

An insurance mechanism covering care for dependent persons only acquires social value if it both facilitates access to the mechanisms or services that are indeed available and meets beneficiaries' needs.

We have seen that the pilots were well received by beneficiaries and that they provided access to benefits at a level that was, a priori, satisfactory. Given the potential scope of demand, and here we are talking about tens of millions or even hundreds of millions of people, the service delivery challenge is particularly daunting.

According to a study conducted for the EU–China Social Protection Reform Project (2014–2019) (Jun and Chinese Academy of Social Science, 2017),[2224] the efforts made in particular since the beginning of the 12th Five-Year Plan in 2011 have partially borne fruit. The objectives of the Plan – a national average of 30

Box 3. Two textbook cases

Mrs W., age 61, lives in Anqing, in Anhui province. She has been paralysed for three years. Her husband spends most of his time looking after her. As regards dependency insurance, they opted for the "home help" package, which includes personal hygiene, hairdressing, massage, and five laundry visits per month. The coverage rate is 70 per cent, to which is added a lump-sum monthly allowance of CNY 450.

Mr C., age 76, lives in a residence for dependent older persons in Qingdao. Monthly cost: medical care CNY 2,550, uncovered remainder CNY 533. Cost of accommodation, food, and essential care CNY 3,400, uncovered remainder CNY 2,050. In all, out of a cost of CNY 5,959 (188 per cent of the average pension), Mr. C. only has to pay CNY 2,583 (82 per cent of the average pension).

Sources: Ahyouth.com (2020), for Mrs W; *New.qq.com* (2020), for Mr C.

22. See also Zhang (2018).

long-stay beds opened for 1,000 persons aged 60 or older, or just over 6 million places in all – have been 90 per cent met since 2014. However, whereas the utilization rate for existing places was 67 per cent in 2010, the occupancy rate fell to 52 per cent in 2014 owing to the increase in supply.

The qualitative reality of the supply has certainly contributed to this loss of interest and it cannot be assumed that dependency insurance, by lifting the financial obstacles to institutionalization, will suffice to reverse this trend. One of the reasons why the occupancy rate for long-stay beds declines as potential beneficiaries' expectations and means increase is probably the lack of qualified staff in institutions, a problem that several pilots have flagged.

Difficulty in mobilizing sufficient numbers of dedicated, competent staff is a constant with many support systems for dependent older persons. The needs are indeed considerable. On the basis of available data for the most developed countries, research conducted within the framework of the EU–China Social Protection Reform Project (2014–2019) (Catani, 2018) has provide estimated figures for the staff necessary to ensure the proper functioning of a care system for the dependent by 2030. The staff required would represent nearly 10 million formal jobs, including more than 6 million in residential care (with almost equal proportions of nurses and other professional caregivers) and 3.5 million in home care, including 2 million nurses and 1.5 million for other specialist fields – an overall increase of more than 80 per cent over the 2015 level. These projections do not include informal caregivers, primarily family members, estimated at one person per ten beneficiaries, or 34 million caregivers for 340 million elderly people at home.

Consequently, there is a real need to train and recruit staff from all specialist fields to provide the necessary care for dependent older persons, and the new resources made available by long-term care insurance should help in this respect.

Conclusion

The initial core of 15 pilot long-term care insurance schemes was quickly expanded to nearly 50 sites across China, laying a solid foundation for possible general geographic and personal coverage.

Health insurance appears to be the predominant, if not sole, funding source for the schemes.

This may create some difficulties with regard to sustainability. Medical insurance for employees (contribution rate of 6 per cent for employers and 2 per cent for employees) was recently given responsibility for maternity insurance coverage within a fixed, if not declining, contribution rate, whereas the cost of modern medical treatment is outstripping wages in China as elsewhere.

Uncertainty as regards the cost of the scheme and the absorption capacity of medical insurance explains the relatively modest level of most benefits.

The assumed objective is to obtain 70 per cent or 80 per cent financial coverage for the care and services provided, often within a nominal limit whose indexation cannot be taken for granted. Consequently, the beneficiaries' uncovered remainders are potentially significant for recurrent benefits meant for population groups that often have only modest incomes.

The fact that, in the vast majority of cases, management is outsourced to insurance companies should continue to attract private investment in the sector and afford opportunities for designing and underwriting supplementary insurance cover.

For cost reasons, however, this may lead to restrictions on access to long-term care for those segments of the eligible population who cannot afford supplementary insurance, whereas the new insurance will only be accessible to those covered by the employees' scheme.

It should also be noted that the pilots were launched under the auspices of the Ministry of Human Resources and Social Security, while responsibility for medical insurance has since been transferred to another recently created body, the National Healthcare Administration. The latter entity needs to develop its institutional capacity for long-term care management but has already demonstrated its leadership in this area, with the launch of a second cohort of pilot cities in the second half of 2020.

Another doubt pertains to financing. In view of the fact that social insurance systems are currently under pressure to reduce contribution rates, the launch of a new independent nationwide long-term care insurance scheme that would need to raise additional funds seems unrealistic, at least in the short run.

Finally, the shortage of long-term care infrastructure and staffing remains a challenge for the introduction of long-term care programmes, especially in rural areas.

These obstacles and uncertainties, however real and well founded, have not been viewed as an obstacle to continuing and scaling up the experiment. Indeed, in October 2020, the Chinese Communist Party adopted the "Proposal for the Formulation of the 14th National Economic and Social Development Plan and the Long-term Objectives for 2035" (ILO, 2020), which includes a commitment to gradually establish a nationwide system of long-term care insurance.

Bibliography

Ahyouth.com. 2020. "长期护理保险" 在试点中温暖走来 ["Long-term care insurance" warms up in the pilot]. 16 October. (In Chinese).

Baidu. 2019. 长期护理保险试点覆盖 5700 万 人 “一城一策”亟须统一 [Long-term care insurance pilot program covers 57 million people, "One city, one policy" urgently needs to be unified], 22 November. (In Chinese).

Cabinet d’avocats Duperoy-Paour. Various years. *Droits fondamentaux des seniors dans les textes internationaux*. Paris.

Catani, M. 2018. “Labour demand and supply by occupations in the long-term care sector”, in *Population ageing in China: Impact and policy scenarios*. [S. l.], EU-China Social Protection Reform Project.

Changchun Human Resources and Social Security Bureau. 2015. 关于印发《长春市失能人员医疗照护保险实施办法(试行)》的通知 [Notice on issuing the “Implementation measures of medical care insurance for the disabled in Changchun City (Trial)”]. Changchun. (In Chinese).

Changchun Municipal Bureau of Healthcare Security. 2019. 长春市人民政府办公厅关于建立失能人员医疗照护保险制度的意见 [Opinions of the General Office of the People’s Government of Changchun City on establishing a medical care insurance system for disabled persons]. Changchun. (In Chinese).

China Social Security Journal. 2018. 南通:长护试点的“扩散效应” [Nantong: The “diffusion effect” of the Pilot Program], 11 September. (In Chinese).

Chu, X. 2019. 2019 荆门长期护理保险办法,失能人群每月可享 2380 元护理费 [2019 Jingmen long-term care insurance measures, disabled people can enjoy 2,380 yuan monthly care fees], in *Hubei*, 24 April. (In Chinese).

CN-Healthcare. 2020. 上海长期护理保险研究报告 [Shanghai long-term care insurance research report], 14 May. (In Chinese).

Deng, D. S.; Guo, T. 2015. “The construction of China’s long-term care insurance system – A case study of Qingdao”, in *Health Economics Research*, Vol. 10, No. 1. (In Chinese).

Fan, J. 2018. 我国失能失智老人近半亿 长护险需求强劲亟需扩面 [The demand for long-term care insurance for the elderly with disability and dementia is strong in my country], in *CN-Healthcare*, 13 July. (In Chinese).

Gabanyi, M. 2017. *Development of old-age services and long-term care in Germany*. EU–China Social Protection Reform Project.

Gao, X. 2018. 从荆门试点谈长期护理保险服务体系建设 [Discussion on the construction of long-term care insurance service system from the Jingmen pilot project], in *China Medical Insurance*, No. 9, September. (In Chinese).

Gerlinger, T. 2018. *ESPN Thematic report on challenges in long-term care: Germany*. Brussels, European Commission – Directorate-General for Employment, Social Affairs and Inclusion.

Gruat, J.-V.; Xu, C. 2016. *Notes on a visit to Shanghai pilot site – Demographic ageing*. [S. l.], EU-China Social Protection Reform Project.

Hocquet, J.-Y. 2018. *Long-term care in France – In search for a balanced policy*. [S. l.], EU-China Social Protection Reform Project.

Huang, Y.; Zhang, Y.; Zhuang, X. 2019. *Understanding China's long-term care insurance pilots: What is going on? Do they work? and where to go next?* (Technical Note). Washington, DC, World Bank.

ILO. 2020. *Social security policy monitor China* (September–October, No. 4). Geneva, International Labour Office.

Jun, T.; **Chinese Academy of Social Science**. 2017. *Development of old-age services and long-term care system in China*. [S. l.], EU-China Social Protection Reform Project.

Le Bihan, B. 2018. *ESPN Thematic report on challenges in long-term care*: *France*. Brussels, European Commission – Directorate-General for Employment, Social Affairs and Inclusion.

Lei, Y. 2017. 盘点长期护理险之试点"模式" [Inventory of the pilot "model" of long-term care insurance], in *Financial Expo*, No. 4. (In Chinese).

MHRSS. 2017a. 人力资源社会保障部办公厅关于开展长期护理保险制度试点的指导意见 [Guiding opinions of the General Office of the Ministry of Human Resources and Social Security on the Pilot of the Long-Term Care Insurance System] (MHRSS Act [2016] 80, 27 June 2016). Beijing, Ministry of Human Resources and Social Security. (In Chinese).

MHRSS. 2017b. 长期护理保险应该怎么做?看看这 4 个城市最新经验 [What should long-term care insurance do? Check out the latest experiences in these 4 cities]. Beijing, Ministry of Human Resources and Social Security. (In Chinese).

Morciano, M. 2017. *Long-term care in Europe: A review and synthesis of the most recent evidence*. [S. l.], EU-China Social Protection Reform Project.

Nantong Social Security Bureau. 2017. 关于印发《南通市基本照护保险实施细则》的通知 [Notice on the issuance of the "Nantong City Basic Care Insurance implementation rules"]. Nantong. (In Chinese).

Nantong Social Security Bureau. 2018. 《失智人员纳入基本照护保险范围》政策解读 [Interpretation of the policy on "The inclusion of persons with dementia in basic care insurance"]. Nantong. (In Chinese).

National Healthcare Security Administration. 2020a. 国家医保局 财政部关于扩大长期护理保险制度试点的指导意见 [Guiding opinions of the Ministry of Finance and the National Healthcare Security Administration on expanding the pilot program of the Long-term Care Insurance System]. Beijing. (In Chinese).

National Healthcare Security Administration. 2020b. 2019 年全国医疗保障事业发展统计公报 [2019 Statistical Bulletin of the National Medical Security Development]. Beijing. (In Chinese).

New.qq.com. 2020. 走向我们的小康生活山东青岛 ： 医养结合 推出长期护理保险制度 [Towards our well-off life: Qingdao, Shandong: Long-term care insurance system launched by combining medical and elderly care]. 24 July. (In Chinese).

OECD. 2020. *Long term care and healthcare insurance in OECD and other countries*. Paris, Organisation for Economic Co-operation and Development.

People's Government of Jingmen City. 2016. 关于印发荆门市长期护理保险办法 (试行)的通知 [Notice on issuing Jingmen City long-term care insurance measures (trial)]. Jingmen. (In Chinese).

Ping, Z. 2018. 国内首部!青岛长期护理保险蓝皮书发布 累计支出15 [The first in China! Qingdao long-term care insurance blue book releases cumulative expenditure 1.5 billion], in *Qingdao News*, 11 December. (In Chinese).

Qingdao Municipal People's Government. 2018. 关于印发青岛市长期护理保险暂行办法的通知 [Notice on issuing the "Interim measures for long-term care insurance in Qingdao"]. Qingdao. (In Chinese).

Qingdao Social Security Bureau. 2018a. 青岛市长期护理保险暂行办法 [Qingdao City long-term care insurance interim measures]. Qingdao. (In Chinese).

Qingdao Social Security Bureau. 2018b. 关于印发《青岛市长期照护需求等级评估实施办法》的通知 [Notice on issuing the "Implementation measures for the evaluation of long-term care needs in Qingdao"]. Qingdao. (In Chinese).

Shanghai Aged Care. 2018. 上海市卫生和计划生育委员会等关于印发《上海市老年照护统一需求评估标准(试行)》的通知 [Notice of the Shanghai Municipal Health and Family Planning Commission on Issuing the "Shanghai Uniform Needs Assessment Standard for Elderly Care (Trial)"], 19 November. (In Chinese).

Sina Jilin. 2017. 吉林省长期护理保险制度 2018 年将覆盖80%地区 [Jilin Province's long-term care insurance system will cover 80% of the area in 2018], 27 April. (In Chinese).

Sohu. 2017. 上海老人有福啦!长期护理险 2018 年1月1日全市试点! [Blessed are the old people in Shanghai! Long-term care insurance will be piloted in the city on January 1, 2018!], 28 December. (In Chinese).

State Council Information Office. 2016. 针对失能老人, 长春启动长期护理险试点 [Changchun launches long-term care insurance pilot for disabled elderly]. Shanghai. (In Chinese).

Xinhuanet. 2016. 习近平:推动老龄事业全面协调可持续发展 [Xi Jinping: Promote the comprehensive, coordinated and sustainable development of the cause of aging], 28 May. (In Chinese).

Xinhuanet. 2019. 江西上饶:长期护理保险为"失能家庭"减负 1800 多万元 [Shangrao, Jiangxi: Long-term care insurance reduces the burden of "disabled families" by more than 18 million yuan], 11 October. (In Chinese).

Xinhuanet. 2020. 多城试点效果不错 长期护理险试点扩围 [Long-term care insurance pilot extended], in *Workers' Daily*, 8 June. (In Chinese).

Yanzhe, Z.; Xiao, Y. 2019. "Evaluation of long-term care insurance policy in Chinese pilot cities", in *International Journal of Environmental Research and Public Health*, Vol. 16, No. 20.

Yi, C. 2018. 青岛市长期护理保险试点成效显现 [Long-term care insurance pilot projects in Qingdao show results], in *China Banking and Insurance News*, 11 September. (In Chinese).

Yuan, C. X. 2013. 劳动保障世界 [Long-term medical care insurance system in Qingdao]. No. 16. (In Chinese).

Zhang, Y. H.; Yang, D. F. (eds). 2019. 长期护理保险制度探索的郑州模式 [Exploration of long-term care insurance system: Zhengzhou case]. Beijing, Economy and Management Publishing House. (In Chinese).

Zhang, Y. H. 2018. "Chinese experiments to develop a long-term care insurance system", in M. Bruni et al., *Population ageing in China: Impact and policy scenarios* (Conference report, EU-China Social Protection Reform Project Conference to mark the 2018 International Day of Older Persons, 19 September). Beijing.

Zheng, G. 2017. *Evaluation of social security policies.* [S. l.], EU-China Social Protection Reform Project.

INTERNATIONAL
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BOOK REVIEW

Keqing Han. *Social welfare in transitional China*. London, Palgrave Macmillan, 2020. 405 pp. (Sociology, Media and Journalism in China). ISBN 978-981-329-660-2.

The author, who is a professor at the School of Labor and Human Resources in the prestigious Renmin University, defines "social welfare" broadly as a "system designed to satisfy people's needs and improve their living standard by means of fiscal allocation, physical distribution and social services". The book, translated from Chinese, is in two parts: (1) "central concepts" and (2) a detailed description of China's welfare system. In chapter 2, Han provides a short overview of the development of the Chinese social welfare system, but this is mainly descriptive rather than analytical.

Chapter 3 examines the impact of globalization, but much of the discussion is on the general context and the impact of globalization on Chinese GDP and income, inequality (briefly), and industrial restructuring. Unsurprisingly, the author concludes that globalization has had a significant impact on Chinese workers' wages. There is a somewhat brief discussion of the impact on the Chinese social welfare system. Here the author focuses on what the government *should* do to respond to globalization rather than providing any analysis of how globalization has actually impacted the current system. This is an important oversight. This focus on general issues and suggestions as to how the system can be further improved (rather than providing detailed analysis of existing policies) is unfortunately something which recurs throughout the book (and indeed a lot of Chinese scholarship).

Chapter 4 examines how the 2008 worldwide economic downturn impacted China's social welfare system. While some income and expenditure data are provided, it is not clear that there was any major impact. The author states that "China's social spending was not seriously hit by the financial crisis". However, given that he has shown that the crisis had a significant impact on China's GDP and employment, some more detailed discussion of why there appears to be a limited social welfare impact is surely required. It is difficult to reconcile this finding with the author's conclusion that, nonetheless, "the Chinese government maintained an active attitude to cope with the challenges posed by the financial crisis, and came up with a slew of economic and social policies to mitigate the negative impact of the financial crisis". How this was done without significantly increasing spending is not explained.

Chapter 5 on social stratification again gives us an extensive overview of general approaches to the issue, an (uncritical) short presentation of "recent" (2002) Chinese research and a general discussion about what social welfare should aim to achieve rather than the actual impact of the Chinese welfare system.

Chapter 6 turns to civil society. This is an interesting issue as there is a mismatch between the Western concept of civil society and the Chinese concept of "social forces". Recent Chinese policies have sought to advance the role of social organizations in the delivery of welfare policies (e.g. the *Guiding opinions of the General Office of the State Council on the government procurement of* *social services from social forces,* 2013), but this has been as part of a development of welfare services rather than part of retrenchment or commodification as in some Western countries. The author appears to see the development of civil society as a potential threat. Civil society may “turn into a political force confronting the government (ruling party)” (as in Poland) or “may breed anti-society forces”. This view is presumably shared by the Communist Party of China (CPC), hence the focus on the narrower concept of “social organization”. But again, the short section in this chapter on the role of charitable organizations in social welfare focuses on what such organizations *should* do rather than any assessment of current policies.

Part 2 of the book turns to an examination of specific policy areas with chapters on supports for older people, people with disabilities, children, the urban poor and migrant workers. In chapter 9 on older people, the description of existing policies is very short (four pages). This is unfortunate as more information would be useful to a foreign audience. The author does helpfully outline key challenges to existing policies. In the case of older people, these include weakening family support and inadequate long-term care. In the case of the rural population, while land previously provided (albeit basic) security, the author shows how this has changed and how this has led to the introduction of a rural pension system (albeit quite limited in terms of pension levels). There is an extensive discussion of the need for policy measures to replace “land security” for rural residents. This is very useful as this is a key issue and is one often not appreciated by western audiences whose countries are at a different stage of transition. Nevertheless, this debate has now moved on significantly and the author does not refer, for example, to the numerous studies on the impact of rural pensions on different aspects of rural life.

Chapter 10 on disability similarly provides a rather cursory description of existing policies. It does provide an overview of key challenges but is somewhat limited by the need to say that, for example, “China has made unremitting efforts to construct a barrier-free environment for the disabled”, while acknowledging that it “has encountered some problems in the construction of a barrier-free environment”. This book does not stretch the boundaries of what can be said in a Chinese context.

Chapter 11 on children focuses on the “children’s palace”, an after-school educational venue for urban children of which there are up to 7,000 in China. No doubt this is an interesting approach and the chapter does provide the sort of concrete discussion (including consideration of research studies) that is lacking in a number of other areas. It is, however, perhaps strange to focus only on children’s palaces to the exclusion of more or less all other social welfare policies concerning children.

To conclude, there are chapters on urban *dibao* (social assistance) and policies to support rural-urban migrants. The social assistance system is of vital importance in preventing poverty and, as the author shows, has developed significantly in recent decades albeit that the numbers in receipt of support have declined since 2009. Chapter 12 cites a number of Chinese studies on dibao and highlights a range of issues including the adequacy of the benefit level and the targeting accuracy of the system. The author also reports the results of a survey carried out in six cities (Beijing and Chongqing municipalities, Changsha (Hunan province), Zhongshan (Guangdong province), Tianshui (Gansu province) and Chaoyang (Liaoning province)) covering a wide range of areas (it appears to have been carried out in 2008). This shows that, as one might expect, dibao recipients tend to have low educational qualifications and almost half have some kind of health issue. A majority (58 per cent) are aged 40–60 and 60 per cent are married. Perhaps surprisingly 41 per cent have full work capacity (although how this is defined is not discussed) and 21 per cent are in some form of employment, mainly “flexible”.

The survey also showed that about half of the recipients first received dibao 8 years previously, and that 20 per cent had waited for over 2 months to have their claim decided (both rather worrying figures). Respondents were not positive about the impact of dibao, with over half reporting that their quality of life had remained the same or worsened since receipt of the payment. However, a third were, overall, very satisfied with the system, while almost half were satisfied but felt that it needed to be improved. The author also reports qualitative discussions which found that most respondents saw the allowance “as a gift granted by the CPC and the government”, rather than as a civil right. This discussion is very interesting and a similar approach in other areas would have made the book much more valuable even though, reflecting the original Chinese publication date (see below), the material is now dated and does not include studies after 2011, including several World Bank studies.

Finally, the author examines the issue of rural-urban migration. As is well known, this is a major phenomenon in China although the numbers involved vary widely depending on what exactly is being counted. The author again supports his discussion with the results of a (2005) study carried out by Renmin and the City University of Hong Kong and a detailed case study in Suzhou city (100 kilometres from Shanghai). This includes some detailed individual interviews with migrants that, inter alia, highlight the stigma still faced by migrants in urban areas and the limited access to services – issues which have been highlighted in a range of other studies (such as Zavoretti, R. 2017. *Rural origins, city lives: Class and places in contemporary China*. Seattle, University of Washington Press).

There is no concluding chapter and there are a number of important points about the Chinese welfare system that the book does not sufficiently highlight. These include the division of power between different levels of government, which leads to very significant regional variations in what are nominally “national” social policy measures (as emphasized, for example, in Huang, X. 2020. *Social protection under authoritarianism: Health politics and policy in China*. Oxford, OUP). The extent to which there remains a marked urban-rural division in policies and the underlying social and economic reasons for this are perhaps not sufficiently emphasized, although issues are discussed in specific chapters.

As one might expect, “political” issues are largely eschewed. The author does note that “social welfare is a tool used by the ruling class to maintain political control and social governance”. Unfortunately, if understandably, he does not pursue this issue, which is, for example, examined in recent work by Jennifer Pan (Pan, J. 2020. *Welfare for autocrats: How social assistance in China cares for its rulers*. Oxford, OUP). Han does however point out that the reconstruction of the social welfare system formed part of China’s marketization reform, which has meant that the social welfare system was, at least in the early decades, strongly shaped by liberalism. However, he argues that the focus has now broadened to include “resolving social problems, mitigating [the] wealth gap and promoting social justice”.

The book is a translation of the original Chinese volume published in 2011. While it is very interesting to have access to the insights of a Chinese expert, it is unfortunate that the material appears to have been updated only to a limited extent given the rapidly changing nature of Chinese social policy (albeit that change does tend to be incremental). There is, for example, no reference to the long-term care insurance pilot measures introduced in 15 cities from 2015 (in this regard, see Gruat and Chuan’s article in this issue of the ISSR). And, as we have seen, the urban dibao chapter (which is one of the most interesting) has not been updated to reflect more recent developments and studies.

Given the joint publication by Palgrave, one might have expected better editing of the translation. More generally, the translation is somewhat clunky if generally understandable. However, this is not always the case, leaving one wondering exactly what was intended. In addition, references for sources in Chinese are not specified as such, and English titles are given, although one might assume that the vast bulk of the references are in Chinese only.

In conclusion, while there are a number of interesting chapters, overall, the book may be of limited interest to a wider audience. The presentation of general theories (on, for example, social stratification) may be of use to the original Chinese audience but it is hardly necessary to translate this for an English-speaking audience that can already access this material. The material of more interest – i.e. a Chinese expert analysis of the national social welfare system – is much less detailed than might be expected, with the exception of the three chapters discussed above. This is regrettable. The consistent use of an in-depth approach would have been much more useful to a non-Chinese audience. The book will be of interest to those who wish to see how senior Chinese academics publicly analyse social policy issues and present their ideas – although this may represent a rather limited market.

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