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# Potential outcomes of private pension developments in China

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## Potential outcomes of private pension developments in China

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### Abstract

Despite the fact that China is already one of the most important economies in the world, the country has many big tasks to solve, being one of them the implementation of a comprehensive social agenda, including those related with the old-age stage and the consequently diminishing financial resources upon retirement from active work. Taking into account the accelerated changes in fertility and longevity trends, it is widely forecasted that the absence of a well developed safety net for the old age stage could undermine economic and social sustainability of the Chinese society. In this sense, the main objective of this paper is to develop a preliminary discussion about prospects of pension system in China, taking into account the ineludible role of government in this social issue and the active potential participation of the private sector. Considering that, this piece of research provides a historical background of Chinese pension; discusses the existing pension schemes in China in order to understand the different areas of future developments; analyzes the potential market for contributory schemes; and strives to develop a model to forecast likely outcomes of the social insurance system by 2020.

Keywords: Pension Funds, Other Private Financial Institutions, Social Security, Public Pensions.

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# 1. Introduction

China has become in three decades one of the most important economies in the world, considering its economic size as well as its relevant influence in world trade and capital flows. Nevertheless, there are many important pending tasks that Chinese policy makers need to fulfill urgently. One of them and perhaps the most pressing, it is to develop a comprehensive social agenda, capable of tackling the many risks Chinese citizens might face. One of those risks is related with the old-age stage and the consequently diminishing financial resources upon retirement from active work.

In that sense, to develop a pension system that works properly, is not a minor challenge in China, bearing in mind that the old age stage problem is mainly supported by family safety networks and future generations who will endure diminishing intergenerational resources. Even more, taking into account the accelerated changes in fertility and longevity trends, it is widely forecasted that the absence of a well developed safety net for the old age stage could undermine economic and social sustainability of the Chinese society. To meet this challenge, it might be interesting to follow global experiences that gradually have been including this endeavor, not only from the involvement of the government, but also the participation of the private sector (families and pension management companies). A plausible explanation of this is that governments are less capable to meet the enormous challenge of universal pension coverage by itself, becoming necessary to incentive people to save as well as to get the engagement of private financial experts. The idea of including the participation of these financial experts is to be in charge of the administration of pension savings in order to generate more value added to achieve increased resources upon workers' retirement.

Considering the above, the main objective of this paper is to develop a preliminary discussion about future prospects of pension system in China, not only taking into account the ineludible role of government in this social issue, but also considering the active participation of the private sector. So we organize this report, by providing a historical background of Chinese pension, in this section. In Chapter 2 we discuss the existing pension schemes in China, contributory or non contributory, in order to understand the different areas of future developments for the government and the private sector alike. Then, in Chapter 3 we expand the argument by analyzing the potential market for contributory schemes. This analysis provides leeway for developing a model to forecast likely outcomes for each market by 2020, which is presented in Chapter 4. Finally, chapter 5 discusses the main conclusions of the working paper.

## 1.1. Changes in Chinese pension system through history

Regulations on Labor Insurance, promulgated in 1951, can be seen as the first labor social security law after New China was established in 1949. It is serving as the framework for the provision of cradle-to-grave benefits to urban employees. The urban population covered under this law included SOEs (state owned enterprises) and large COEs (collectively owned enterprises) employees, civil servants and those people working in other public institutions, such as universities, hospitals, etc. The system was run on a pay-as-you-go (PAYG) basis, and solely funded by enterprises at a rate of 3% of the wages payroll. Although a 3% contribution rate was very low, it was financially feasible given the young population. Pension funds were administered by local trade unions at the municipal level. In 1954, the All China Federation of Trade Union (ACFTU) was set up by the central government and took the responsibility for pension fund administration at national level.

The Regulation was under continuous amendments: For example, the initial requirement, in terms of minimum years of working at the current place of work for a basic pension was 10 years, and it decreased to 5 years in 1953. Meanwhile, men/women needed 25/20 qualifying years to get a full pension in 1951, while in 1958 the requirement was reduced to 20/15 years. The retirement age was unchanged over the period, i.e. 60 for men and 50 for women. But those women in managerial positions were allowed to retire at 55. In addition, those workers employed in hazardous industries were allowed to retire five years earlier than normal. Given the low life expectancy in the 1950s, for example, only around 50 years in 1958, the relatively high retirement ages at 60/55 were not appropriate.

The system, however, was abandoned when the Cultural Revolution broke out in 1966. This unforgettable disaster in Chinese contemporary history stopped economic growth, and threw

the whole country into ceaseless political battle and social chaos. Under these circumstances, trades unions – which once were responsible for pension administration and provisions, were abandoned and dismantled. In consequence, pension fund surpluses accumulated at both local and national levels during the past years were eroded and embezzled for other purposes. Given the disorder of government at all levels, enterprises, instead of the state, had to take full responsibility for employee benefits. Therefore, all risks were confined within individual enterprises. There was no cross-subsidization and risk sharing across enterprises and regions. The generous SOEs-based social security system, which was also known as the “iron rice bowl” in China, continued even after 1976, when the Cultural Revolution ended. The generous system guaranteed lifetime employment, as well as stable income, and other benefits, such as pensions, health care, children’s education, housing allowances, etc. Expenses were mainly financed from enterprise revenues, and there was not any requirement for employees’ contributions.

In 1978, pension regulations were subjected to several amendments again, and the new rules allowed people who worked continuously for 10 years to be eligible for a pension rather than waiting 25/20 years. Meanwhile the replacement rate was raised to 60 % for 10-15 years employment and to 75 % for 20 years employment. Many other favorable policies were also introduced: for example, a worker was not only guaranteed a lifetime employment, but also allowed to have one of his/her children take the same job when that worker retires. The new regulations of the 1970s towards a higher benefit and easier accessibility were clearly designed to encourage early retirement in order to accommodate the influx of millions of migrants from rural to urban areas in China at that time. However, it is worth noting that this system was limited to urban areas only, and was mainly relevant to workers in the SOEs and COEs. For the rural population, which accounted for around 80% of the whole Chinese population at that time, there was no formal pension system and therefore family support played a pivotal role.

During the period up to the 1980s, eligibility for a pension was relaxed: in 1951 the qualifying period for men was 25 years, while it reduced to 20 years in 1958 and further to 10 years in 1978. Combined with population ageing, this meant that both the number of pensioners and pension expenditures increased significantly during the 10-year period from 1978 to 1988. The number of pensioners increased from 2.14 million in 1978 to 21.20 million in 1988. Pension expenditures rose around 20 times in nominal terms over the same period, although the growth was slightly smaller if inflation was considered (the average inflation rate during this period was 5%). In addition, the dependency ratio – the ratio of the number of pensioners to the number of workers – increased from 3.3% in 1978 to 15.6% in 1988. Aware of the increasing pressure from old age provisions and the ageing population, the Chinese government implemented major reforms: In 1986, the authorities published provisional regulations, which required SOEs employees to contribute up to 3 % of their wages towards their pension schemes. Along with the employees’ contributions, enterprises contributed 15% of payroll. This was the first step towards a multi-pillar pension system. Meanwhile, the authorities set up a new agency, the Social Insurance Agency, which served as the supervisory body, and was mainly responsible for the general administration and supervision of pension provisions, as well as the drafting and implementation of relevant regulations. During this period, pension provisions were still run on the enterprise basis, and pension assets pooled and distributed in each individual enterprise. It was employer-sponsored, benefits were pre-determined, and increased commensurate with years of service with current employers. If pension payment was larger than contribution received, the difference was met by using company profits. If sponsors went into bankruptcy, the state would step in, via the Social Insurance Agency.

Afterwards, starting from the 1990s, there were several important reforms in Chinese pension system, as briefly described below:

### 1.1.1 1991 reform

This reform was marked by the release of No. 33 State Council Resolution on Pension Reform for Enterprise Employees (MOLSS 1991), a legal formalization of several provisional regulations for multi-pillar pension system. The No. 33 Resolution called for contributions from individual workers. It was stipulated that employees should make contributions of not more than 3% of their wages to the first pillar, and such contribution was expected to move along with wage growth given that the contribution rate is a percentage of the wages. The pillar was managed on a PAYG basis since the No. 33 Resolution noted that the amount of pension asset collection in a single year should be based on the estimated pension payout of the same year. The intended replacement rate was in the range of 60% and 75%, depending on different types of employment. The second pillar was enterprise based and required contributions from both employers and employees, and the

third pillar served as a complementary saving account with contributions from employees only. Both pillars were meant to be fully funded and all contributions credited to individual accounts. Both pillars two and three, however, were not compulsory and the decision whether to participate depended on enterprise profitability and employees' willingness. As a result, no enterprise set up a pillar two and very few individuals had pillar three during the period.

### 1.1.2 1995 reform

In 1995 the government released Circular No. 6 State Council Resolution on Deepening Pension Reform for Enterprise Employees. In order to unify pension operations, the Circular No. 6 introduced two initiatives to municipal authorities, but the implementation of either initiative needed permission from provincial governments. Both initiatives were related to the first pillar of the pension system. Initiative one specified that employees should contribute at least 3% of wages to their accounts, and the contribution should increase by 1% every two years until it reached 5%. In addition, enterprises were expected to contribute 11% of payroll. Regarding Initiative two, specifications of the contribution sharing between individuals and enterprises were not made and left with the local authorities to decide. Another difference was that, based on Initiative one, the individual account consisted of all contributions, i.e. 5% employee contribution and 11% enterprise contribution, while under the proposed Initiative two, the individual account may only consist of part of the combined contributions, and the relative size of the individual account depended on the local/enterprise variation. The coexistence of two initiatives created many problems and further fragmentations. According to World Bank (1997), this was largely due to local government's attempt to differentiate its scheme from others in order to maximize their own benefits.

### 1.1.2 1997 reform

In 1997 a milestone pension regulation, State Council Document No. 26 Establishment of a Unified Basic Pension System for Enterprise Employees was published. The regulation, largely influenced by recommendations from the World Bank (1997), required the establishment of a multi-pillar system. Based on the new model, China should establish a unified pension system by 2000 on a provincial basis. The system should cover all employees working in cities and towns, regardless of the ownership of enterprises or organizations to which employees were affiliated. Pillar one comprises two components, 1A and 1B. Pillar 1A ran on a PAYG basis. The contribution is determined by the provincial government, and should not exceed 20% of the total wage payment. After the retirement, workers would receive a payment of the local annual average salary multiplied by 20%. Pillar 1B, managed as individual accounts, was financed by totally 11% of the employee's salary, with the individuals' contribution gradually increasing from 4% to 8% while the remainder paid by the enterprises. With a target replacement rate at 38.5%, the monthly payout from pillar 1B was calculated by dividing the account balance at retirement by 120. Both components are mandatory, and the collective target replacement rate is 58%, i.e. 20% from pillar 1A and 38% from pillar 1B. Both components are operational, but pillar 1B was just a fully funded individually capitalized plan in name, as the individual accounts were sometimes empty. Funds accumulated in the pillar 1B's individual accounts were frequently used to pay current retirees' pensions or other non pension projects as set by Municipal Governments, direct managers of 1B assets by delegation of central government. Besides pillar one, the Document No. 26 encouraged the establishment of two other pillars. Pillar two was similar to occupation pensions in western countries, and it was voluntary in nature. The pillar was designed to receive contributions from both employees and employers. In reality, only very profitable enterprises were willing to provide occupation plans to employees, since most firms viewed such contribution as a supplementary personnel related expense. The number of participating enterprises was quite small, partly due to the lack of tax exemption benefits. Pillar 3 served as the complementary individual saving account. It was designed for those people who wanted to save more money for their post-retirement lives. Partly due to the lack of income tax incentives for saving money via pillar three, there was virtually no take-up of this option. The qualifying years for a full basic pension (pillar one) was 15 years. A person who had a contribution history of less than 15 years was only entitled payment of his individual account - pillar 1B. However the new Social Insurance Law, which came into effect on July 1st 2011, provides that if the cumulative premium payment period for basic pension insurance is less than 15 years at the time of retirement, the participating individual may obtain the basic monthly pension by continuing paying the premium until his/her payment period reaches 15 years, or alternatively, he may transfer his/her basic pension insurance into the new rural social pension insurance plan or the urban social insurance plan in order to enjoy

the corresponding pension benefits. In addition, regarding investments, the Document made it very clear that all surpluses in pillar 1A and the balance in pillar 1B should be invested in bank deposits and government bonds only. Moreover, in principle, workers were allowed to move from one scheme to another. However, due to the fragmentation of the Chinese pension system, such movement invariably resulted in a sizable loss of pension benefits.

### 1.1.3 The Liaoning reform

In reality, however, pillar 1B, the individual account scheme was largely notional. The main reason is that, as noted, assets accumulated in the pillar were often used for other purposes. Being aware of the issue, in 2001, the government started experimenting with a pilot test I pension reform in Liaoning province. In 2000, Liaoning, a province with a 3% of the total population in China, hosted 7% of the total pensioners in China. There were some key features relating to the Liaoning reform: First, pillar 1A is financed by a 20% contribution from enterprises only and pillar 1B by an 8% contribution from employees. The individual account was solely financed by pillar 1B and funds accumulated in pillar 1A were for social pooling purpose only. Second, there was a separation between fund management of pillar 1A and that of pillar 1B. The main purpose was to avoid the fund transfer from pillar 1B to pillar 1A when the latter gets into deficit. In order to facilitate the separation, central government used budget transfer to meet any demand from the deficits in pillar 1A. Third, with the purpose of encouraging the development of supplementary pensions, i.e. occupation pensions, contributions to pillar 2 were tax deductible, but the limit was 4% of pre-tax wage bills. As of 2003, 1124 enterprises in Liaoning participated in the scheme, 60,000 people were covered, and the amount of accumulated assets was around RMB 1.4bn (TP Pension 2005); fourth, in order to achieve higher returns, pension assets accumulated supplementary pension were encouraged to invest in high-risk-high-return financial products, e.g. equities. Pension assets in pillars 1A and 1B, however, should still be invested in bank deposits and government bonds. The Liaoning reform was promising in that it recognized the need of separating PAYG and funded accounts, which therefore made the fund transfer from the former to the latter impossible. In addition, other investment opportunities, e.g. equities, were allowed to be considered, which could potentially increase investment returns in the long run for pillar 2. However, as we can see, a 20% contribution rate to the system's social pooling component was too high, which thus motivated evasion. While, 4% tax exemption for employer contributions was quite low. Moreover, tax benefits were only relevant to employer contributions, which might hinder the would-be rapid growth of pension assets if contributions from both employers and employees were tax exempted, as well as people's willingness to participate.

After the pilot reform led to positive results, it was extended to the provinces of Heilongjiang and Jilin in 2004, later to another eight provinces in year 2006 and so far covers 13 provinces. Eventually, the reforms will likely to be extended across the country. Today, pension pooling operates at the provincial or municipal level.

Once the individual account is funded, the question occurs to us will be how to invest and manage these funds in order to preserve and increase their value over time. At present, basically, these provinces deposit the fund in banks or entrust the tranche from central government to National Social Security Fund (NSSF). NSSF guaranteed a minimal return to the funds, namely, no less than the deposit interest rate. These funds are pooled together with NSSF funds and match the return.

So far the 13 provinces with pilot scheme to fund individual account have accumulated RMB 130 billion. But still another RMB 1.3 trillion is pending to be funded. There should be other methods than deposit in banks to invest these funds. The NSSF model is feasible and profitable for the investment of funds in individual accounts, but as the total amount increased dramatically in order to fill the gap of RMB 1.3 trillion, a more professional management and investment model is indispensable for the sustainable development of this tier. A optimal model for Pillar 1B would be to hand over these assets to specialized pension fund management companies, meanwhile the operation should strictly follow the government's supervision.

The National Social Security Fund (NSSF), which was created in 2000, plays an important role in Chinese pension reforms in the new century. At the same time, the National Council of the Social Security Fund, as the supervisory and management body of the NSSF, was established. The NSSF assets mainly come from four sources: The fiscal transfers from the central government budget, equity asset transfers from state share sales in SOEs, national lottery income and investment income. The principal asset source was the central government transfer. The second largest

source was the transfer of the IPO proceeds arising from the public offering of SOEs. In order to build up the NSSF, China decided in 2001 to transfer a portion of the State shares in SOEs to the NSSF. Specifically during the IPOs in both domestic and overseas stock exchanges, 10% of the State shares in SOEs should be sold in the markets, and resulting proceeds transferred to the NSSF. Regarding fund management, it was stipulated that NSSF could be invested by in-house teams or outsourced to specialist fund managers. The former was limited to bank deposits, government bonds and other financial instruments with high liquidity and security. While for the latter, a number of quantitative investment restrictions applied. The minimum investment limit on bank deposits and government bonds was 50%, among which at least 10% should be invested in bank deposits. Investments in non-government bonds, i.e. corporate bonds and other financial bonds should not exceed 10% of the total assets. In addition, the limit on shares and investment securities is of 40% at maximum.

It is also worth talking more about the development in the supplementary pillar, also called occupational pensions. In 2004, the Ministry of Labor and Social Security of China published and implemented the Provisional Regulations on Occupational Pensions (Decree 23). Learning from experiences of earlier pension reforms, including the Liaoning reform, the Regulation detailed operational coverage, fund resources etc. Based on the Regulation, enterprise contributions would not exceed 1/12 of the total wages bill, and collectively enterprises and individuals should not contribute over 1/6 of the total wages bill. All contributions are to be credited to individual accounts and these accounts are to be fully funded. In addition, sponsoring enterprises should set up a committee overseeing the operation of pension funds and the committees had representatives from employees and/or plan participants. In addition, employers were allowed to deduct up to 4% of the total wage bill from gross income for pension contributions. Regarding employee contributions, there was no relevant taxation incentive. Given the importance of pension fund management and regulation, another regulation specifically focused on occupational pension funds was released in 2004. It specified the minimum requirements for qualified asset managers. Specifically, the upper limit on investment in bank deposits and fixed-income securities was 50% of total assets, but the lower limit on government bond investment was 20%. The investment limit on shares is 30% of the total assets. Like regulations on the NSSF funds, investment in foreign assets and alternative assets was not allowed.

The year 2004 is important because the Enterprise Annuity (EA) regulation was introduced and the investment rules were changed. According to legislation, new EA funds in China should be managed based on the trustee model—either external or internal trustee. The assets currently managed by the insurance companies were not viewed as EA assets and therefore were not entitled to tax benefit. The government's plan is to externalize the EA assets currently controlled by some local governments. Therefore, the local administration centers are now being restructured from being de facto local governmental agencies to independent commercial service providers (Trustee, Custodian, Account Administrator and Investment Manager). For example, the Shenzhen Administration Center transferred all assets to China Merchants Bank (Custodian and Account Administrator), and Ping An Life Company (Trustee and Investment Manager).

As we can see, most of the reforms and policies are targeted at urban population. For the rural area, before 2009, there were only two small-scale public pension schemes in some rural areas of China. One was an old age insurance plan with voluntary contributions and the other was a non-contributory scheme providing county-specific benefits for a very narrowly targeted segment of the rural elderly. The old age insurance plan was first piloted in one province in the late 1980s and was officially extended to other provinces in 1992. Participants—including workers of town and village enterprises—voluntarily contribute and accumulate assets in their individual accounts. In most counties, particularly those in the less developed middle and western regions of China, rural residents were the only contributors to their accounts. But, in the more affluent eastern counties, some workers receive subsidized contributions from their employers if they work in the town and village enterprises, while those without employers were sometimes sponsored by their village community. In addition, a few provincial governments, such as City of Beijing and Jiangsu Province, provided additional financial subsidies to the rural participants. Starting at age 60, an annuity-based pension was paid with the size of the benefit based on the accumulated sum in the account. The administration, investment, and allocation of these benefits were overseen by the county government. The second small-scale public pension scheme in China was a non-contributory social assistance program called Rural Five Guarantees. It was intended for the rural elderly who were incapable of working and have neither income, nor assets, nor children.

The beneficiaries of Rural Five Guarantees program were supported through either a collective placement in an Elders House or through individual placement with a local family. The limited coverage of China's current rural pension system means that the vast majority of China's rural elder residents were neither contributing to nor eligible for benefits from any form of old age pension.

In 2009, China introduced a nationwide, experimental rural social pension plan. Government officials indicated that they expected the scheme to cover 10 percent of all countries by the end of 2009, about 50 percent by 2012, and 100 percent by 2020 (China News, 2009). A major feature of this scheme is that, for the first time in China's long history, the government will make direct payments to a rural pension scheme. This new pension will have two components, a basic pension component financed by local and central governments and a personal account component mainly based on contributions from enrolled individuals (see Chapter 2 for more details).

Since 2009 some goals has been achieved (numbers of provinces under the scheme, total assets allocation by Government), Moreover a new urban MDC has also been set and in process of rolling out nationwide. Chapter 2 will go into more detail about achievements of the rural social pension plan and development of the new urban MDC plan.

## 1.2 Main challenges of current Chinese pension system

### 1.2.1 Structural problems

The decentralized set-up of the pension system leads to high fragmentation and significant lack transparency. As only the key principles were stipulated by the central government while leaving the specifics (i.e. policies and administrative issues) at the discretion of local authorities, there are huge disparities and inequalities within the system. Not only do contribution rates vary geographically, across provinces, municipalities and cities, but also across types of enterprises. Industry-specific pooling also exists in certain sectors.

Coverage is also quite uneven. Originally only state-owned enterprises were part of the system. Now, some municipalities have been extending coverage to collective, private and foreign-owned enterprises as well. However, especially firms with a young workforce and from relatively dynamic sectors are trying to resist participation in the system as they feel they are being used to subsidize other enterprises' shortfalls while being burdened with a significantly higher wage bill, which translates into a loss of competitiveness. The financial burden of all social security contributions (i.e. for pensions, health care, unemployment insurance, occupational injury insurance, maternity, housing provident fund) can total about 40% of the wage bill. As we can see, extension of coverage is hampered by lack of incentives. Lowering wage replacement rate or increasing contribution rates would probably also increase evasion.

Another issue is the portability of pension claims, i.e. the possibility that an employee can keep and transfer his pension entitlements when changing jobs, which is almost impossible in such a fragmented system. It thus impedes labor mobility and makes restructuring of SOEs quite difficult if this involves large dismissals (since benefits are linked to employment). This in turn skews investment and resource allocation.

### 1.2.2. High Fiscal Pressure

Currently, serious fiscal pressure is a main problem facing by the basic pension system.

In the early of 2005, the Ministry of Labor and Social Security (MOLSS) of China published a research report and pointed out the Chinese pension gap could reach 6 trillion RMB in the future 30 years. The fiscal pressure mainly comes from the rapid aging population in China and the relative low coverage and low collection rate. Moreover, in the basic pension system, the phenomenon of unpaid premium or underpaid is common. Both low coverage and low collection rate have brought negative impact on overall funds accumulation.

### 1.2.3 Poor Pension Funds Management

There are mainly two aspects in this topic: narrow investment channels and insufficient supervision. Consequently, it transpires into a lack of knowledge and skills of modern financial investment and corresponding risk management abilities. According to policy regulation, the investment of basic pension funds is strictly controlled. Hence they could be invested in government bonds and domestic bank deposits. Combination of both stringent factors means



that they yield relatively low return rates that are lower than the growth in average wages. Besides, the immaturity of capital market in China, and low knowledge and skill base of local basic pension funds managed by government bureaus also act as deterrents of the industry.

Concerning lack of adequate supervision, one must look back at the scandal that Shanghai Labor and Social Security Bureau officials were accused of lending 3.2 billion Yuan of city pension fund to a private real estate developer, matching almost in full 3.2 billion RMB in EA's funds. With the exposure of Shanghai scandal, the National Audit Office began a large-scale audit of the social insurance fund. The audit result is quite shocking since there are totally 7135 billion RMB improperly managed. Obviously, there are serious loopholes on funds supervision. In China, there is a vacuum in regulations setting forth guidelines on effective restriction on pension funds appropriation. At the same time, the supervision strength is still quite weak. Across the country, there are only 11 provinces having established an independent bureau for fund supervision. There are very few specialized institutions to supervise the funds at municipal and state level.

#### 1.2.4 Shortcomings with the new rural pension scheme

As mentioned before, China has already implemented a new policy to deal with pension arising issues for rural population. So far, although the new scheme has made progress, there are still several possible shortcomings concerning China's new rural pension scheme: Firstly, the coverage level of the new rural pension scheme varies from county to county mainly depending on the level of economic development. For example, Beijing started an experimental variant of the new pension scheme in January 2008. By the end of 2008, it was reported that 1,065,000 (over 80%) of rural residents living in the suburb of Beijing were participating in the new rural pension scheme (Yuan, 2008). This participation level is partly due to the relatively high living standards in Beijing's suburbs and partly due to the higher than usual financial contribution from the central and local government (280 Yuan a month per retiree). But most of rural China is much poorer than suburbs of Beijing. In addition, it is a voluntary program requiring contributions for rural residents of between 4% and 8% of the average income from previous years in the local area. Can rural workers afford to pay this much to participate in the program? China has about 80 million people living under the poverty line. In rural area, there are three times as many elderly poor as in urban areas (China News, 2009). Due to the substantial regional differences in economic development level and income, many poor families in poor regions will not be able to afford to pay the necessary contributions. This will keep the pension scheme from reaching the poorest of the poor. The success of the new scheme will, to a great extent, depend on widespread coverage and a high participation rate. These, in turn, will depend on the trust of rural residents in the government and the level of the government's financial contribution to the scheme. Secondly, the problem involve with the implementation and administration of the new pension scheme: In urban areas the implementation of social security is relatively straight forward because the payment of the pension premium by employees and employers is legally guaranteed. The rural pension scheme, in contrast, is initially built on voluntary participation. Only when the farmers trust the government and believe that their contributions will bring back more benefits will they decide to participate. It is thus crucially important for the government to meet its promises with respect to benefits while managing the accounts with sufficient transparency for pensioners to maintain confidence in the plan. Moreover, according to published reports, county government will be accountable for setting up the personal accounts, managing the local pension fund, and distributing the benefits for retirees within the county (China News, 2009). As in all developing countries, compared with urban governments and administrative offices, the efficiency and effectiveness of the lower level government bureaucracies in rural areas of China are weak. For this reason successful implementation of the new rural pension scheme will not be easy. Thirdly, low benefit level in China's new rural pension scheme is providing very low pension benefits to most recipients. Most will receive about 55 Yuan (US\$8) a month from the basic component of the scheme, but the average monthly spending among old people in these rural areas is close to 200 Yuan (US\$29) (Zhang and Tang, 2008). Although 55 Yuan does help pay for some essential items, it is not enough to live on. Given its current level of economic development, a case can be made that China's growing economic empowerment could afford to provide a higher minimum benefit to its rural old people.

## 2: Institutional aspects of Chinese pension systems: contributory and non contributory pillars. The whole system

Largely due to the dualism of the Chinese economy, as highlighted by a clear division of economic and social sectors between rural and urban, China's pension arrangement also has been existent in two different systems.

### 2.1 Rural pension system

According to preliminary results from the latest national census, as of 2010, roughly half of the Chinese population has a rural identity card and the remaining half has an urban identity card. For the huge group of rural population – approximately 670 million, they have been covered by different schemes in which some are already in place for some time, while others are pilot schemes.

#### 2.1.1 New Rural Pension Scheme (non-contributory + contributory): NRPS

The New Rural Pension Scheme was first experimented in selected localities in the 1990s. Largely owing to its local success, in June 2009 the central government announced to introduce and extend the new voluntary rural pension scheme across the country. Initially it was aimed to achieve a national coverage by 2020. However the unexpected fast success and popularity among farmers enabled the government to seek a much earlier nationwide coverage.

The key feature is to align the new rural pension system with the basic structure of urban enterprise pension system (discussed in the following sections), i.e. consisting of two pillars: one is social pooling and the other one is individual account. The main consideration favoring an aligned structure rests on the planned eventual convergence and integration between rural and urban pensions systems in China in the future. Meanwhile, compared to earlier rural pension schemes, the new scheme receives a much greater fiscal assistance from both central and local governments, therefore hoping to encounter lesser reform resistance from either local governments or farmers. Table 1 presents the basic structure of the system and key features.

Table 1  
New rural social insurance/pension system in China

Pillar	Mode	Mandatory (M) or Voluntary (V)	Contribution	Benefit	Tax relief on contribution	Main regulator
Pillar 0	Social assistance	N.A.	State budget	Min. living standard	N.A.	Ministry of Civil Affairs (MOCA) and Ministry of Agriculture (MOA)
Pillar 1a	Social pooling and pay-as-you-go	V	State and local government budget	Min. RMB 55 per month	N.A.	MOHRSS
Pillar 1b	Individual account	V	Individual; local government and village	The accumulated total funds in the individual account	Fully deductible	MOHRSS

Source: various official websites and the autho

#### Two components

**Pillar 1a:** social pooling and operated on a pay-as-you-go basis. Financing methods differ between regions. For those central and western provinces the central government finances 100% of the cost, while for those eastern and more affluent provinces the central government contributes to 50% of the cost with the remaining 50% contributed by local governments. The benefit is flat and minimum RMB 55 per month.

**Pillar 1b:** individual account and fully funded. This pillar is mainly financed by three sources, i.e. individual farmers, local governments and collectives. As regards contributions from individual farmers the amount ranges from RMB 100 to RMB 500 with RMB 100 increment per year,

while those from local government – mainly at city and county level needs to make matching contributions by min RMB 30 per year, while collectives are not mandated to contribute. The benefit is account balance divided by 139, i.e. assumed a 12-year life expectancy.

**Vesting requirements:** As long as the farmer contributes to the system for 15 years and more, he/she would be entitled to benefits. Meanwhile for those already aged 60 and above, as long as their children are contributing, they would be automatically entitled to the flat benefit.

**Fund management:** Assets accumulated in Pillar 1b are managed by local social insurance bureaus, while the balance is credited with the one-year bank deposit rate.

According to the latest statistics (MOHRSS 2010), as of 2010 the NRPS was extended to 27 provinces and 838 counties. The total number of participants was 103 million, while that of beneficiaries was 29 million. Meanwhile, the year-end balance was RMB 42.3 bn.

The NRPS is subject to regulation and supervision of the Ministry of Human Resources and Social Security (MOHRSS) - which also oversees other components of China's social security system.

### 2.1.2 Social assistance component (non-contributory)

The Chinese rural social welfare system towards the need of the old-age support includes other components in addition to pension arrangements as discussed above.

The minimum living standard (or Dibao, iron bowl in the Chinese term) is one of the most important ones in this regard, although it is worth mentioning that it is an arrangement targeting all the needed (including old-age, disable, children etc).

According to the State Council Decree No. 19 (MCA 2007), the targeted groups of population are those whose annual income is lower than the local minimum living standards, while the main groups as specified in the Decree refer to those constantly living under poverty due to illness, old-age, disable and extreme nature conditions. Not surprisingly the level of rural Dibao benefits show differentials between provinces, which reflect not only different levels of living standards and costs, but also fiscal position of different localities.

Regarding financial source, it is specified in Decree 19 that it should be mainly from local governments at the prefecture level, while local government at the provincial level should strengthen its fiscal support to the system. The central government will subsidize the regions/localities which cannot establish the system themselves.

## 2.2 Urban pension system

### 2.2.1 The multi-pillar model (non-contributory + contributory)

The Chinese urban pension reform started in the early 1990s. After discussion and debate on different reform options in 1997 the central government decided to implement the multi-pillar pension system in urban areas.

The current urban pension system consists of three pillars of which the first pillar comprises two components (see Table 2 for a summary):

Table 2

**Existing urban pension system in China**

Pillar	Mode	Mandatory (M) or Voluntary (V)	Contribution	Benefit	Tax relief	Main regulator
Pillar 0	Social assistance	N.A.	State budget	Min. living standard	N.A.	Ministry of Civil Affairs (MOCA) and Ministry of Human Resources and Social Security (MOHRSS)
Pillar 1a	Social pooling and pay-as-you-go	M	20% of salary	59.2% of average local salary	Fully deductible	MOHRSS
Pillar 1b	Individual account	M	8% of salary		Fully deductible	MOHRSS
Pillar 2: Enterprise annuity (EA)	Individual account	V	Various	Various	Very limited; only up to 5% of payroll	MOHRSS
Pillar 2: Others	Individual account	V	Various	Various	Very limited	N.A.
Pillar 3	Insurance products	V	Various	Various	Only selected insurance products	China Insurance Regulatory Commission (CIRC)
NSSF	Strategic reserve fund	N.A.	State budget; transfer of state ownership in SOE; lottery income	N.A.	N.A.	Ministry of Finance (MOF) MOHRSS

Source: various official websites and the author.

- Pillar 1A. This pillar is run on a pay-as-you-go basis (PAYG) and serves as a social pooling. The contribution is solely from employer, and the contribution rate is 20% of payroll. The expected replacement rate is approximately 35% of the average local wages with 35 years contribution.
- Pillar 1B. This pillar is a mandatory individual account, and designed to be fully funded. The contribution is 8% of employees' salary and solely contributed by employees. The expected replacement rate is about 24.2%. In order to receive benefits from pillars 1A and 1B certain vesting requirements need to be met, notably minimum 15 years contribution, reaching retirement age of 60 (men) and 55 (women), etc.
- Pillar 2. The most well-known type is the Enterprise annuity (EA) scheme, which is equivalent to occupational pension schemes in western countries. Participation in this pillar is voluntary. So far it has been mainly established by the large state owned enterprises (SOEs), and the contribution rate varies between enterprises. In addition to EA, in China some variety of Pillar 2-type schemes also exist, which largely are designed and offered by financial institutions to evade the burdensome EA regulations. The most notable examples include the Welfare Pension Plan and Quasi-EA scheme etc. It is worth noting that the other forms of pillar 2 type schemes are typically not entitled to tax benefits.
- Pillar 3. It refers to the voluntary individual saving/pension schemes, and is designed to meet the needs of the population who wants to receive higher income after retirement.

### Supervisory framework

Like the rural pension system, the urban pensions are also mainly subject to regulation and supervision of the MOHRSS. In this context it is worth mentioning that the first Social Insurance Law was passed in October 2010 and became effective on 1 July 2011. It has been expected that the elevation of the legal level could help to improve the Chinese pension system, e.g. through wider coverage, high compliance rate etc.

Regarding pillar 1a and 1b, all assets accumulated in the account should be invested in either bank deposit or government bonds. However, it is reported that the MOHRSS has been considering liberalizing investment policy of the pillar 1b assets, given the current low return.

EA regulations were first released in 2004, which greatly contributed to the rapid growth of EA market in the past. According to the relevant regulations, all EA assets should be invested and managed by professional financial institutions, while in this context four licenses are involved,

i.e. trustee, custodian, asset manager, and account administrator. Investment policy follows the quantitative asset restriction rule, i.e. investment limit in particular asset class is imposed. In May 2011, however, the MOHRSS released the revised version of the EA asset management regulation in which investment policy is more liberalized.

Other forms of Pillar-2 type pension schemes and Pillar 3 pension schemes are subject to different regulations and, consequently different regulators. The insurance regulator, i.e. China Insurance Regulatory Commission is another major regulator and supervisor in China, since life insurance companies have been quite active in the pension fund management business. In this context, the other financial regulator, e.g. China Banking Regulatory Commission (CBRC), and China Securities Regulatory Commission (CSRC) also have a say in the Chinese pension regulation. Last but not least, the State Tax Administration (STA) and Ministry of Finance are quite influential since tax policy is of crucial importance in promoting development of the private pension market in China.

### 2.2.2 Social assistance programme (non contributory)

In 1999 the State Council of China released Decree No. 271 on the issue of establishing the minimum living standard system (or Dibao in Chinese term) in the urban area. The target group of the population refers to: (a) those who do not have income source, are not capable of working, and do not have adult (family) dependents or the abovementioned dependents are not capable of taking care of their old aged relatives, and (b) those who have certain income, but the income is below the threshold of minimum living standard. The level of the minimum living standard, taking into account of a range of factors, e.g. foods, accommodation and clothes, is determined by local governments at the county level. The cost is fully financed by the government budget.

### 2.2.3 Pilot Pension Program for Unemployed Urban Residents (non-contributory + contributory):

The pilot pension program for unemployed urban residents, the State Council's most recent initiative to improve the country's pension system released on 13th Jun 2011, vows to provide better pension insurance for jobless residents in urban areas. As of 1st July 2011, unemployed urban residents aged above 16, excluding students, would be covered by the program. Participants will start receiving monthly pensions after turning 60.

With the launch of the new program on 1st July 2011, unemployed urban residents aged 60 or older do not need to make personal contributions and can receive a basic pension of RMB 55 a month. Those aged between 45 and 60 must have paid into their personal accounts for no more than 15 years, while those under 45 must pay for at least 15 years. Participants in the new pension program have 10 contribution options to choose from, ranging from RMB 100 to RMB 1,000 a year. The more they pay, the more they can get in return after turning 60 when they start to receive basic monthly pension payments of RMB 55 in addition to any payments they made to their own accounts. Meanwhile, local governments are also required to give subsidies of at least RMB 30 a year to each program participant. Local governments must also pay part or the entire minimum annual sum of RMB 100 into the program for seriously disabled people. Other economic and social organizations, as well as individuals, are encouraged to contribute, with all personal contributions and subsidies going toward the individual accounts of participants.

The pension program for unemployed urban residents is similar to the one for rural residents. Both programs are designed for mostly low-income groups and will help to narrow the income gap. More than 50 million people are slated to benefit from this program.

## 2.3 Pensions for public service unit (PSU) sector and civil servants

In China, employees working for the government and those in Public Service Unit (PSU) are covered by a standalone and generous pension system, which allows them to enjoy up to 90% replacement rate in comparison to 60% for a standard urban enterprise old-age pension. Meanwhile it is an unfunded PAYG system, which has been mainly financed by either state or employer, while employees normally do not contribute. Fiscal cost arising from the current civil servant and PSU pension system has been very high and the burden is expected to keep increasing in the next decades.

Since 2008 the central government decided to reform the PSU pension system given its financial un-sustainability against the background of overall reform on the PSU sector in China. The objective is to bring the PSU pension system alongside the current urban enterprise pension system. After discussion and experiment, the new model preferred by the MOHRSS was a system which is more or less consistent with the current urban pension system, i.e. social pooling plus individual account. Meanwhile, the contribution rate and level of benefits would be similar to the urban pension system too. Given the fact that the after-reform benefit level (60%) is expected to be lower than the current level (90%), the government has been discussing the importance and necessity of promoting the EA-type of voluntary, occupational pension schemes in order to keep the overall after-reform level around 90%.

In February 2009 five provinces were selected by the MOHRSS to implement the pilot PSU pension schemes. It is noted that the exact design of the pilot schemes is not detailed and thus subject to discretion of local governments.

As a reference, in China there are roughly 10 million civil servants, and 30 million PSU employees.

## 2.4 National Social Security Fund (NSSF)

In addition to urban and rural pension arrangements, the Chinese pension system has another important component: the National Social Security Fund (NSSF). The NSSF was established in 2000 by the central government in view of the increasing ageing population and the expected looming fiscal pressure in the coming decades. In nature, the Chinese NSSF is similar to the national pension reserve funds in some other countries, e.g. Norway's Government Pension Fund and the Irish National Pensions Reserve Fund, but different from the provident funds established in Singapore, Malaysia and Hong Kong.

Inflows to the NSSF mainly come from four sources, namely fiscal transfers from the central government budget, equity asset transfers from state share sales in SOEs, national lottery income and investment income. Regarding fund management, NSSF assets are currently mainly invested by both in-house team and outsourced 3rd party fund managers. Investment by in-house managers is limited to bank deposits, government bonds and other financial instruments with high liquidity and security, as well as private equity related products which has been initiated recently. Outsourced third-parties normally manage mandates linked to higher risk assets, e.g. domestic equity, mutual funds.

As of 2010 the AUM of NSSF was RMB 857 bn (NSSF 2010), of which 58.1% was managed by internal team, while the remaining 41.9% by 3rd party asset managers. The annualized return in nominal term over a period of 9 years is 9.17%.

## 3: Market organization of the contributory schemes in China

The new rural pension scheme includes an important contributory part: fully funded individual account financed together by farmers, local governments and collective. However, due to its very initial status there isn't any signal to indicate the private management of these pension funds in a near future. While the pension system for the urban areas has been legislated, and market realization is ongoing. Reforms tackled two of the main issues, namely the refilling of empty accounts in pillar 1B and the introduction of occupational pensions through the Enterprise Annuity system.

### 3.1 Market organization of Pillar 1

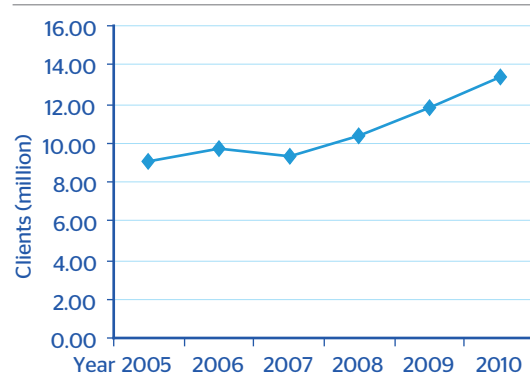
As we have been discussing, the Pillar 1 is a state managed scheme with two components: Pillar 1 A and Pillar 1 B<sup>1</sup>. Notwithstanding, according to certain recent market intelligence gathered from various pension stakeholders, Chinese government is conducting an internal consultation on the feasibility and scope of engagement for a different regulatory framework of Pillar 1B. It is expected that the new organizational framework of Pillar 1B would be laid out in a similar fashion to EA's license-granting mechanism. However instead of 4 independent service providers (trustee, custodian, account administrator and investment manager), the number of licenses would be reduced by integrating some functions of these four categories of operators.

### 3.2 Market organization of Pillar 2

#### 3.2.1 General market figures

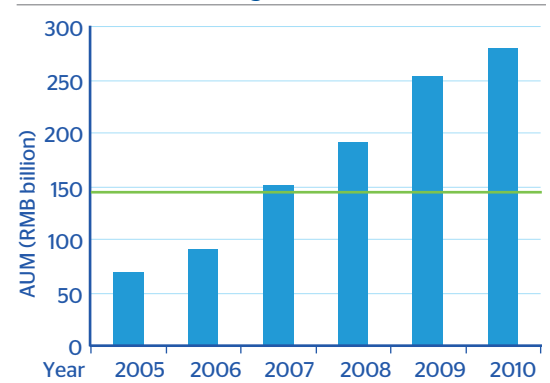
Under State Council Decree 42 in year 2000, the government started to require employers to establish an enterprise annuity (EA) scheme for their employees. Later with the issuance of Regulation 23 and 11, EA has gained relatively fast growth, and is expected to develop into the most promising pension submarket in China. In year 2000, EA schemes covered about 5, 6 million urban employees; EA assets under management totaled roughly RMB 19 billion. While in year 2006, EA schemes covered about 9.29 million urban employees and the assets totaled roughly RMB 91 billion. According to statistics, as of the end of year 2010, 13 million employees from 30,000 companies participated in EA plans. The total size of assets under custody reached RMB 280.924 billion. Trusted assets under management of authorized institutions<sup>2</sup> amounted to RMB 147.465 billion. The size of investment assets under management came to RMB 245.298 billion, with a weighted average return rate of 3, 41% and 1504 portfolios.

Chart 31  
EA Number of clients (2005-2010)



Source: MOHRSS

Chart 32  
EA Assets under Management (2005-2010)



Source: MOHRSS

1: 3 different scenarios are being envisaged: Investment management by government entities, private operators but subject to quota of licensed operators or at arm's length depending on supply and demand forces.

2: According to Decree 11 MOHRSS, Trustee can be an EA Council established by the enterprise or an authorized institution (trust companies, commercial banks, pension insurance companies.)

### 3.2.2 Competitive Landscape

Up to date 37 financial institutions have been granted totally 58 licenses to operate in this market, and more licenses are likely to be granted in the near future. The following table summarizes the EA license holders classified according to stakeholders' type.

Table 3

**EA licenses distribution among operators**

<b>Trustee</b>	<b>Custodian</b>
China Life Pension Insurance	ICBC
Ping An Pension Insurance	CCB
<b>Insurance Companies</b> Changjiang Pension Insurance	CMB
Taikang Pension Insurance	<b>Banks</b> Bank of China
Tai Ping Pension Insurance	SPD
ICBC	China Everbright
<b>Banks</b> CCB	Bank of Communications
CMB	China Minsheng Bank
CITIC Trust	<b>Investment Manager</b>
<b>Trust Companies</b> Hubao Trust	China Life Insurance Asset Management
Zhongcheng Trust	Ping An Pension Insurance
Shanghai Trust	Changjiang Pension Insurance
<b>Account Administrator</b>	<b>Insurance Companies</b> Tai Ping Pension Insurance
China Life Pension Insurance	PICC Asset Management
Ping An Pension Insurance	Huatai Asset Management
<b>Insurance Companies</b> Taikang Pension Insurance	ICBC Credit Suisse Asset Management
China Pacific Life	China Asset Management
New China Life	China Merchants Fund Management
ICBC	Harvest Fund Management
CCB	Taikang Asset Management
CMB	<b>Fund Management Companies and Securities companies</b> Boshi Fund Management
<b>Banks</b> Bank of China	China Southern Fund Management
SPD	E Fund Management
China Everbright	Fortis Haitong Investment Management
Bank of Communications	CITIC Securities
China Minsheng Bank	Yinhua Fund Management
<b>Trust Companies</b> CITIC Trust	GF Fund Management
Hubao Trust	Fullgoal Fund Management
	Guotai Asset Management
	China International Capital

Source: MOHRSS

In the four niche markets with EA business, Banks have exclusivity on custody, and important presence in the fields of account administration and trust; Pension insurance companies lead the market of trust and are gaining the business of investment management, although fund management companies and securities companies still play an important role in investment manager fields. Details are as follow (roughly estimated with the date by the end of 2010):

- Trustee: 70% of market share is taken by pension insurance companies.
- Account administrator: more than 90% of market share is captured by banks.
- Custodian: 100% by banks



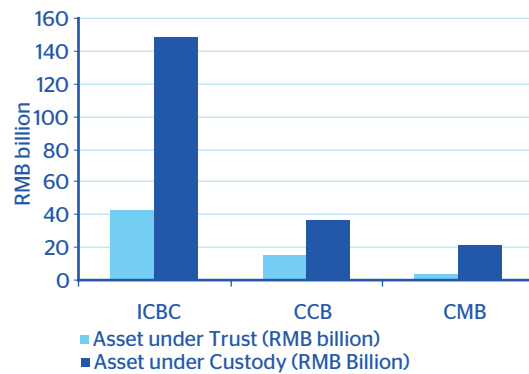
- Investment manager: Fund managers and securities companies occupy 70% and pension insurance companies have 30%

As shown in the table, Commercial banks are the main players with interdisciplinary business approach. Among the four separate groups of EA service providers, only three companies currently hold 4 full licenses across all disciplines: Industrial & Commercial Bank of China (ICBC), China Merchants' Bank (CMB) and CITIC Group. As dominant players in the market, ICBC and CCB already hold three licenses: trustee, account administrator and custodian. Moreover, the fact that some commercial banks hold shares of related asset management companies also helps them to expand their business horizons to investment. ICBC has participated in Credit Suisse Asset Management and CMB in China Merchant Securities. In this way these two banks cover the whole EA business value chain with an integrated management model.

In addition, banks have other outstanding advantages such as a wide range of corporate customers, a broad coverage of selling points and strong internal financial support, etc. Therefore, banks not only maintain their dominant position in traditional pension business: the whole EA asset custody service and a large part of customer accounts administration, but also are dedicating effort and resources for EA trusted asset management. According to the Decree 11, EA Trustee has the right to select other service providers and design investment portfolios based on needs and characteristics of their clients. Due to the importance of this key role, since 2007 when ICBC, CCB and CMB obtained the EA Trustee qualification among the second batch of accreditation released by MOHRSS, these three banks started to compete with other operators to gain more market share in trusted asset management. The following two charts illustrate the market size of the top 3 commercial banks in terms of EA assets under trust, EA assets under custody, and number of customers.

Chart 3.3

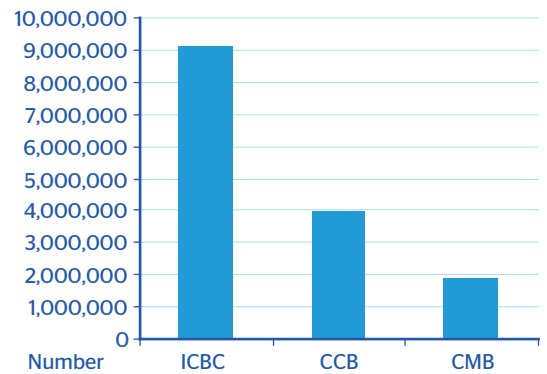
**Top 3 banks in EA Assets under Trust and Assets under Custody (end 2010)**



Source: Market Intelligence BBVA Pension & Insurance

Chart 3.4

**Top 3 banks in EA number of clients (end 2010)**



Source: Market intelligence BBVA Pension & Insurance

Pension Insurance Companies are also important stakeholders with a significant presence in China's EA industry. Statistics disclosed by China Insurance Regulatory Commission (CIRC) shows the most recent status from January to June 2011. In the first half of year 2011, five major pension companies received enterprise pension of RMB 21.41 billion, which implied an increase by 41.89% over the same period of previous year. Trust assets and investment management assets were RMB 121.59 billion and 94.87 billion respectively, 45.68% and 56.59% up the same period of previous year respectively. Thereof, China Life Pension and Ping An Pension took more than 75% of the market of enterprise pension, with market shares of 51.31% and 23.22% respectively. China Life Pension also led the market in term of trust assets, with a market share of 34%, followed by Ping An Pension and Changjiang Pension. Ping An Pension took 52% of the market of investment management assets.

Table 4

**Pension Companies EA Statistics (Jan. to June 2011, Unit RMB million)**

<b>Company name</b>	<b>EA contribution</b>	<b>Trusted assets under Management</b>	<b>Investment Asset under Management</b>
Taiping Pension	2,841.59	16,411.25	20,520.24
Ping An Pension	4,970.98	33,476.36	49,299.89
China Life Pension	10,984.80	42,438.99	8,893.61
Changjiang Pension	1,656.52	25,757.92	16,159.24
Taikang Pension	956.32	3,509.19	0.00
<b>Total</b>	<b>21,410.21</b>	<b>121,593.72</b>	<b>94,872.99</b>

Source: CIRC

### 3.2.3 Commission Scheme

Although EA service providers' commission charge caps are fixed by the regulator, due to the fierce competition, the average price in the market is very low, far below the upper limits. The following table summarizes the regulated fee scheme and the benchmark in the industry. Some methods have been taken into account to guarantee the benefit for operators. In February 2011, EA investment managers reached an agreement that the commissions for EA fund investment in equity should be no less than 0,6% and in fixed income 0,3%.

Table 5

**Enterprise Annuity Commissions Scheme**

<b>Licenses</b>	<b>Commission ceiling fixed by MOHRSS</b>	<b>Market threshold</b>
Trustee	0,2% net asset value of the EA fund per year	0,001
Custodian	0,2% net asset value of the EA fund per year	0,001
Account Administrator	RMB 5 / account / month	RMB 1 / account / month
Investment Manager	1,2% net asset value of the EA fund per year	Equity investment minimum 0,6% Fixed income minimum 0,3%

Source: data based on market intelligence gathered by BBVA Pension

### 3.2.4 EA Market Segmentation

Large State-Owned Enterprises (SOEs) are still the main participants in this market. This is not only because they tend to follow the policy of the government, but also because many traditional SOEs provide unfunded defined benefit pension plans to their employees. Now, SOEs are beginning to realize that defined benefit plans sometimes entail huge financial liabilities and disclosure requirements, so that EA plan would be a better solution.

Over the past two decades, multi-national companies have flooded China, yet still lag behind the market in their adoption of EA plans, there is interest regarding the ways to make these plans part of their reward strategy for employees. Many multinationals are interested in establishing a plan as a human resource management tool in order to retain talents.

Small and medium size enterprises (SMEs) account for a large share of China's overall economic growth and employment generation. However, EA development in SMEs is quite slow. As most enterprise annuities are sponsored by large and profitable SOEs, SMEs find these plans either too expensive or administratively complicated. With the implementation of the Decree 11 by MOHRSS in May 2011, Collective Plan would be expected to be the most suitable annuity solution to these problems. In fact both commercial banks and pension insurance companies have already designed collective EA package for their clients, and now these plans are under a process of revision by MORHSS.

### 3.2.5 Key factors for further EA market development

Although EA plans are winning acceptance in China, apparently this market has not been developed as expected. According to a government forecast EA funds would have been reached RMB 2 trillion by year 2010 (compared with the current amount RMB 280 billion). The reasons for EA's slower development are as follow,

- i.) Lack of unified tax concessions both to employers and employees.
- ii.) Restrictions in funds portability.
- iii.) Low profitability for service providers.

Obviously EA is a policy-driven business, which depends to a great extent on whether the regulation is friendly enough. Still, the longer-term potential of the program should not be underestimated if the right incentives and policies are put in place. From the perspective of market organization, in spite of the low profit, there is still a fierce competition among all service providers, who are constantly looking for a better management method to optimize their business.

The 2+2 and 3+1 model are the two commonly used models. Both involve two institutions. For 2+2 model, one institution takes trustee and investment manager roles, the other acts as administrator and custodian. After the second batch of licenses, since three commercial are authorized to be EA trustees, a new 2+2 model is gaining popularity, in which banks play the role of trustee and account administrator. While for 3+1 model, one assumes the role of trustee, account administrator and investment manager, the other only the custodian. In common practice, the pension insurance companies can set up 3+1 model together with one custodian bank.

In this context, a one-stop-shop arrangement, which involves the vertical integration of various functions related to the operation within a single company or a financial group, can be a key factor for the development and expansion of pension business in the long run. The integration will generate synergies and augment competitiveness in essential areas such as EA plan design, customer service, and IT platform etc. The seamless integration of IT system among various operators will largely cuts down the cost of coordination. Based on the integrated IT platform, it is feasible to build up an intensive multi-channel service network to offer more convenience for the clients. As the integral operation facilitates intimate interactions among service providers, thus immediate feedback from any process will be taken into account and contribute to a better product design.

## 3.3 Market organization of Pillar 3

Soaring economic growth has brought major social change. As a result, the middle class in China is expanding rapidly. Consultant McKinsey estimated that, by 2025, members of this class will be spending close to EUR 1.9 trillion a year<sup>3</sup>, making them one of the world's largest consumer markets, rivaling Western Europe, Japan and the United States. Greater wealth, of course, has led to an increased demand for pensions, life insurance and other long-term savings and investment products. Now China is the world's sixth largest life insurance market in terms of total life premium volume. Estimated by Swiss Re in its most recent report published in July 2011, China is likely to become the second largest insurance market within a decade.

Despite the potential purchasing power and the high saving rate in China (estimated at 40% of GDP), the individual saving pension market has not been developed as expected. One of the most important reasons is the lack of favorable tax treatment for the purchase of any insurance retirement related products.

In order to promote the development of this market, Shanghai government is already studying the feasibility to launch a pilot program of personal income tax-deferred pension insurance. This trial program will encourage individuals to buy commercial pension products by allowing them to deduct contributions from their taxable income. Rules drafted for the implementation of this pilot program have been submitted to CIRC and are going through a vetting process by Ministry of Finance (MOF) as well as several regulatory authorities. As stated in the rules, products will be more diversified, including participating insurance, universal insurance, traditional insurance, unit linked insurance and other types approved by CIRC. 6 insurers, including China Life, China Pacific Insurance (Group), Ping An Pension, Taiping Pension, Changjiang Pension and Yingda Taihe

3. Source: 'The Value of China's Emerging Middle Class' - The McKinsey Quarterly.

Insurance<sup>4</sup>, have been selected to pilot the scheme. Some of these companies have fully prepared in terms of operation, R&D and clients and await the approval of the government, financial bureau and CIRC of Shanghai. Undoubtedly, if this pilot program managed to be carried out and widely extended, the individual pension insurance market will expand dramatically in the near future.

### 3.2.6 Latest market trend

The latest discussion about EA started in early August of 2011 with an article released by CSRC (China Securities Regulatory Commission) on the possibility of introducing a Chinese 401(k) plan to speed up the development of China's pension system. Later, news spread rapidly of a 401(k) task force established by State Council, in conjunction with CSRC, China Insurance Regulatory Commission (CIRC), China Banking Regulatory Commission (CBRC), Ministry of Human Resources and Social Security (MOHRSS) and Ministry of Finance (MOF) is studying the feasibility of introducing a Chinese version of 401(k). In fact the Enterprise Annuity scheme launched in 2004 was designed following the structure of 401(k). Players in the pension industry had great hopes that EA would take off in a big way and become a platform to provide supplementary retirement income in China. However, the system is still far behind the 401(k) in the US in respect of little tax incentives, limitations on investment guidelines, restrictions on asset portability, etc. As a result, the coverage of EA plans remains very low. Therefore how the EA system will mature as the 401(k), or how to fully implement the 401(k) plan in China, will depend on the development of an enabling regulatory environment.

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4: Joint venture founded by Massachusetts Mutual Life Insurance Company and State Grid Corporation of China.

## 4: Demographic and labor market trends. An essay of Projections for the Chinese pension system.

### 4.1 Literature review on Chinese pension market projection

In China the pension market is divided into different segments in terms of private pension asset accumulation, mainly referring to a) pillar 1B, i.e. individual account, and b) pillar 2, i.e. enterprise annuity (EA). Given the size of Chinese population and the ageing process, the massive potential of China's pension market has attracted great attention and aroused debate within China and beyond. Much work has been conducted to project the potential size of China's pension market, although such projection has been mainly focused on the EA market so far.

Some of the most cited estimates are from the World Bank, which had optimistically forecasted that by 2030 China's EA market would be growing to as large as USD 1.5 trillion, while by 2010 the amount would be RMB 1 trillion. However, according to the market development in the past few years, such estimates have proved to be too optimistic and unrealistic.

One report by the Tower Watson (2007) forecasted that by 2020 assets accumulated in the EA market could be in the range between RMB 400 bn and 800 bn, while a more recent BBVA (Zhu 2008) research showed that the EA market could grow to RMB 1.2 trillion by 2020, and further increased to RMB 5.8 trillion by 2030. In Zhu's paper, it is assumed that the contribution rate is 8%; but admittedly the currently prevailing contribution rate is 5% largely due to the cap on tax relief. Meanwhile, Allianz (2007) conducted a research on China's pension market potentials; it was forecasted that the Chinese EA assets could amount to Euro 49.8 bn by 2015.

There has been no government official forecast on the potential size of the EA market; however, senior officials from the Chinese top pension regulator recently estimated that by the end of the Twelfth Five Year Plan period, i.e. by 2015 the total assets could be at RMB 500bn.

Regarding projections on China's individual account, empirical results vary and indeed depend on the underlying assumptions. For example, Sin (2005) forecasted that in the most optimistic scenario the balance under the fully funded pillar 1B could be up to 1% of GDP by 2020, 5% by 2030 and 15% by 2050. In that paper two assumptions which have important implications for the results are a) retirement age is increased to 65 by 2022 for male and 2034 for female, and b) pension benefits are indexed to inflation rather than nominal wages, which effectively reduce the level of benefit.

Another market search by Allianz (2007) forecasted that by 2015 assets accumulated in pillar 1b could amount to Euro 354 bn in the conservative scenario, and to Euro 414.4 bn in the optimistic scenario.

### 4.2 Chinese population: ageing trends

China is the most populous country in the world, with 1.341 billion people in 2010. Population doubled in 50 years, offering a fine sample of a Malthusian growth problem generating pressure mainly on agricultural resources. The government therefore decided to adopt a policy of containment of fertility which has been very effective in controlling population growth, but that will cause a demographic transition characterized by strong and accelerating ageing problems. The birth control policy comprises a one-child policy for urban families, while families living in the rural areas are allowed to have two children, provided that the first one is a girl.

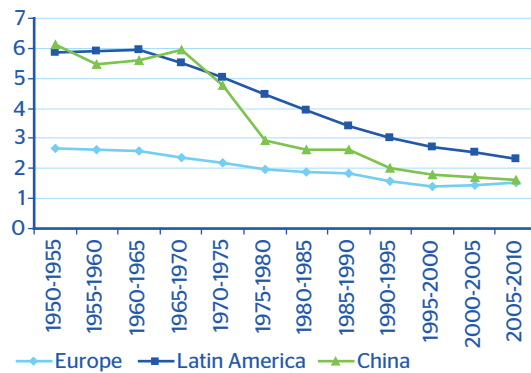
In the rural areas, old people have usually depended on the financial support of their children. This is why many families prefer to have a boy, who should theoretically be a better provider for his parents' economic needs. Because of this, the abortion rate in women expecting daughters has been high, in order to increase the chances to at least have a boy. Ultimately, this has led to a ratio of 106 men per 100 women in China, compared to 93 men in Europe for every 100 women.

The effect has been rapidly declining fertility rates in China. Until the first half of the 70's, the fertility rate in China was very similar to that in Latin America, a very typical rate in a developing country.

The one-child policy boosted the transition process, deviating from the Latin America trend, and converging to current European figures. The replacement rate between generations was lost in China in the mid 90s.

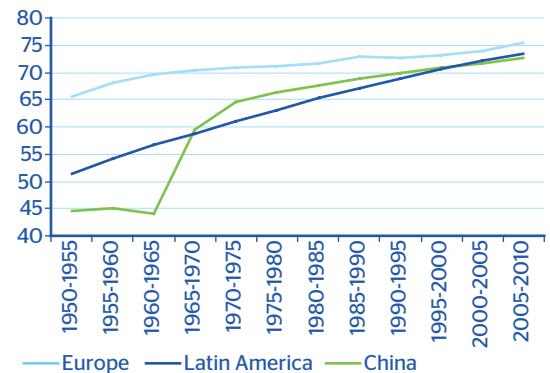
Additionally, China, like other regions such as Latin America, is also converging with developed countries in terms of life expectancy.

Chart 4.1  
**Fertility rate trend (children per woman)**



Source: UN (2011) and BBVA Research

Chart 4.2  
**Life Expectancy at Birth (male and female)**



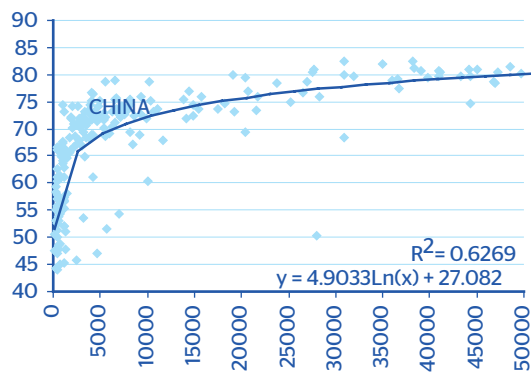
Source: UN (2011) and BBVA Research

In all, we have seen a very fast demographic transition in China, with figures similar to those in Europe, and, therefore, also with similar ageing problems in the future.

However, in spite of the high economic growth in China over the past few decades, the GDP per capita figures are still far from developed economies in Europe (USD 30,000 vs. USD 3,400 in China). Therefore, similar demographic indicators in Europe and China raise doubts about a sustainable availability of resources to finance an ageing population, since health and pension costs will increase.

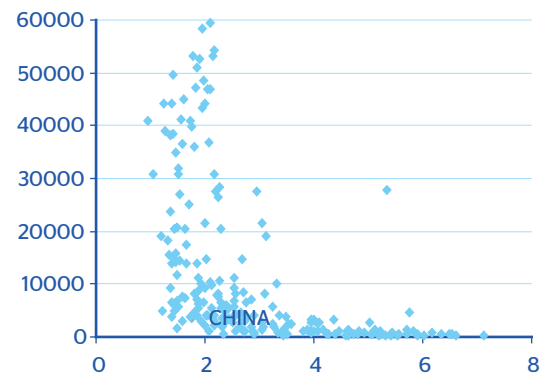
Even if the comparison of the Chinese demographic data is performed against countries of a similar economic level, China would still show a more severe ageing issue (see charts 4.3 and 4.4). Life expectancy of females and males is 69.9 years for countries with GDP per capita between USD 3,000 and 4,000 per year, while in China, it is 73.2. Also, those countries have a fertility rate of 2.65 children per woman; in China, the fertility rate is 1.6.

Chart 4.3  
**Relationship between per capita income and life expectancy (%)**



Source: UN (2011) and BBVA Research

Chart 4.4  
**Relationship between per capita income and fertility rate**



Source: UN (2011) and BBVA Research

UN population forecasts (2011) show an increase in Chinese life expectancy, both male and female, to 79.1 years in 2050 (from the current 73.8), which will be very similar to the 79.3 expected for Latin America, but still below the 81.7 in Europe.

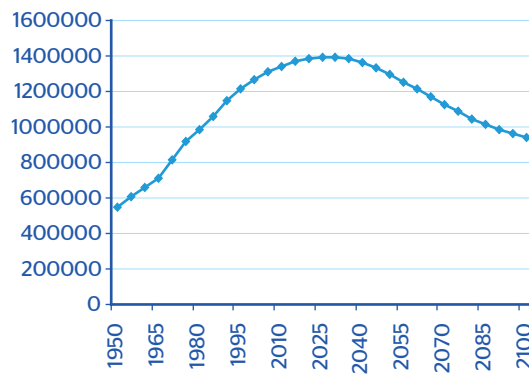
With regard to fertility rates, according to the UN (2011) the number of children per woman in China will remain highly stable in coming decades, reaching a rate of 1.77 children per woman in 2050 in comparison to the current 1.6. This is very similar to what will be seen in Latin America (1.79). Europe will see an upturn in the fertility rate, going from the current 1.53 to 1.93 in 2050. This will likely ease the ageing effect of the population.

Demographic projections for China indicate a sustained population growth up to 2025, reaching 1.395 billion inhabitants. From this date onward, the low fertility rate over time that cannot guarantee generational replacement and the progressive deaths of more numerous older generations will lead to a prolonged population decline reaching 941 million in 2100 (see chart 4.5)

Until present, the percentage of the over-65s population in China has remained stable in recent decades at around 5% and followed a very similar path to that seen in Latin America. The accelerating increase in life expectancy and the decline in the fertility rate will lead to a change in this pattern toward an accelerating ageing process, moving away from the pattern in Latin America and quickly approaching levels seen in Europe. In this way, China will reach a percentage of potentially retired individuals (over-65s) similar to that in Europe from 2050 and even come in above this in the following 50 years hitting sustained levels of around 30% of the total population (see chart 4.5).

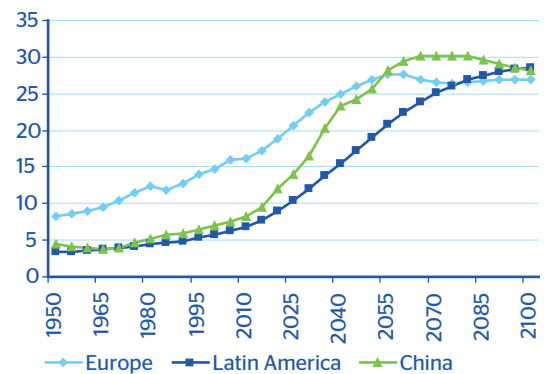
This accelerating, intense and lasting ageing process in China will imply a considerable challenge for maintaining appropriate living standards for an increasingly large retired population percentage.

Chart 4.5  
Chinese population forecast (in thousands)



Source: UN (2011) and BBVA Research

Chart 4.6  
Percentage of the population 65 years old or over forecast



Source: UN (2011) and BBVA Research

According to the UN (2011), China would cease to be the most populous nation on the planet between 2020 and 2025, being overtaken by India. In turn, the effect of an ageing population will lead to a rapid reverse in the population pyramid, increasing the dependency rate of seniors (65+/15-64) to 73% in 2070 while the global average would be 57%, 57% in Europe and 57% in Latin America. This would place China among countries with the most aged populations in the world leading, in turn, to the need to carry out urgent reforms to ensure financial sustainability for its pension system and to provide a sufficient appropriate income level for future retired generations.

## 4.3 Urban development in China and its implications on the pension system

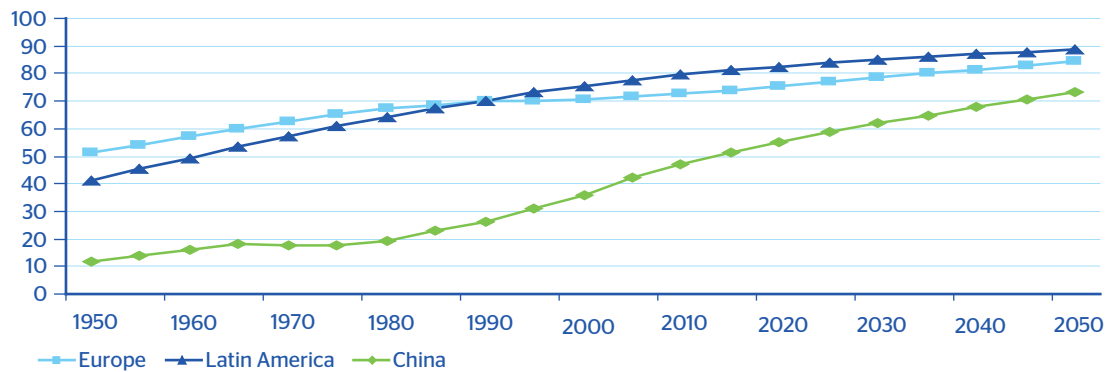
### 4.3.1 Urban development

According to Kojima (1995), from the first quarter of the 20th century until the end of the 1970s, the scale and area of Chinese cities were set by the amount of available grain for rationing, as well as the Government's ability to provide housing for city-dwellers. Cities were always limited to relatively small areas due to limitations in the supply of both. The two decades after 1960 were marked by the Government's success in controlling urban population growth so that in 1975 Chinese cities' inhabitants barely represented 17.4% of the population in comparison to 65.3% in Europe (see chart 4.7).

Major changes in the productive structure especially started to be seen from the 1990s. Traditional Chinese agriculture was characterized as being highly labor-intensive and, therefore, having extremely low productivity. On the one hand, gradual mechanization in the countryside linked to the progressive easing of migration restrictions from the country to the city favored almost exceptional growth in the country's urban development rate. On the other, the "economic development incentive" effect of cities offering jobs in the manufacturing and services sector exacerbated the gap between income in the countryside and the city, going from 2.2 times the average country salary before to 3.3 times in 2009. With the urban sector creating a large number of jobs and attracting the working-age population from the countryside, urban employment increased by 95 million between 1998 and 2009 in comparison to a decline of 21.5 million in the rural sector. UN forecasts (2009) for coming decades point to this process continuing to converge toward levels seen in Europe and Latin America to such an extent that over 70% of the population will live in cities in 2050 (see chart 4.7).

Chart 4.7

**Urban population percentage trend and forecast: 2009 (millions and percentage)**



Source: UN (2009) and BBVA Research

Table 6

**Social Indicators: urban and rural areas (percentage and years)**

	Rural Zone	Urban Zone
Percentage of people who live under the poverty line	12.5%	0.5%
Percentage of illiteracy	11.5%	3.6%
Percentage of old age population	70%	30%
Average years of study	7	10

Source: OECD

The change in productive structure aimed at cities will also mean gradual disappearance of the vertical family model where several generations live together and where the youngest would ensure inter-generational support by providing financial assistance for their own family in the expectation that the coming generations would also finance their retirement in a type of family distribution system. At present, over half of the income among the over-80s comes from family transfers. According to Giles et al (2010), it is highly likely that in rural families in which the male children have emigrated to the city the flow of transfers to parents could reduce or even disappear, condemning a large section of the rural population to absolute poverty. Therefore, if the government wishes to avoid this situation, it will need to find additional funds to finance these groups.

Other important changes being seen include the relative rejuvenation of the city with regard to the countryside, where migration among young people to cities is leaving behind an aged poor rural environment. Migration among the better trained and the ease-of-access to higher education in cities in comparison to the countryside favor higher productivity at work and, therefore, higher salaries in cities. This entire process will mean a larger middle class and, therefore, its greater development.



### 4.3.2 The labor market

Labor market modeling in urban areas in China is complex. On the one hand, jobs in manufacturing and services are characterized ever further by higher added value thanks to technological progress in business and the presence of an ever better trained workforce. On the other, the up-to-present inexhaustible supply of low-skill workers from the countryside is starting to show signs of drying-up and there are some doubts as to its sustainability in the medium-term. All these factors, together with the scant public statistical information, make it impossible to put together a detailed model for long-term contributor forecasts.

In order to forecast the potential market segment that could be developed by private pension systems in China, we need to estimate the number of those in working age who could live in cities in the future. Here, we propose for sake of analysis a way to forecast the trend seen in recent years as per the following sequence (which is explained below):

1. We estimate the employment rate (people in work/pop 15.64) through a quadratic equation forecast. (Chart 4.8).
2. We estimate the ratio (urban workers/total workers) and, as a remainder, the rural/total workers ratio (chart 4.9).
3. Contributors/urban workers are estimated through using a coverage ratio (point 5.3)

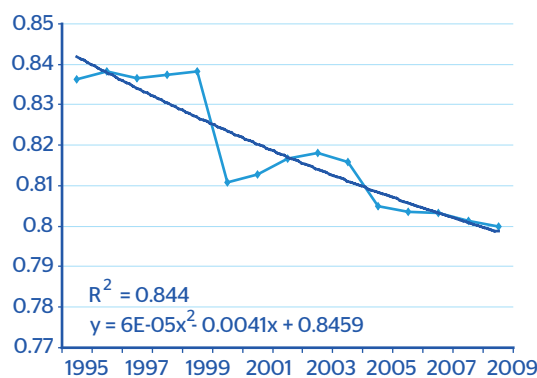
As shown in chart 4.8, the employment rate in China has been gradually in decline in recent decades. This may be due to the fact that improvements in productivity, alongside extended studies among urban youth have brought an abnormally high employment rate that is very close to the standards of developed countries.

Chart 4.8 shows the trend in the Chinese employment rate. As can be seen, the best estimate of the trend is a quadratic with good adjustment in R2 (0.84).

Performing the same exercise with the percentage in urban jobs with regard to the total, we estimate that the trend line which best underscores is a linear regression, being the correlation coefficient that shows a high adjustment between the two variables (0.98).

Chart 4.8

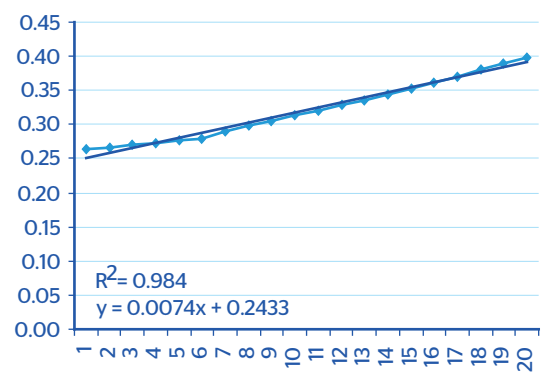
**Employment rate trend change in China (%)**



Source: UN and BBVA Research

Chart 4.9

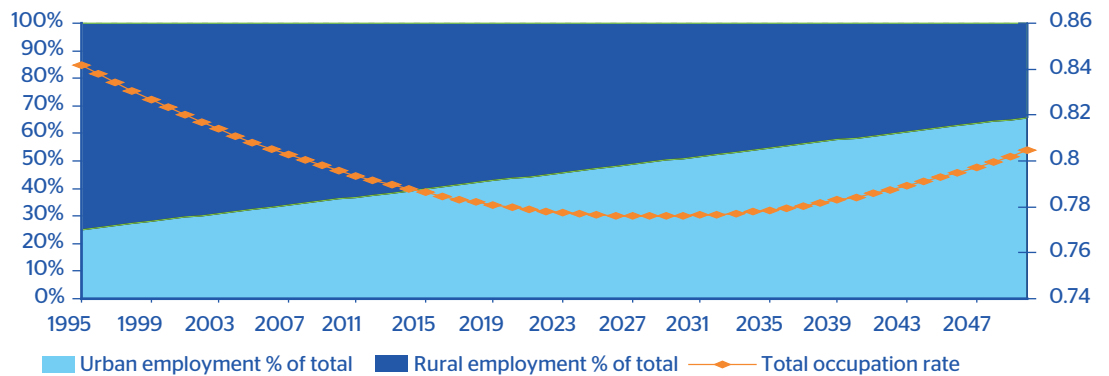
**Urban employment percentage trend**



Source: UN and BBVA Research

Forecasting the equations in charts 4.8 and 4.9, with their trend equations, we obtain the Chinese employment rate forecast and the percentage of urban workers. The percentage of rural workers is given as a remainder (See chart 4.10)

Chart 4.10  
Employment rates forecast



Source: National Bureau of Statistics of China and BBVA Research

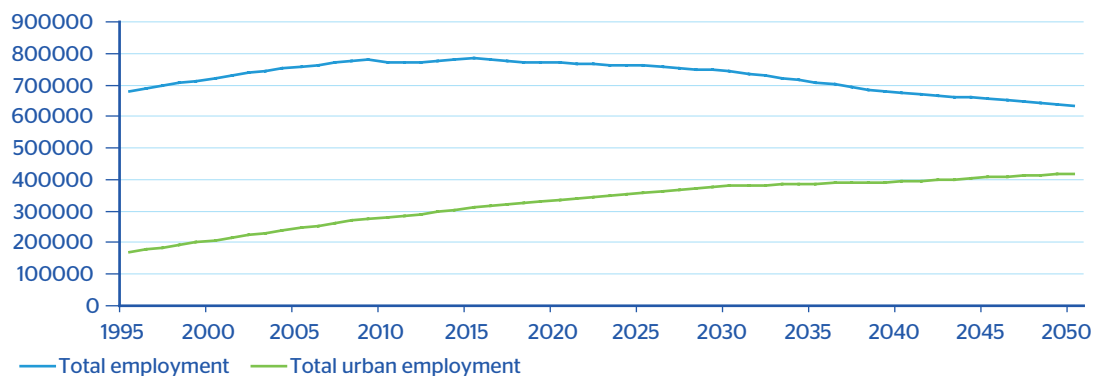
Based on the employment rate trend in China quadratic equation, we see a change where the decline in the employment rate continues to around 2025 where, let us recall, the maximum population is reached in population forecasts for China. The gradual lack of labor from then and the greater ageing effect among the population could lead to an increased employment rate, for example, through a prolonged working life, as is currently the case in more developed nations. In this way, it could be said that this is in line with the choice of the quadratic equation forecast.

Based on the Chinese population forecasts in chart 4.5 and the forecasted total and urban employment rates in chart 4.9, we obtain the total number of workers in China and specifically in urban areas.

Chart 4.11 shows that total worker forecasts start to decline from 2015 onward, partly due to the declining employment rate and partly due to a standstill in working population growth, declining by almost 200 million people up to 2050.

Nonetheless, for urban workers we see continuous growth from 280 million current workers to 417 million in 2050. This is due to the continuous labor migration from the countryside to the city, as well as the increasing employment rate to be seen from 2027 (see chart 4.11)

Chart 4.11  
Total and urban workers forecast (in thousands)



Source: National Bureau of Statistics of China and BBVA Research

## 4.4. Chinese pensions system forecasts.

Our estimates for the Chinese pensions market are based on determining contributions volumes between 2010 and 2020. The forecast is divided into three parts, each corresponding to the pension sub-system that is being measured. The first part is made up of pillar 1b estimates, the second one by corporate pensions and the third one voluntary pensions.

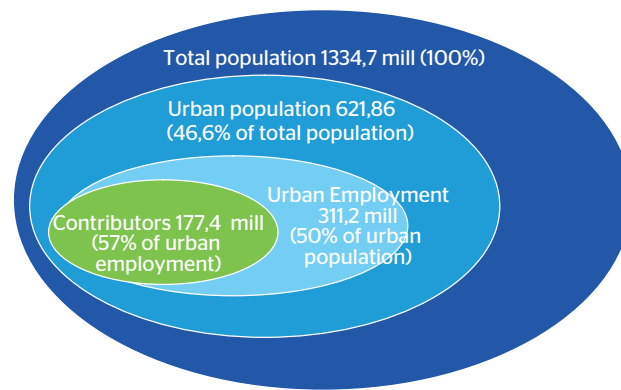
### Pillar 1b estimate

For this report we forecast current and future contributions, based on the projected number of contributors, an average contribution salary and a fixed contribution rate equal to 5%.

The estimates for pillar 1b are calculated based on pillar 1 contribution forecasts, using the demographic and labor market forecasts stated above. The estimates are based on pillar 1 urban employment coverage of 57% in 2009, which is set to increase to 65% by 2020. The initial urban employment coverage in 2009 is 177 million urban workers, out of a total urban population in the same year of 311 million (chart 4.12).

Chart 4.12

**China's population based on urbanization and urban employment coverage: 2009 (millions and percentage)**



Source: National Bureau of Statistics of China and BBVA Research

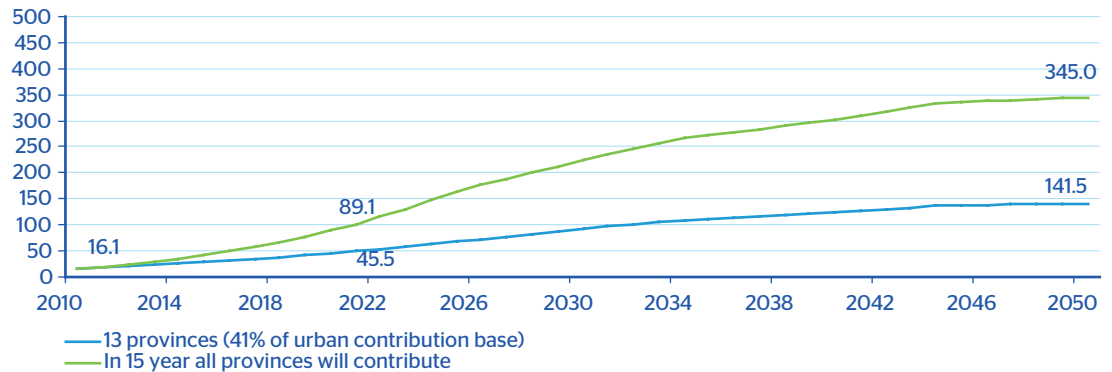
The growth in urban employment coverage and urbanization would therefore lead to a growth of 136% in the number of contributors, which should reach around 400 million people in 2050 (up from the current 177 million).

It is estimated that current pillar 1b contributors could represent 41% of all pillar I contributors, bearing in mind that the 11 provinces making up pillar 1b have represented 41% of the pillar I total population (all urban) since 2009. The provinces of Jiangsu and Zhejiang recently joined the group included in pillar 1b, but their penetration in terms of coverage may be less and should therefore not be taken into account in the short term to calculate the number of contributors.

Two alternative scenarios are estimated for contributor numbers between 2010 and 2020. In the first, scenario 1, pillar 1b coverage is not extended to other provinces and therefore holds at 41% of urban pillar 1 contributors. In scenario 2, all pillar I provinces are covered within 15 years. Therefore, while in scenario 1 the number of pillar 1b contributors would reach 89 million by 2020, in scenario 2 this number would be 175 million.

Chart 4.13

Contributions to Pillar 1b: 2010-2050 (billions of USD constant in 2010)



Source: National Bureau of Statistics of China and BBVA Research

In the first scenario contributions<sup>5</sup> would increase from USD 16.1 billion in 2010 to USD 45.5 in 2020 and USD 141.5 en 2050. In the second scenario contributions would rise from USD 16.1 billion in 2010 to USD 89.1 billion in 2020 and USD 345 in 2050 (see chart 4.13)<sup>6</sup>.

As well as contribution estimates, there are also forecasts for pillar 1b balances. This forecast is, however, subject to assumptions, as the available information is weak. The balances under management are calculated based on the following formula:

$$(\text{balance in 1b})_t = (\text{balance in 1b})_{t-1} * (1+r) * (1-\text{retirement rate}) + \text{Contribution } t,$$

where the retirement rate assumption is equal to 1.6%, based on what scarce information is available. Furthermore, although the official contribution rate is 8%, we believe using 5% is more realistic, based on the available empirical evidence. Finally, we use a 5% rate of return for the funds to calculate balances<sup>7</sup>.

Table 7

Annual Pillar 1b balance - Scenario 1 Pillar 1b - Scenario 2 (billions of constant USD 2010)

13 provinces	2010	2011	2012	2013	2014	Balance (Billion USD)	2010	2011	2012	2013	2014		
Balance (Billion USD)	25.0	41.9	61.3	83.7	109.2	Balance (Billion USD)	25.0	41.9	631	89.3	121.6		
	2015	2016	2017	2018	2019	2020	2015	2016	2017	2018	2019	2020	
Balance (Billion USD)	138.3	171.3	208.4	249.8	296.1	347.5	Balance (Billion USD)	160.9	208.3	264.7	331.2	409.2	500.3

Source: National Bureau of Statistics of China and BBVA Research

The estimates show that balances rise from USD 25 billion in 2010 to USD 347.5 billion in 2020 for scenario 1, and to USD 500 billion by 2020 in scenario 2 (table 6).

### EA estimates

To estimate the EA market we start with establishing the number of potential contributors to the said system. As EAs are corporate plans, we focused on companies with the greatest potential, by virtue of having better remunerated employees, where the average salary is above the urban sector average. Thus, using information from the Chinese Bureau of Statistics on urban employee numbers and their average salaries by company and industry type, we found 10 sectors in which workers are paid higher average salaries, representing 61.8 million people.

5: The contributions are calculated using the following formula:

Contribution t = Average Urban Salary t \* Contributors t \* rate of contribution.

6: The base contribution salary used to estimate contributions is the average urban wage reported by the Chinese National Bureau of Statistics, forecast under the assumption of a real annual growth rate of 9%, in line with the linear trend for this variable.

7: This rate of return corresponds to the NSSF rate of return and was calculated by BBVA's Pension Observatory published on March 10, 2010.

Table 8

**Estimates of the number of urban employees with average salaries above the urban average by company and industry type: 2009 (millions and percentage)**

Item	State- owned Units	Urban Collective-owned units	Units of Other Types of Ownership
Agriculture, Forestry, Animal Husbandry and Fishery	3.6	0.0	0.1
Mining	2.4	0.2	2.9
Manufacturing	4.4	1.5	29.1
Production and Distribution of Electricity, Gas and Water	2.0	0.1	1.0
Construction	2.6	1.6	7.5
Traffic, Transport, Storage and Post	4.1	0.2	2.0
Information Transmission, Computer Services and Software	0.6	0.0	1.1
Wholesale and Retail Trades	1.4	0.5	3.2
Hotels and Catering Services	0.6	0.1	1.4
Financial Intermediation	1.5	0.5	2.5
Real Estate	0.4	0.1	1.4
Leasing and Business Services	1.3	0.4	1.3
Scientific Research, Technical Service and Geologic Prospecting	2.1	0.0	0.6
Management of Water Conservancy, Environment	1.8	0.1	0.2
Services to Households and Other Services	0.3	0.1	0.2
Education	14.9	0.2	0.4
Health, Social Security and Social Welfare	5.3	0.5	0.2
Culture, Sports and Entertainment	1.1	0.0	0.2
Public Management and Social Organization	13.8	0.0	0.1

Sectors with lower wages than the average of the urban wage (Dark Blue)  
Sectors with higher wages than the average of the urban wage (Light Blue)  
Source: National Bureau of Statistics of China and BBVA Research

This would therefore be the growth potential for this year. In other words, our analysis is forthcoming that 77.5% of the potential market may be represented by state companies (these statistics include no private companies - approximately 16% of urban employment). For a more visual depiction of the number of potential members of enterprise annuity plans, by industry and company type, the traffic light chart (table 7) underscores in green the number of employees in companies where average salaries are higher than the urban average.

The current number of EA contributors is 13 million, a figure that represents around 8% of employed urban contributors, which, as stated above, reaches 177 million people. The market forecasts are again based on estimates for employed urban contributors. 4 scenarios are identified, based on the performance of the number of contributors. In **scenario 1** the number of EA contributors grows in line with the number of pillar 1 contributors, to 65 million in 2050. In **scenarios 2, 3 and 4** the potential level is reached after 5, 10 and 15 years, respectively (meaning that 40% of pillar 1 contributors are covered in these periods) and contributor numbers reach 168 million in 2050.

In **scenario 1** contributions reach USD 16.6 billion in 2020 and USD 86 billion in 2050. In **scenario 4** contributions reach USD 53.3 billion in 2020 and USD 222 billion in 2050.

The balances are calculated in a very similar way to the pillar 1b balances. The calculation formula is:

$$EA_t = EA_{t-1} * (1+r) * (1-retirement\ rate) + Contribution_t, \text{ where}$$

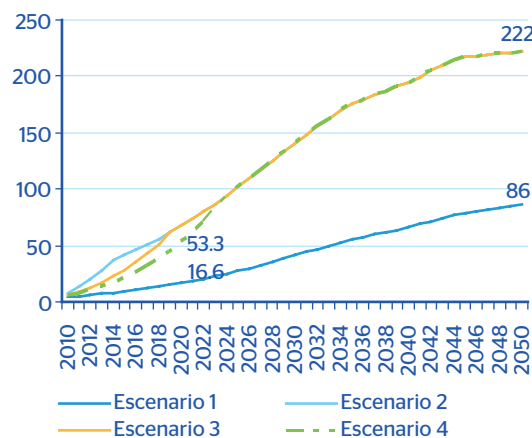
EA represents the balances, and r is a 5% rate of return for the funds, which is equivalent to the NSSF rate of return in recent years (March 2009 Pension Watch assumption).

The annual rate of retirement is constant and equal to 16% (March 2009 Pension Watch assumption).

It is worth pointing out that the contribution rate assumption is 8%: a 4% company contribution and 4% employee contribution. This assumption is based on the 4% tax deduction applied to the employer in most provinces and assuming that the employee contributes the same as the employer (assumption used by Pension Watch in March 2009).

Meanwhile, balances would rise to USD 172.5 billion in 2020 for scenario 1, and to USD 353.1 billion in scenario 4. It is worth noting that, as with those for pillar 1b, the EA balance estimates are subject to sizable assumptions, as the information that is available is scant.

Chart 4.14  
**Contributions to corporate plans:  
2010-2050 (billions of constant USD 2010)**



Source: National Bureau of Statistics of China and BBVA Research

Table 9  
**Contributions to corporate plans:  
scenarios 1 and 4 (billions of USD constant in 2010)**

Scenario	2010	2011	2012	2013	2014	
<b>Scenario 1</b>						
Balance (Billions USD)	41.2	47.8	55.6	64.4	74.6	
	2015	2016	2017	2018	2019	2020
Balance (Billions USD)	86.4	99.7	114.7	131.7	150.9	172.5
<b>Scenario 4</b>						
Balance (Billions USD)	41.2	50.7	63.1	79.1	99.2	
	2015	2016	2017	2018	2019	2020
Balance (Billions USD)	124.4	155.1	192.3	236.9	290.1	353.1

Source: National Bureau of Statistics of China and BBVA Research

### Voluntary pensions pillar estimate

The middle class is the natural market for voluntary pensions. Therefore, the size of the potential market should be based on establishing, on the one hand, how big this middle class is and, on the other, simulating certain levels of voluntary savings penetration in this Chinese social class, based on the empirical evidence observed in more developed countries whereas abundant information is available.

According to our estimates, the middle class includes 294 million people, of which the urban middle class would be 137 million. The middle class calculation is based on UNU-WIDER income distribution figures by deciles. The average income for each income decile was calculated based on these figures, with the average income taken to be the annual disposable income per capita for urban households reported by the Chinese Bureau of Statistics.

In 2010 the annual average income per capita for Chinese households was USD 2,822, while the average income for decile 8 was just over USD 3,500<sup>8</sup>. The middle class for a developing country is defined as those earning more than USD 3,600 per year (USD 10 each day, the levels used by the WB (2002) for developing countries), meaning the middle class in China would cover part of decile 8 and the entirety of deciles 9 and 10. Of China's 2010 urban population of 622 million, around 137 million would be middle class. Looking at the total population and not just the urban population, the middle class would be around 290 million.

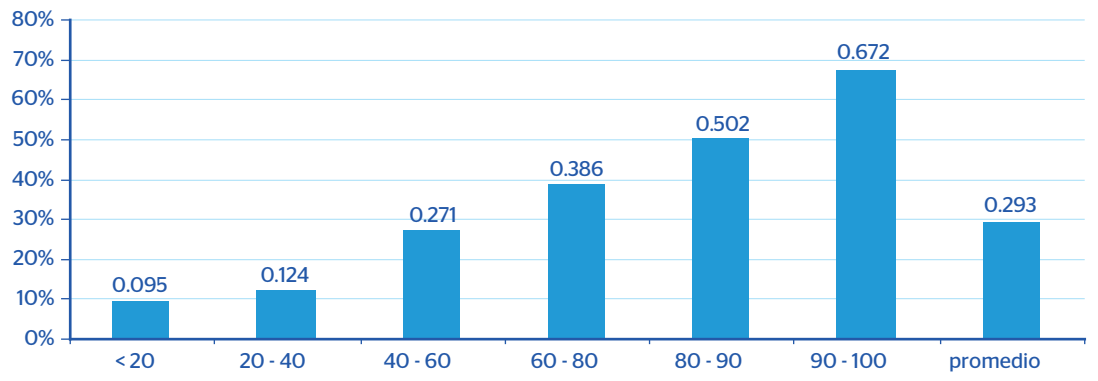
Using the same methodology and the same income distribution as to estimate the 2010 middle class, we estimate the 2020 urban middle class at 200 million. This growth in the middle class from 137 million to 200 million would be largely driven by the rising average household income per capita and the urbanization process expected between 2010 and 2020 (moving from a rate of urbanization of 47% in 2010 to 56% in 2020). At the national level, the middle class would reach 358 million people by 2020. We should note, however, that a higher income threshold will be used

8: The average available income calculation for each income decile was calculated as follows:  
YdDj= Yd\*Dj/pobj, Where

to calculate middle class numbers in 2020, in order to take into account the differences between China's level of development in 2010 and 2020. Thus, we use the income threshold employed by the WB (2002) for developed countries, at USD 20 per day. As indicated at the start of this section, not all members of the middle class have voluntary pension savings. There is a positive relation between voluntary savings and income levels. In Spain, for example, 67.2% of households in the top decile have voluntary savings pensions, while of the poorest 20% of households less than 10% have such savings (see chart 4.15).

Chart 4.15

**Voluntary savings coverage in Spain by income percentile (household savings percentage)**



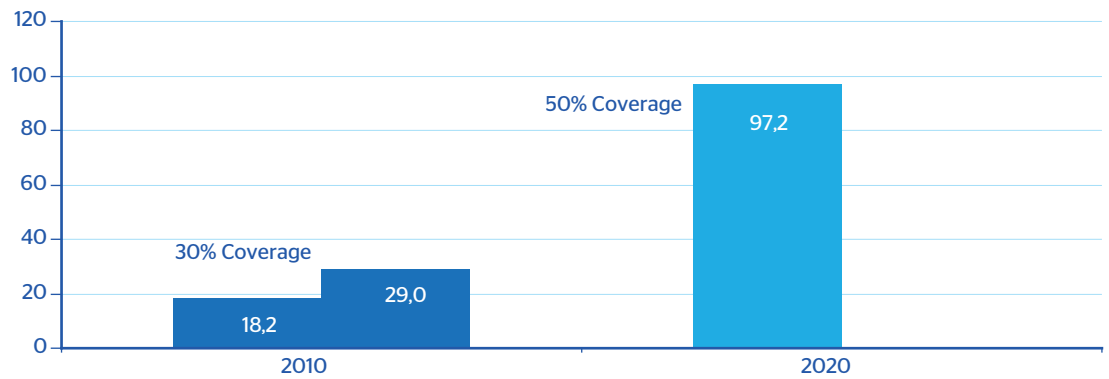
Source: The Spanish Survey of Household Finance 2008

In China, we use a voluntary pension savings penetration percentage of between 30% - 50% for 2010, with this percentage rising to 70% in 2020. These assumptions are simply for the purposes of simulating different penetration levels for voluntary pensions, but they do imply that greater development brings greater market penetration. Thus, we assume that by 2020 the country will be more developed than at present and, therefore, that voluntary pensions will have greater penetration. In 2010, with a penetration percentage of between 30% and 50%, there would be between 41 and 68 million urban contributors to voluntary pensions, while in 2020, with penetration at 70%, there would be some 140 million urban contributors.

With a contribution rate of 5%, contributions in 2010 would be between USD 18 billion and USD 29 billion (coverage rate of 30% and 50% respectively). China's increasing population, urbanization and significant income growth could lead to a 2020 market of USD 97 billion, multiplying the 2010 market by 3 to 5 times in real terms (chart 4.16).

Chart 4.16

**Contributions to the voluntary pension pillar: 2010 and 2020 (billions of USD constant in 2010)**



Source: The Spanish Survey of Household Finance 2008

The forecasts indicate the potential of the Chinese pensions market. Pillar 1b contributions, for example, are set to triple by 2020 compared to 2010 in the central scenario, while in the optimistic scenario they would multiply by 6. Meanwhile, there is already sizable potential in the current corporate pensions market, bearing in mind the current coverage figure of 13 million employees and the estimate that this could be of the order of 60 million. Thus, by 2020 contributions could reach USD 16.6 billion and 53.3 billion in scenarios 1 and 4, respectively. Finally, China's increasing population, urbanization and significant income growth could lead to a 2020 voluntary pensions market (USD 97 billion) that would have grown 3 to 5 times comparing to 2010.



## 5: Final comments

This paper has provided a comprehensive review of the main pension issues that China is dealing with and possible scenarios of pension developments through the participation of private partners. In order to do that, the first section of the report seeks to provide a comprehensive historical review and updated investigation of China's pension system. This chapter was separated into two parts: the first part reviews the Chinese pension system from the 1950s when the old age provision was first introduced until the newest policies and regulations have been carried out; while the other part tries to identify the problems associated with the current pension system.

We observed that Chinese pension system was established at the beginning of the 1950s: it was a PAYG system and only civil servants and urban employees who worked at SOEs and large COEs were covered. Pension fund administration was governed at the national level. However, in the late 1960s, this system was abandoned because of the Culture Revolution, which was an unforgettable disaster in Chinese history: pension surplus accumulated were eroded and embezzled. Things got better from 1976: "iron rice bowl" policy was adopted, which guaranteed a life time employment and other generous benefits, but this was limited to urban employees only. From the 1980s, more reforms were conducted because of the significantly increased pensioners and pension expenditures. China started to age fast demographically. Guided by the World Bank, China officially established a multi-pillar system in 1997, which was a milestone in pension revolution. From 2000 onwards, China committed to improving the basic multi-pillar system: Liaoning reform, the establishment of NSSF, the growth of the supplementary pillar and the frequently revised regulations and laws were examples showing China's dedication. In 2009, China introduced a nationwide, experimental rural social pension plan, where for the first time in China's long history, the government will make direct contributions to a rural pension scheme. However, although many efforts have been made, there are still several problems in current Chinese pension system: poor coverage in rural area, serious structure problems and high fiscal pressure etc., which need more consideration in the future.

Then, in Chapter 2, the report deals with the actual pension structure in China. The pension system is distinguished between urban and rural areas, and further between contributory and non-contributory schemes. Furthermore, civil servants and employees working in the public service sector (PSU) enjoy a more generous, standalone scheme. Meanwhile, in 2000 Chinese central government established a pension reserve fund, namely National Social Security Fund (NSSF). In the case of the Urban system, the current urban enterprise pension system, consists of various pillars, namely the social pooling pillar - pillar 1A, individual account - Pillar 1B; participation to the two pillars are mandatory, and the contribution rate is 28% of payroll, of which 20% from employer and 8% from employee. Pillar 2 is often referred to as enterprise annuity, while participation is voluntary. Under this pillar there are other similar schemes, e.g. welfare pension plan, but they are not less regulated and developed. Pillar 3 is mainly concerned about in insurance pension products. For rural areas, the new rural pension scheme is designed to be similar as that of urban system, in the view of an ultimate integration between rural and urban in the long run. It consists of two pillars, i.e. pillar 1A - social pooling, and pillar 1B - individual account. The key merit of this new system compared to the previous ones is that both central and local governments are committed to subsidize the system significantly, in order to enhance its attractiveness.

Within both rural and urban systems, there are budget financed social assistance program, including pension benefits. They mainly provide the most basic means to any citizen needed, regardless of their contributory history. A standalone pension system has been set up for civil servants and employees in the PSU sector. It is non contributory, or budget financed. The benefit is up to 90%, depending on years of service and seniority etc. However, it is noted that the government is reforming the system for employees in the PSU, with an objective to align it with that of the urban enterprise system. Other important aspect is that, since its inception in 2000, the NSSF has witnessed rapid growth. For example, AUM has increased from its initial funding of RMB 20bn to the current level of over RMB 800bn. As the largest pension fund and one of the liberalized and internationalized institutional investor in China, experiences and lessons behind NSSF's development would be very useful for the Chinese pension regulator, which has been considering reforming the other parts of the system.

More concentrated in market developments, chapter 3 concludes that contributory schemes are relevant components of the social insurance system in both urban and rural pension schemes. The schemes basically underscore two forms of organization: government administration at the municipal or provincial level and private management by financial entities. The new rural pension system introduced by Chinese government in 2009 has been designed as a contributory scheme. Initial response to the scheme has been quite encouraging and government has targeted 2015 as to widen coverage of individual rural plans to entire China's population.

Pillar 1B of the urban pension is a mandatory and public administrated contributory scheme managed by Municipal governments by delegation of central government. As noted, assets accumulated in this pillar were mostly used to finance current retirees' pensions rather than fund individual capitalization accounts. Chinese authorities are aware of this problem, and certain remedies have been undertaken to fix the back filling of pillar 1B. So far, the pilot program (New Pillar 1B) aiming to fill empty accounts appropriately has covered 13 provinces and it is phasing in for rest of the country. Once the individual accounts are fully funded, the key question will be how to invest and manage these funds in order to preserve and increase their value over time. According to in house market intelligence Chinese government is conducting an internal consultation on the feasibility of private management of pillar 1B asset, and one of the scenarios under consideration is to extend the regulatory framework of EA 'S to the Pillar 1B under review.

Financial institutions compete fiercely in the private pension market of EA 's in China, Up to date 37 financial institutions have been granted in all 4 different categories of licenses to operate in the EA market, Up to now over track record of 5 years Commercial banks and pension insurance companies are more comprehensive seamless service providers with dominant market share. As of end of year 2010, 130 million employees out of roughly 30,000 companies participated in EA plans and total assets under management reached RMB 280 billion. Although EA plans are winning progressively acceptance in China, it is very apparent that this market has not been developed as expected. On one hand, more friendly regulatory policies, such as enhancement of tax deductible benefit and EA plan portability, should be put in place to stimulate market demand. On the other hand, service providers need to apply more efficient management practices to confront the keen market competition and the low profit problem. A one stop arrangement, which involves the vertical integration of all 4 functions of EA service providers within a single entity, could be a feasible let alone sustainable model for the development of EA in the long run. Last but not least, there is great room for development for pillar 3, the individual pension products. With the rapid expansion of middle class, China is likely to become the second largest pension market within a decade. Some market players, mainly life insurance companies are exploring this market in principle thru SPV vehicles. These so called pension insurance companies seem to be more suited to snap up additional market share.

Finally, in chapter 4 we develop a model to foresight the likely development of pension markets in China in the coming years. In order to do that, we take into account, the main demographics, policies and market trends observed. The one-child policy boosted in China bring about a transition process that will generate a rapid reverse in the population pyramid, and increase the dependency rate of seniors (65+/15-64) to 73% in 2070 . That situation would place China among countries with the most aged populations in the world, leading to the need to carry out reforms to ensure financial sustainability for its pension system and to provide a sufficient appropriate income level for future retired generations.

Demographic projections from UN for China indicate sustained population growth up to 2025, reaching 1.395 billion inhabitants. China presents also an important urbanization process that will continue since the urban sector will still create a large number of jobs and attract the working-age population from the countryside, converging toward levels seen in Europe and Latin America to such an extent that over 70% of the population will live in cities. In that sense projections of the labor market show that while total workers start to decline from 2015 urban workers grow from 311 million current workers to 417 million in 2050.

Taking all that into account, our estimates of the pension market were concentrated in the urban sector, the pillar 1b, corporate pensions and voluntary pensions. The estimates for pillar 1b are calculated based on pillar 1 contributors' forecasts that start at a 57% of urban employment in 2009, and increase to 65% by 2020. The initial urban employment coverage in 2009 is 177 million urban workers, out of a total urban population in the same year of 311 million. Two alternative scenarios were made, for pillar 1 b contributors, one in which the pillar do not extend to other provinces and another in which all the provinces are covered by 2020.

The projection of corporate pensions is based on the number of potential contributors to the said system, focused on companies with the greatest potential in terms of better salaries. Once the potential is established, four scenarios are simulated depending on the path to get the potential level of 40% of the contributors of pillar I. Finally, simulations are made for voluntary pensions. The middle class is the natural market for voluntary pensions. Therefore, the size of the potential market should be based on establishing, on one hand, how big this middle class is and, on the other, simulating certain levels of voluntary savings penetration in this Chinese social class, based on the empirical evidence observed in more developed countries whereas abundant information is available.

The forecasts indicate the potential of the Chinese pensions market. Pillar 1b contributions, for example, are set to have tripled by 2020 compared to 2010 in the central scenario, while in the optimistic scenario they would be multiplied by 6. Meanwhile, there is already sizable potential in the current corporate pensions market, bearing in mind the current coverage figure of 13 million employees and the estimate that this could be of the order of 60 million. Thus, by 2020 contributions could reach USD 16.6 billion and 53.3 billion in scenarios 1 and 4, respectively. At the end, China's increasing population, urbanization and significant income growth could lead to a voluntary pensions market of USD 97 billion in 2020, which would have grown 3 to 5 times compared to 2010.

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