Pension Reform in China:
Issues, Options and Recommendations

Nicholas Barr and Peter Diamond

London School of Economics
Massachusetts Institute of Technology

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Abstract

The Government of China has set as a central development objective that coverage of the pension system (and of social policy more broadly) should extend to the entire population, and that such policy should be implemented quickly.

This paper builds on our 2005 report which focussed mainly on the urban pension system. The central recommendations of that report included (a) developing a nationwide system for the basic pension and (b) retaining the principle of individual accounts but implemented as notional accounts rather than fully-funded accounts or empty accounts. This paper endorses those recommendations and some proposed changes in details for strengthening the contributory system and argues in addition for (c) slowly expanding coverage of the mandatory contributory system with a primary focus on large firms, independent of their location (that is, large rural firms as well as urban ones). The case for (d) a phased increase in the retirement age is also presented.

This paper also argues that changes in labour markets and family structures mean that, by themselves, contributory systems face increasing problems of coverage even in developed economies. To extend coverage, therefore, the paper argues (e) that the contributory system should be supported by a citizen's pension, that is, a nationwide system of tax-financed non-contributory pensions, awarded on the basis of age and residence to everyone except those with a significant pension from the mandatory system. Such a pension exists in a range of countries

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1. Introduction

Part One: Principles of Pension Design

2. Core Objectives
3. Criteria for Pension Design
4. Pension Systems Around the World
5. Lessons from International Experience

Box 13 Principles for adjusting pensionable age
Box 14 The U.S. Thrift Savings Plan

Table 1 Administrative costs of citizen's pensions
Table 2 Some coverage provisions in the USA, by year enacted
Table 3 Life expectancy at age 60, China, Japan and USA, 2005-2010

1. Introduction

Part One, Principles of Pension Design, presents a background of theoretical pension analysis and lessons from experiences in other countries, drawing on Barr and Diamond 2008, 2009 and 2010. Part Two presents options and recommendations to improve the pension situation in China in the short and long runs. Central to our approach is a plan to develop unified pension coverage for all the elderly. We recommend that policy should no longer restrict the mandatory contributory system to the urban sector, thereby leaving out the rural sector; instead, policy

Part One: Principles of Pension Design

2. Core Objectives

For individuals and government, a pension system has the core objectives of consumption smoothing, insurance, income redistribution and poverty relief.

CONSUMPTION SMOOTHING. Retirement pensions allow a person to transfer consumption from his productive middle years to his older years in retirement, so that he has money to spend even when he is no longer working and earning.[1]

INSURANCE. A person does not know how long he will live. Thus pension systems provide insurance in the form of annuities, i.e. weekly or monthly payments to the individual for the rest of his life. Such annuities are a form of risk pooling, enabling people to insure against the risk of outliving their pension savings. Pension systems can also protect spouses and young children if a worker dies before retirement.

INCOME REDISTRIBUTION. Pension systems can redistribute incomes on a lifetime basis, for instance, by paying low earners pensions which are a higher percentage of their previous earnings (i.e. a higher replacement rate – see Glossary). Since life-long earnings are uncertain from the perspective of an individual, such a system provides insurance against low earnings by providing a higher replacement rate when earnings have been low and a lower replacement rate when they have been high. This redistribution can be useful across different levels of earnings in a single region and across regions with different average earnings.

Pension systems can also redistribute income across generations, for instance by imposing a higher contribution rate on the present generation, thereby allowing future generations to have higher pensions or to pay lower contributions. Similarly, providing pensions in excess of what past contributions can finance is a way of redistributing to current retirees from future (or current) taxpayers.

POVERTY RELIEF. A general system of poverty relief for the entire population may lessen the incentive to work and a country may not be able to afford benefits that provide complete poverty relief. The elderly, however, are not expected to provide much labour, and are, therefore, a particular target for programmes to reduce poverty – programmes that would work less well across all age groups. Such programmes can target all the elderly or can be focused on those who have contributed to the pension system. Many countries have both types of programme. Enhancing pensions for low earners avoids savings disincentives that come from minimum incomes based on an income test.

[1] Throughout the report we use the masculine pronoun to refer to an individual and his pension, but it is recognised that the pensioner may equally well be a woman.

3. Criteria for Pension Design

How should pensions be organised to achieve these objectives? Economic theory and international experience indicate that there are many different structures that can combine to address all the objectives. Box 1 sets out a central conclusion – that there is no single best pension system for all countries. That being the case, it is particularly important to be clear about the criteria for good pension design, discussed in this section.

A second central conclusion is that in considering how pension design affects the labour market, economic growth and income distribution, analysis needs to embrace the entire pension system and its effects over time. It can lead to mistaken analysis to consider one portion of the system (pooled or individual) in isolation.

Thirdly, and deeply rooted in modern economic theory, the analysis of pensions should be set out in the context of second-best analysis. Section 2.1 sets out the arguments, as a precursor to discussion in subsequent sections of labour-market efficiency, savings and economic growth, redistribution and risk sharing, gender and family, and the capacity to evolve.

Box 1 No single best pension system for all countries

Pensions have multiple objectives, notably the achievement of consumption smoothing, insurance, poverty relief and redistribution.

The pursuit of these objectives faces a series of constraints:

- Fiscal capacity: stronger fiscal capacity makes it easier for the system to find additional revenues for a pension system.
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- Though no country's system is perfect, we find a number of different structures that work pretty well.

3.1 Economic theory: Second-best analysis

Simple theory assumes that individuals make optimal choices and that labour markets, savings institutions, and insurance markets exist and function ideally. Formulating policy within that first-best framework is analytically simple, but a bad guide to pension design in a world with limited policy tools and major market imperfections, as discussed in Boxes 2 and 3.

Box 2 Deviations from first-best

In the theory of saving in a first-best world the individual is assumed to make choices about saving, borrowing, portfolio choice and annuitisation that maximize his or her lifetime utility from a complete

Progressive taxation is a further deviation from first-best. In comparing defined-contribution and defined-benefit plans, it is not possible to say that one approach dominates the other if labour market distortions are present:

> "With a progressive annual income tax and age-earnings profiles that are generally increasing in real terms, the marginal income tax rate is rising with

Thus consideration of pension systems must be in terms of second-best analysis. One should not, however, design pensions in ways that create large distortions which contribute little, if anything, to the achievement of policy goals.

LABOUR MOBILITY. Labour mobility is essential for an efficient labour market – expanding firms need to be able to hire workers, and if there are new job opportunities it makes it more

Thus it is mistaken to encourage early retirement or to mandate retirement, both of which are long term, as palliative responses to unemployment which is generally short term. Better to focus on unemployment benefits and on incentives which encourage long-run growth than to distort the labour market in the vain hope that retirement will have a large impact on unemployment. Similarly, disability benefits should be awarded on the basis of disability, not as a response to unemployment.

Raising the retirement age. The corollary to the previous argument is that slowly raising the retirement age in China will not have a significant effect on unemployment.

THE INCIDENCE OF PENSION CONTRIBUTIONS. In a market economy, it is inappropriate to attach too much importance to whether pension contributions are paid by the employer or the worker, because mandatory social security contributions or payroll taxes imposed on employers have the effect of reducing the wages they offer workers, i.e. they pass on the cost of contributions. (A distinction between the cost to the employer and to the employee remains in the short run, since it takes time for wages to adjust to effective labour demand and supply.) If there is a mandatory minimum wage, however, the employer may not be able to lower the wage enough to pass so much of the contribution costs on to the employee, so there remains some distinction between employer and employee contributions.

3.3 Finance and funding

Alongside their effects on labour markets, pension systems also affect the broader economy. Excessive public pension spending may contribute to high tax rates, putting growth at risk. In contrast, pension systems may reduce systemic uncertainty in the economy and increase social stability – a particularly important effect during times of rapid change.

An important feature of pension design is the degree of funding, i.e. whether contributions are used for current pension payments (Pay As You Go – PAYG), or to accumulate assets from which pensions in the future are paid (funding). The degree to which contributions are used to accumulate assets for the pension system can affect the level of national savings and thus the rate of growth. Indeed, it is through the mechanism of increasing national savings that increased funding is viewed as possibly raising economic welfare. Whether increased funding will actually improve welfare depends on the conditions in a particular country, and in particular to the answers – which differ from country to country – to the questions in Box 5.

FUNDING THAT INCREASES NATIONAL SAVING. There are two elements to consider when thinking about using contributions for funding. First, the impact of an increase in funding on national savings is not straightforward and can be anything from close to zero to large, depending on the reaction of private savers and of the rest of the government budget. Private savers may save less on their own account if contributions are being taken from them, meaning there is little impact on national savings, or they may continue to save on their own account as well, increasing national savings. Government may spend more in areas other than pensions, resulting in little or no increase in national savings. Second, while having assets is more advantageous than not having assets, saving more to accumulate more assets may be more or less advantageous to an economy than consuming more, saving less, and accumulating fewer assets. That is, it is not the assets in funded accounts, but the process of accumulating them that is critical for national

savings. Focus on the method of generating assets makes it clear that the right way to pose the question of whether to increase funding in order to increase economic growth, is to ask whether it makes sense for an economy to raise contributions or reduce benefits now in order to have lower contributions or higher benefits in the future. Increased funding through lower benefits or higher contributions necessarily redistributes incomes across generations. Thus, there can be no universal answer about whether funding raises welfare. Each country has to examine the question in the context of its own circumstances and priorities, reflecting its current saving rate and its anticipated growth in earnings.

FUNDING THROUGH BONDS. The discussion above focused on funding with a view to increasing savings. An alternative is to transfer contributions to the government to use in paying benefits,

- By increasing savings in a country that is short of saving, and/or
- By strengthening capital markets, improving the efficiency with which savings are channelled into investment

(b) Does it have desirable intergenerational redistributive effects?

Can a move towards funding be implemented cost-effectively? Are economic conditions and institutional capacity such that a country can implement plans that are

- Safe and
- Administratively cheap?

Box 6 Common analytical errors

Analytical errors are common. This box summarises only the most obvious and most frequent.

Improper use of first-best analysis. An error under this head is to argue that consumer choice of pension provider in a competitive market will raise individual welfare and lower administrative charges. Such an argument ignores the serious problems set out in Boxes 2 and 3.

Tunnel vision. An example of considering one objective in isolation is to favour a defined contribution pension as avoiding labour market distortions, which it does by shifting income redistribution (and its distortions) to a different portion of the pension system. Proper analysis needs to consider the system as a whole.

Improper use of steady-state analysis. Some analysts compare the long-run return on assets with the long-run return in a PAYG system, which, as is well known to economists, is the rate of growth of covered earnings. Since long-run rates of return are expected to exceed rates of growth this is sometimes presented as a pure gain. But it is wrong to analyse policy by considering only the long run, not including the short-run costs and benefits associated with going from one long run to a different one. Counting future benefits and underplaying current costs makes policies that benefit the future appear more valuable than they really are. Focusing on the rate-of-return comparison is telling only half the story: it ignores differences in risk as between PAYG and funding; it ignores differences in administrative costs; most particularly, it ignores intergenerational distributional effects.

Ignoring distributional effects. The point is most obvious if policymakers are establishing a pension system in a brand new country. If they introduce a PAYG system, the first generation of retirees receives a pension, but returns to subsequent generations are lower; if policymakers, instead, introduce full funding, later generations benefit from higher returns, but the first generation does not receive a pension. The same argument applies in a country that already has a PAYG system: a decision to move toward funding redistributes from the current generation to future generations. Thus *any choice between PAYG and funding is inescapably also a choice about the intergenerational distribution of income*. Different choices are, of course, possible, but it is a fundamental error to ignore distributional effects or to present the gain to pensioners in later generations from a move to funding as a Pareto improvement (i.e. an unambiguous improvement – see glossary), since it comes at the expense of the first generation.

3.4 Redistribution and risk sharing

Good pension design is mindful of the way pensions can have major implications both for the way pensions do (or do not) redistribute within a generation or across generations, and in the way that different pension designs share risks differently.

REDISTRIBUTION WITHIN A GENERATION. While income redistribution is an objective in most pension systems, such systems can also have unintentional distributional implications, some of which may be undesirable. In pension systems which cover only a small proportion of workers (i.e. with small coverage), for example, the use of general tax revenues to meet financial gaps transfers income from the much larger population of taxpayers to the smaller group of covered workers. Some countries have used separate benefit formulas for white- and blue-collar workers which redistribute from lower-paid blue-collar workers to higher-paid white-collar workers by having more generous benefits relative to contributions for the white-collar workers.[2]

REDISTRIBUTION ACROSS GENERATIONS. As discussed earlier, pensions may increase national savings, which redistributes income across cohorts. To amplify, a move towards funding that increases saving today means that consumption falls today, meaning lower spendable income for workers, or lower pensions, or both. If the extra saving leads to higher growth rates the result is higher consumption for future workers and pensioners. Thus, as discussed in Box 6, a decision to move towards funding, if it increases saving, necessarily redistributes from the current generation to future generations.

RISK SHARING. Separate from their redistributive effects, different pension systems share risks differently. It is useful to recognise the different underlying philosophies of risk sharing in different systems. It is also important to recognize that there are multiple sources of risk.

We start with two polar extremes of fully funded systems.

Pure funded defined-contribution (DC) plans (also known as funded individual accounts) (see glossary): in such plans, individual workers set aside a given fraction of their earnings to buy financial assets, which are accumulated until retirement. At that point the retiree can buy an annuity or start to make a series of withdrawals. Fluc

Annuitisation shifts risks after retirement to insurers, but still leaves the risk of the pricing of annuities on retirees at the start of their retirement (or when they purchase annuities).

Pure funded mandatory defined-benefit (DB) plans (see glossary): in such plans the risk is borne through adjustments in contributions and therefore by the workers during their working lives. In order to sustain full funding so as to deliver the promised benefits, contributions need to be adjusted as returns vary and as mortality projections change. Since (a) there is a single fund for all benefits and (b) changes in contributions are normally uniform across workers, there is a collective dimension in that adjustment at any time depends on the full array of workers who share in the provision of aggregate contributions. A plan need not be fully funded at all times – fluctuations in the degree of funding are a device for shifting risks intertemporally, and thus across workers born in different years as well. The fund may purchase annuities, shifting risks to insurance companies. A plan may have a sponsor who absorbs some risk – a corporate employer or the government relying on taxes beyond simply contributions. The former shifts risks to current and future workers at the firm, its current and future shareholders, and/or its current customers, if the company responds to a pension deficit by raising its prices. If the government is the sponsor, the risks are shifted to current and future taxpayers.

Thus one element in the distinction between DB and DC plans is the focus on adjusting contributions or adjusting benefits. In practice, governments and corporations commonly adjust both, so that plans need not be "pure." Second is the collective aspect of having a single fund rather than individual accounts. This opens up opportunities for risk sharing within the DB context, although governments could redistribute across individual DC accounts and can provide insurance on the rate of return, financed from outside the pension system.

It is important that corporate pensions remain close to fully funded since corporations can fail, leaving workers with less than had been in the plan documents or leaving it to government to insure the workers. While occasionally governments go bankrupt as well, in countries with sound economies and functioning governments, this risk is not significant, so that governments can manage systems that are well designed but less than fully funded. The extreme version of this has no funding, though that is not standard: most plans have a buffer fund for short run fluctuations, and some government plans have significant funding.

We turn now to systems that are less than fully funded.

A pure PAYG DB system financed by social security contributions: in such plans there are no assets and so the risk of different rates of return does not matter. Instead the risk to the income of the plan comes from fluctuations in the earnings of covered workers for the given contribution rate. The risks are shared by current workers; if the fund can run a deficit, the risks can be shared also with future workers. This is similar to the sharing of risks in a pure fully-funded DB: with the greater reliance on contributions there is greater concern about fluctuations in covered earnings. There remains the risk of the evolution of mortality rates – if people live longer the cost of paying a given level of benefits will increase. In practice, plans are not "pure", and if benefits are adjusted some of the risk falls also on pensioners.

A system financed by general tax revenues: in such systems, for example, a non-contributory pension, the risks are shared by all taxpayers, and hence across generations (since future taxes as well as current taxes can change as debt varies). The same is true in a social insurance arrangement in which part of the costs of paying benefits is financed by transfers from general government revenues.

In practice, countries frequently adjust both contributions and benefits, thus sharing risks between workers and pensioners.

A central question for policy-makers is how risks should be shared, a question with both efficiency and equity implications. As with redistribution, different answers are possible, but it is a major error to ignore the question.

3.5 Gender and family

Another decision with major ramifications is the way benefits are structured in relation to the family. Specifically, should the basic pension be awarded on an individual or family basis? Pension systems could focus primarily on workers, leaving the bulk of arrangements between the worker and his family to individual discretion, or they could focus on the family by mandating protection, primarily for the surviving spouse (predominantly widows) and sometimes for young children as well. A focus on the family can be achieved without any redistribution across families, fo

Pension systems, worldwide, include one or more of the following elements, in different degrees of importance and size.

NON-CONTRIBUTORY PENSIONS, MINIMUM-INCOME AND MINIMUM-PENSION GUARANTEES. In many ways the simplest option is a tax-financed pension available to everyone beyond a given age, as in the Netherlands and New Zealand, commonly referred to as a citizen's pension. As a variant, a tax-financed citizen's pension can be affluence tested, that is, given to everyone except the best-off, as in Australia, Canada, Chile (since July 2008) and South Africa. Since non-contributory pensions figure prominently in the discussion in Part Two, Box 7 summarises international experience with this type of arrangement.

Alternatively, there can be a guaranteed minimum income available to all poor elderly people on the basis of an income test, as in many countries. The test might look only at income from mandatory pensions, or at total income, or at income and assets. A country can combine a minimum-income guarantee with a higher minimum-pension guarantee, as formerly in Chile.

A non-contributory pension that is tested against the benefit from a contributory pension is mathematically equivalent to a guaranteed minimum pension that is similarly phased out against the contributory pension. The choice of vocabulary is likely to affect the politics of the design of details and may affect the perceptions of workers.

Box 7 Noncontributory pensions[3]

High-income countries. The bedrock of the system in New Zealand is a noncontributory universal pension (New Zealand Superannuation) paid from general taxation to all persons over 65 who pass a residency test,[4] and included in a person's taxable income. The pension is 72.5 percent of the net average wage for a married couple, more per person for singles (varying with living arrangements) and less if one of the couple is under 65.

Like New Zealand, Australia, Canada (Box 8) and the Netherlands also have a noncontributory pension, financed from general revenue. In Australia and Canada, the benefit is subject not to an income test, designed to restrict benefits to the poor, but to an affluence test, which has the more limited purpose of clawing back benefits from the rich.

Middle-income countries. Chile (Box 9) legislated a new noncontributory pension in 2008 to supplement the individual accounts that were started in 1981. The pension is affluence-tested – when mature the benefit will go to roughly 60 percent of the elderly population. South Africa also has a noncontributory pension, the State Old Age Grant. The case is interesting in that it reaches effectively not only urban pensioners but also the rural elderly and is well targeted. The last point should not be surprising, since old age is a good indicator of potential poverty.

The pension, paid to men at age 65 and women at 60, is financed from general revenue with no contribution conditions. The benefit—around half of average household income—is high relative to the very low incomes of most nonwhites in South Africa, but low relative to the

[3] For further discussion of noncontributory pensions, see Willmore (2007). On AustralTD0 06 354.9 1(o)-1.xce c(fiw 2 216 126.-nT4i

incomes of the better off. Originally introduced as poverty relief for whites during the 1930s, the plan was gradually expanded to cover all race groups. Research findings suggest that it is highly effective both in terms of social policy and in the way the plan is implemented:

> ‘The South Africa social pension is an example of a transfer plan where eligibility is determined by age. In spite of the simplicity of the targeting indicator, the pension is effective in reaching the poorest households and those with children.… The South African authorities have overcome the difficulties of making cash transfers to even remote rural areas, and of checking eligibility among even illiterate pensioners.’ (Case and Deaton 1998, p. 1359).

The administration of the system is consolidated under the South African Social Security Agency. In most urban areas, people receive the pension through bank accounts or post offices. In rural areas government has outsourced delivery to the private sector, organized at the provincial level. The system at its best is effective and innovative. In some areas vehicles fitted with cash dispensers go to predesignated places at preordaine

- The level of the pension can be kept low (for example, it is only 10 percent of GDP per capita in Botswana and Nepal).

national system, such voluntary pensions (the ‘enterprise annuities’ in China fall into this category) can be thought of as supplementary. In addition, in many countries, workers can choose to make contributions to a voluntary individual plan. Voluntary pensions of both types typically receive favoured treatment for the purposes of income tax.

Countries vary widely in the size of their mandatory systems, and hence in the amount of room for voluntary arrangements. This can be seen in the variation in the rates of mandatory pension contributions, for example, 12.4% of earnings in the USA, 18.5% in Sweden, 19.3% in Germany, and 32.7% in Italy.[5] This naturally results in different average replacement rates.

These various pension elements vary in design and are assembled in very different ways and with different relative sizes across countries, as illustrated by the examples in Box 8, 9 and 10.

Box 8 The pension system in Canada

Box 9 The pension system in Chile

Chile has a system with funded individual accounts that are mandatory for formal workers, together with an affluence tested citizen's pension. For the privately managed, highly-regulated defined-contribution individual accounts, employees are mandated to contribute 10 percent of covered earnings, plus contributions for disability and survivor insurance and fees for providers. Workers may take their pensions as inflation-indexed annuities (purchased from highly-regulated insurance companies) or as phased withdrawals from the individual accounts. Notwithstanding the intentions of policymakers and the ease of entry, private pension provision became highly concentrated, making clear the limitations of competition even in a medium-sized economy like Chile.

The individual accounts provide consumption smoothing, supported by various institutions to

benefits, and the anticipated rate of increase in benefits. Benefits increase each year after retirement based on the difference between the notional interest rate (normally the rate of wage growth) and the anticipated annual increase of 1.6 percent.

The 2.5 percent of payroll going to the funded individual accounts is collected by the government and distributed to participating mutual funds. The number of funds is large, 785 at the end of 2007. Individuals may choose the funds in which to invest, up to a maximum of five, with a default fund for the large number of workers who do not make a choice. As diss.98 72 653.3607 (xim)8.ug53.

TECHNICAL CAPACITY: PAYG SYSTEMS. Mandatory pensions managed by the government require significant public-sector capacity. Government must be able to collect contributions effectively, to maintain records over the years for workers who will be mobile both geographically and across firms, to make actuarial calculations to adjust benefit levels for the age at which they start, and to pay pensions in an accurate and timely way. Government needs to project future contributions and benefits in order to adapt the system slowly, and with significant lead times, to evolving financial capacity. Separately, pensions require effective coordination between central, provincial and local levels of government, if all three are to have a role in supporting the elderly. Since a PAYG system commonly has partial funding, there is a need for portfolio management if the portfolio is not limited to holding government debt. This capacity is readily available provided that there is adequate auditing and supervision.

TECHNICAL CAPACITY: FUNDED INDIVIDUAL ACCOUNTS. Additional technical capacity is needed for fully funded individual accounts, particularly in arranging for workers to select portfolios, as well as investing funds. Also impo

government, in its legislative role, has put in place clear good rules (avoiding bad ones) and where enforcement is even-handed, non-corrupt, prompt and predictable.

Similar requirements hold for mandatory pensions that rely on private providers. Chile

market, the primary benefit comes on the political side – on the greater importance of market regulation, and so a greater ability to legislate and implement a better regulatory regime.

Of other countries which have put in place individual accounts on the Chilean model, only Peru has experienced significant improvement in its capital markets, although there has not been much time for many of the Chilean imitators to see such developments. One reason for a limited impact of individual accounts on markets is that retirement savings call for a buy-and-hold investment strategy, rather than investments with shorter time horizons. Thus, while Chile has had an increase in the extent of capitalisation of its economy – in the ratio of stock and bond market value to GDP – there has not been a matching increase in liquidity in the market, measured in terms of the volume of transactions relative to the degree of capitalisation.

One lesson from Chile's experience is that creating funded individual accounts can enhance growth if it is coordinated with improvements in financial and insurance markets – it is not essential that these markets are in a fully satisfactory condition before a country embarks on such a system. However, to avoid a fiasco (a possibility made real by some Latin American countries), there are basic conditi

Part Two: Options for Reform

6. Pension structure

Currently, China has a contributory pension system for urban workers, which has two parts – a basic pension and individual accounts. There is a separate pension system for government employees. There are voluntary pensions. The Dibao system provides resources to some of the poor elderly. The State Council has decided to start pilots to develop rural pensions. And individuals can save for their own retirement. We briefly review the current status of these elements before discussing ways of expanding coverage by extending the contributory system and by starting a national non-contributory pension.

6.1 The contributory system for urban workers

As part of its far-reaching reform of the overall economy, China initiated fundamental reforms of the social security system, moving from the old enterprise-based system toward a mandatory system consistent with the needs of a modern economy. A major accomplishment is the establishment of the three-part system – the basic pension, individual accounts, and voluntary pensions – which provide a good basis for continued pension reform. The basic pension plays a key role in providing higher replacement rates for lower earners – important for reducing poverty and providing insurance. In China, earnings are rising rapidly and the distribution of those earnings is widening. Thus an individual account element, linking pensions to earnings, becomes increasingly important for replacement rates after retirement. And both parts provide longevity insurance by paying benefits on an annuitised basis. The combination of social pool and individual accounts thus provides some poverty relief, insurance and consumption smoothing.

Voluntary pensions outside the mandatory system, including enterprise annuity plans, individual savings, and other pension plans organised by industries or localities, are an essential complement to the social pool and individual accounts. People have different needs, tastes and jobs. Voluntary pensions offer a mechanism for translating those preferences into outcomes. With the degree of uniformity that must be a part of a national mandatory system, voluntary pensions, both enterprise and individual based, can accommodate the wide differences that exist in a country as large and diverse as China. Indeed, a uniform national system in China would be most valuable when it coexists with a sizeable voluntary pension system. Voluntary pensions can

pensions for rural workers. Also it is possible that higher rates of return on safe savings opportunities would encourage greater accumulations and so help to support the elderly.

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PENSIONS FOR RURAL WORKERS. Hitherto, though there has been some provision of income to the very poor in rural areas, some pension systems organised by rural employers, and some experiments under way, there has been no broad pension system covering rural workers generally.[11] Such lack of coverage fails to take full advantage of the ability of pension systems to improve human welfare through the economy. In August, 2009, the State Council promulgated pension pilots for rural areas. Paralleling the urban pension, there is a basic pension and individual accounts, with the individual accounts voluntary and the basic benefit conditional on a suitable history of contributions to the individual accounts. As a call for pilots, not

In any country with large numbers of self-employed workers and very small employers, it would be administratively challenging to extend a mandatory contributory system successfully to all such workers. We refer to such workers as informal workers and refer to the informal sector as meaning firms with few workers and self-employed individuals. In contrast, workers in the formal sector have labour contracts and pay taxes and social security contributions. Moreover, many of the informal workers are sufficiently poor that provision for consumption in their old age comes better from public provision than from forcing them to contribute at a time when their earnings are very low.

Administratively, more advanced countries do succeed in achieving wide coverage in the mandatory contributory system among the self-employed. However, that coverage is marked by under-reporting of incomes and so eventual replacement rates that are low. Moreover, even with wide coverage there remains an issue of adequate replacement rates in recognition of fragmented careers. In 2005 in the UK – notwithstanding a mature system and good capacity to enforce contributions – only about 85 percent of recent male retirees and 30 percent of women retirees nMoreover,

1956	Members of the uniformed services on active duty or on active duty for training. Remainder of professional self-employed except physicians (taxable years ending after 1955). Farm landlords who materially participate in farm operations.
1965	Interns. Self-employed physicians.
1983	Federal employees newly hired after December 31, 1983.
	Members of Congress, the president, the vice presid1 19wstiing federal judges, and most executive-level political appointees of the federal government.
	Employees of nonprofit organizations.
1987	Members of uniformed services reserve components on inactive duty training. Irregularly

- The treatment of migrants in the urban pension system is not consistent across localities;
- There are ambiguities with respect to TVEs, which may be owned by rural governments but operate facilities in urban areas;
- Localities are reclassified from time to time.

Given the rules that will apply for determining mandatory coverage, some employers and some workers will have an effective choice between the formal and informal sectors. Firms can chose whether to employ more people or to use market transactions to acquire what might otherwise have been produced in-house with more employees. Workers can choose whether to seek formal employment or stay with a small employer or in self-employment. Thus it is important to have the net cost (contributions less the value of future benefits) of mandatory participation in the contributory system not be too large. In part, we address this in the discussion of the sharing of the legacy costs of the urban pension system in section 13. It is also important for consideration of the links between the contributory pension and the non-contributory pension we recommend below.

7.2 Coverage of non-contributory (citizen's) pensions

With any approach to expanding mandatory coverage that moves slowly and sequentially, a large part of the working population will be without mandatory contributory pension coverage for an extended period. In response to this need, a feasible step in the near term is to implement a national non-contributory pension system, which we refer to as a citizen's pension. Just as there are advantages in having the mandatory contributory pension depend only on job characteristics (employment in the formal sector), not individual characteristics, so too it is advantageous to have a national citizen's system, rather than separate systems for urban, rural and migrant workers. This does not require that the system be the same for everyone. Indeed, the level of benefit should vary with the cost of living. To the extent that a local authority wants to use local resources to boost the benefit level in light of local living standards, that too seems an appropriate avenue of variation. And, the level of an individual's citizen's benefit should be lower the higher the contributory pension the person receives, so that someone with a high contributory pension receives little or no citizen's pension. Also, by being informed about who receives a citizen's pension, the administrators of the Dibao system could set the level of Dibao benefits in light of citizen's pension benefits, which would be part of a family's income.

Even in the long run there are advantages to a non-contributory system, which indeed exists in a number of advanced countries, some of which have wide coverage of their contributory systems. Recognizing that gaps in contributions are unavoidable in a modern economy, non-contributory tax-financed pensions, as discussed in Box 7, are used, in Australia, Canada, New Zealand, and the Netherlands. In intermediate countries we note its introduction in Chile in 2008, following a report by a council appointed by President Bachelet that identified a number of strategic shortcomings of the pension system, particularly its inadequate provision of poverty relief and its impact on women. And we note the State Old Age Grant in South Africa, which illustrates how a non-contributory pension can work in a developing country and, moreover, can extend to the rural population.

accommodate wide disparities of income and considerable informal activity, and to cover very different groups of workers (urban, migrant, rural) without creating different pension systems for each group. In the arrangements suggested here, the non-contributory pension will initially benefit mainly rural and migrant workers, with some benefit also for urban workers with low earnings or an incomplete contributions record. The cost of this is to be borne by taxpayers. In contrast the basic pension benefits those in the contributory system with low pensions at the expense of those in the contributory system with high pensions. Thus the two patterns of redistribution are not duplicative but address two quite different issues.

New Zealand has only voluntary individual accounts, although it introduced auto-enrolment in 2007. China, however, should preserve its mandatory individual accounts since it

8. The Design of a Citizen's Pension

Several issues arise in the design of a citizen's pension, including the determinants of the level of benefit, eligibility rules, offsets against other income, and the way the benefit is implemented.

An obvious question about such a system is its cost. Policy makers have three instruments to ensure that the pension is affordable: the level

- Income-tested against total income: the purpose is to limit eligibility so that only the poorest receive the pension as, for example, with the income-tested pension credit in the UK. This option is the cheapest, but income-testing (a) can create stigma for recipients and (b) creates disincentives against saving (albeit quantitatively unimportant for low earners). In addition, (c) measuring income is administratively demanding and costly even in advanced countries and (d) is largely impossible in countries with a large grey economy and significant own-production.
- Income-tested against mandatory pension income: the purpose is to limit eligibility so

was withdrawn in respect of the contributory pension. An important consideration in designing the offset is to make sure that it starts high enough to limit the disincentive to move from the informal to the formal sector.

voluntary pensions, and so the affluence testing relates only to the mandatory pension. This is the approach taken by Sweden with its Guaranteed Pension.

8.2 Comparison of rural pilot with the citizen's pension presented above

As noted earlier, the State Council has proposed a set of pilots of a rural pension. While a welcome recognition of the need to strengthen poverty relief in rural areas, the pilots should include a citizen's pension. It would strengthen poverty relief and widen coverage if the rural pension:

- applied nationally, not just to rural areas,
- is non-contributory, awarded on the basis of age and residence, rather than conditioned on 15 years of contributions to voluntary individual accounts, and
- is phased in as quickly as possible, which is a less demanding task administratively with a non-contributory than a contributory system.

If some of the pilots were citizen's pensions, the additional administrative cost of the link with individual accounts and any incompleteness of coverage could be assessed. Moreover, as discussed in section 16.2, we question the cost and value of the voluntary individual accounts in the near term, as well as some of the details.

INDIVIDUAL ACCOUNTS IN THE PROPOSED NON-CONTRIBUTORY RURAL PENSION. All rural residents over 16 years old (excluding students) who are not covered by the basic pension for urban workers can voluntarily join the new rural pension plan. The plan has a basic benefit and individual accounts. The minimum contribution to an individual account is 100 Yuan per year. Those making larger contributions will receive larger benefits, although the description we have seen has not specified the extent of increase with larger contributions. Local governments are required to subsidise individual contributions by 30 Yuan per person per year and to make contributions for those who find it difficult to pay, such as the disabled. Village collectives and others can add to individual contributions. The deposits will earn interest at the one-year deposit interest rate of RMB for financial institutions as announced by the People's Bank of China. Benefits are available starting at age 60. Matching the rules in the urban worker's individual accounts, monthly benefits equal the account accumulation divided by 139. Trust funds will hold the accumulated values. The description we have seen did not include guidelines for portfolio choice. This section considers the link between these accounts and the Basic benefit; Section 16 considers the design of these individual accounts separate from consideration of their link to the basic benefit, including consideration of portfolio choice.

BASIC BENEFITS IN THE PROPOSED RURAL PENSION. Initially, the basic benefit level is to be 55 Yuan per person per month, with local governments allowed to increase the benefit at their own expense. The cost of the 55 Yuan benefit is to be paid fully by the central government for central and western regions and one-hal

- The proposed Citizen's pension is for all the elderly, not just the rural elderly. While China could extend a rural citizen's pension to the entire country in the future, there are many needy urban elderly who could benefit now, so it is not clear why there is this fragmentation, instead of including urban elderly currently. As argued in section 7, a national system covering all workers is better suited to a mobile labour force, now and in the future.
- China needs to increase the retirement age generally, as discussed in section 14. The age of eligibility for a citizen's pension should be closer to the level that the mandatory

Alongside these issues relating to coverage, are concerns about additional administrative requirements for tracking the individual accounts in order to provide

earnings to raise benefits without raising contributions and treats those with different earnings levels more fairly. Thus benefits should vary with location, but within a formula set by a national authority. At present, benefits should remain at approximately their current level, until there is determination of the details of the overall reform and a review of the working of the reformed system.

6. The contributions base for both the basic pension and the individual accounts should be changed to match a definition of earnings to be used in determining income-tax liability, with the contribution rate adjusted so that total contributions are broadly unaffected by the change. Similarly, the calculation of basic benefits should use the same definition of earnings as for determining contributions, with the formula adjusted so that basic benefits remain at approximately their current level overall. Benefits should vary with location, but within a formula set by a national authority.

Though income tax does not yet have very wide reach, coverage both of income tax and the mandatory pension system will increase over time, so that aligning definitions is a useful start to the development of both sets of institutions. It is also important to have the benefits in the basic pension reflect labour-market mobility: over time the number of covered workers and their mobility will both increase, so that covered workers will be increasingly likely to have significant numbers of years of employment in different areas. It is also important to include recognition that different people retire at different ages.

7. A worker who has been covered in two different regions should receive basic benefits from both regions, thereby reflecting earnings over the entire period of covered work. There should be no minimum contribution period for receiving a pension (although a very small monthly benefit might be paid as a lump sum to save on administration). The basic pension should be adjusted on

so. Such an individual account system may include actual funding that is attributed to each account, but need not. For example, Sweden has two systems of individual accounts in parallel. In one system, the Premium pension, workers choose the assets that are held in their names in their accounts. The realized market returns on these assets determine how the account of a worker grows (or shrinks), along with the additional contributions. The other system, the Inkomstpension does not have assets attributed to individual workers. Rather the contributions of each worker are accumulated using a rate that is set by legislation to reflect what the system can afford to pay in benefits. The system does have a buffer stock of assets, but these are centrally held as backing for the entire system not attributed to the individual accounts separately. Thus the Premium pension is fully-funded with the assets chosen by individual workers and attributed to individual accounts, while the Inkomstpension, a variant of Notional Defined Contribution accounts (see glossary), is partially funded with the assets chosen by the pension authorities and attributed to the system as a whole. Of the 18.5 percent contribution rate, 16 per cent goes to the Inkomstpension and 2.5 per cent to the Premium pension. Other countries illustrate this range of options, including fully funded accounts in Chile and a number of other Latin American countries and notional accounts in Italy and a number of eastern European countries. And like Sweden, Poland has both types of account. As the range of countries indicates, there are several genuine options; which is best depends on country circumstances, as discussed in more detail below.

legislated rules for determining the rate of return attributed to the values

give assurance that benefits will be paid and to provide horizontal equity by avoiding arbitrary differences in interest rates by locality. An NDC system is organized to have fiscal sustainability, thereby giving workers more confidence in the sy

There is no guarantee that a particularly structured NDC system will be sustainable over the long run. This depends on the way coverage expands, which will help for a while, but may create difficulties later, once coverage is complete and the growth of the labour force slows and possibly reverses. A government can deal with this on an ad hoc basis as projections of the system reveal long-run difficulties with considerable lead time. Alternatively, one could put in place an automatic mechanism for lowering expenditures relative to revenues when projections of the system are not promising. Sweden has such a system, an automatic balancing mechanism, often referred to as a brake. When a calculation reflective of assets (both buffer stocks and projected tax revenues) and liabilities shows an imbalance, the system lowers the notional interest rate. In Sweden the notional interest rate plays two roles – one is the crediting of accounts being accumulated. The second is determining initial benefits and adjusting benefits in payment, where benefits in payment grow by the notional rate (the growth of average earnings) less 1.6 percent (reflective of an anticipated long-run growth of real earnings). The Swedish approach is unsatisfactory for two reasons. One is that the indexing of benefits as growth minus anticipated growth (as opposed to a combination of wage and price growth) appears to put a great deal of risk on retirees as wages fluctuate, yet retirees are less able to bear risk than current workers, who are future retirees. Second, having the brake make the same adjustment in the increase in benefits in payment and in the interest rate for accumulation toward future benefits puts too much of the risk of long-run imbalance on current retirees. Indeed, with the global financial crisis, the brake was triggered in Sweden, generating sizable dec

- If a person dies before exhausting his accumulation, the remainder is inheritable; and if a person outlives his accumulation, the taxpayer continues to pay the pension.

In important respects the system resembles the minimum pension guarantee in Chile, in that the benefit to which a person is entitled on the basis of an actuarial calculation is supplemented from taxation. We regard this approach as inefficient. Benefits should move to an actuarial basis as administrative capacity allows.

Since it is relevant for individual accounts we reiterate recommendation 6: *The contributions base for both the basic pension and the individual accounts should be changed to match a definition of earnings to be used in determining income-tax liability, with the contribution rate adjusted so that total contributions are broadly unaffected by the change.*

The basic pension and individual accounts are designed on different principles since their primary purposes differ – the basic pension being a device mainly for poverty relief, individual accounts more for consumption smoothing. Because of these proper differences in design, it is not necessarily a problem that the relative sizes of the two benefits will vary across successive cohorts if the earliest age for claiming benefits does not change. The basic pension is a defined-benefit pension with no adjustment for life expectancy, so the initial benefit for successive cohorts keeps pace with average wages. If life expectancy remained constant, the initial benefits from the NDC individual accounts would also keep pace with average wages. But we expect that mortality rates will decline and so, if pensionable age remains constant, the benefit from individual accounts will grow more slowly than average wages across successive cohorts. One way to keep the basic pension and individual accounts in rough balance is to increase the age at which benefits can first be claimed. The increase would not affect the basic benefit level, but would increase the NDC benefit which is set quasi-actuarially. The resulting balance is only rough, since the notional interest rate for the individual account is likely to change over time in a way not matched by changes in the calculated basic benefit. There is no reason for exact balance, since the concern about redistribution within the mandatory system will evolve over time, and so will the distribution of earnings among covered workers.

In recommendation 4, we suggest that the age of eligibility for the citizen's pension should be indexed in some form to healthy life expectancy. Since we also recommend that the eligibility ages for the three sources of pensions should be the same, the indexing formula can help preserve the balance between basic and individual account benefits.

10.2 When do fully funded individual accounts make sense?

Section 10.1 noted that the current cash flow needs of the payment of benefits do not leave enough resources to purchase assets as originally designed. Thus funding today is not an option. As we review the circumstances where funding might be attractive, we will see that those conditions do not apply today. Thus fully funded individual accounts are not well-suited to China today. This section discusses the circumstances in which such accounts could become appropriate in the future.

As discussed in Box 5, funding is desirable if it leads (*a*) to increased national saving in a country with a shortage of savings, (*b*) to improved allocation of saving to productive

investment, and/or (*c*) to desired intergenerational redistribution. In addition, arrangement of funding (*d*) needs to be available on a cost-effective basis. These aspects are discussed as a series of question that can be thought of as a checklist for policy makers.

IS AN INCREASE IN SAVING THE RIGHT OBJECTIVE? China has high savings – the level of investment is not restricted by inadequate savings. In the following questions we examine other aspects of the possible effects of more savings to help identify when more savings may be a good objective. At some point in the future increased national savings may become attractive as consumption levels are higher, savings rates are lower and the growth of consumption lower.

WILL FUNDING INCREASE SAVING? At a time when more savings would be good there is the question of whether funding will increase savings. Other things equal, the accumulation of real assets in individual accounts requires an increase either in contributions or in government subsidy. As discussed in section 3.3, these policies may or may not increase national savings, depending on the extent to which such increases are offset by a reduction of personal savings elsewhere, or by an increase in government borrowing. Thus a key to whether funding increases

financial markets in China today. This would put at risk the retirement incomes of a large population of workers, and mistakes would set back reforms of the pension system as well as financial markets. Moreover, financial-sector reforms and development can be pursued through voluntary pension arrangements including those created for public employees to stimulate these changes and to serve as a check on their adequacy. As explained in section 16, voluntary pensions should be funded. Although they are still limited compared to the mandatory system, in an economy as large as China their absolute size is substantial and can have a significant impact on financial markets.

WILL MANDATORY FUNDING HAVE DESIRABLE INTERGENERATIONAL REDISTRIBUTIVE EFFECTS? Different ways of organising pensions distribute benefits and costs differently across generations. A decision to increase funding will benefit a future generation of workers who, other things being equal, can pay lower contributions. The question is when there is a good reason to impose a larger contribution (because of the move to funding) on today's workers in China so that, other things equal, future workers can pay a lower contribution. Today's workers are relatively poor and subject to considerable economic uncertainty, while growth rates are high, so that workers in future generations are likely to be much better off. Imposing higher contribution rates on today's workers in order to have lower contribution rates or higher pensions for future workers does not seem a reasonable objective for China today, although that could change if economic growth slows down as the economy matures.

ARE MANDATORY INDIVIDUAL FUNDED ACCOUNTS AVAILABLE AT A REASONBALE COST? As discussed in sections 5.1 and 5.2, there are considerable hurdles to successful implementation of mandatory funded accounts with individually chosen portfolios. The requirements are stringent and do not seem now to be in place in China. In contrast, centralised investment with no worker choice is administratively less demanding; so is investment of assets for a defined benefit system. However, there is natural concern as to how large an investment pool there should be in the early stages for a country with limited experience in centralised investment. Investment for individual defined contribution accounts puts the risk on workers owning the accounts, unless the government chooses to bail out poor investment. With centralized investment for a defined-benefit system, poor returns are necessarily addressed with consideration of a wide range of responses. In the future as the administrative capacity of the financial sector grows, low-cost accounts covering many people, many of them with small accumulations may offer accounts at a reasonable cost.

IN SUM. Funding of individual accounts with marketed securities and deposits in China's present circumstances is not desirable. Further pilots with funding should not be a priority over the next five-year period. This is not a recommendation against the possibility of funded individual accounts in the future. At some point, China may wish to raise the saving rate, the financial inancial

and the ability to collect contributions and use them to acquire assets in a reasonable time, it would be simple to have funded accounts without portfolio choice by workers – it would just be crediting accounts according to different rules about the interest rate, while holding assets to match. Administrative structures in contact with workers, reporting about their accounts, would be a starting point for the process of allowing some choice of portfolios. In other words, one can go from notional accounts to funded accounts in a series of steps.

By the end of the next five-year period, China should aim to have a system of individual accounts similar to the Inkomstpension in Sweden, known internationally as NDC. Implementing individual accounts through partially centrally funded NDC arrangements has significant advantages in China's current circumstances.

- It offers consumption smoothing to today's workers in a similar way to funded DC plans, and thus maintains individual accounts as a central part of the pension system.
- Because no additional fund is built up the arrangement does not require today's (poorer) workers to make larger contributions so that future (richer) generations of workers can make smaller contributions, thus avoiding unsatisfactory intergenerational redistribution.
- It does not require the considerable private-sector financial and administrative capacity of funded plans with individual choice, since the plan is run by the public authorities.
- It is less risky for workers, since the rate of return avoids the short-run volatility of assets in the capital market. This is particularly important at a time when banking and financial-market institutions are still developing and given current global economic uncertainty.
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customisation is a likely outcome unless strictly prevented.) These administrative arrangements all need to be mandatory for localities. Maintaining a contributions record for each individual worker is a major task. It is necessary to identify each individual, and to keep track of that person's identity over time and location and to attribute to each worker all of his earnings levels and contributions. Note that records need to be kept for 40 years for many workers and, increasingly, workers will hold jobs in multiple locations around the country. The National Pensions Administration should be part of the central government and funded from the central government budget. The pensions administration should administer both the basic pension and individual accounts. Administrative needs should be given significant weight, with a realistic time frame for implementation.

A National Pensions Administration which receives all pension revenues and delivers pensions is the simplest way to achieve national pooling, which is preferable to provincial pooling in terms of budget constraint. Pooling lies at the core of the redistributive and risk-sharing element of pensions. Given the size and diversity of China, national pooling of the mandatory pension plans is particularly important. This should not preclude local initiatives with voluntary pensions.

Administration of the citizen's pension can build on different institutions in the short run and the long run. In the long run, the task of the administrators of the citizen's pension, like the task of the administrators of the contributory pension, is to deliver pension accurately and in a timely fashion. As the coverage of the contributory pension spreads, the population covered by the two systems will become more and more similar. Once there is wide coverage by the contributory system, the administrators of that system are the natural administrators of the citizen's pension. We recommend combining these two elements in the long run rather than combining the citizen's pension and Dibao for two reasons. First, the citizen's pension will go to the entire population, while Dibao addresses only the poor. While relevant population for receiving benefits from the citizen's pension and from the contributory pension will get more and more similar over time, the reverse is the case for the citizen's pension and Dibao. The greater the coverage of the contributory pension, the fewer people will need benefits from Dibao. Second, the task of the Dibao administration is tontion, the
penf the Dibao ads pension and Dibaonistrators of to

14. The central authority should create an institut

Furthermore, it would be good political practice to set the rest of the budget without including changes in benefits or contributions as a major part of that discussion.

An approach with a dedicated revenue source will not balance revenues and expenditures exactly year by year. There will, therefore, be a need to keep track of surplus revenues, since they were raised for pensions and should be used for pensions. Surplus revenues could be transferred to the National Social Security Fund (NSSF), while deficits could be financed by the earnings of the assets of the Fund or, if necessary, by the assets themselves. The NSSF would thus function as a social security reserve fund. A dedicated revenue stream and separate administration might also help to depoliticise pension projections and improve public discussion of and understanding about options for reform. This may result in a greater understanding of the need to link benefits to contributions and may raise public confidence in the future receipt of pensions, making workers less resistant to making contributions.

16. Pension contributions should be collected by the tax authority, with the revenue delivered promptly to the pensions administration. Enforcement of compliance should rest with the income-tax authority. It is important to avoid using a period of surplus revenues from the expansion of coverage to set benefits at a level that is not sustainable.

WHO COLLECTS CONTRIBUTIONS? This is a problem area. Initially all pension contributions were collected by the Ministry of Labour and Social Security. However, after the Asian financial crisis many enterprises were unable to pay contributions. As a response, the State Council issued Regulations on the Collection and Management of the Social Security Fund, which stipulated that contributions for the main social insurance benefits could be collected by the Ministry of Labour and Social Security and by the tax authorities. Since then each of these agencies has collected half of the contributions. Notwithstanding an inter-ministerial meeting to discuss possible reform, this situation remains.

This dual system is suboptimal in terms both of accuracy of collection and administrative cost. Unification of the collection function should be an early reform. As argued below, the same definition of income should be used both for personal income tax and social insurance contributions, so that the most cost-effective way to collect contributions is alongside the personal income tax. However, since pensions present the separate and demanding administrative tasks outlined above, it is right that the tax authorities, having made the collection, then pass the revenues promptly to the pensions administration. This division of labour, with collection by the tax authorities and record keeping and payment of benefits by the social security authorities, occurs in many countries, including the UK and USA. The reconciliation process, as part of auditing, can be done on behalf of both systems by either ministry.[12]

MEASURING INCOME. A third set of issues concerns the ability of the tax authorities to measure income and to collect tax. Though the tax authorities in China have the technical capacity required for collecting tax (though it will be necessary to ensure that they have adequate resources), problems continue with assessing income accurately. Evidence suggests that lower

[12] In the UK, where student-loan repayments are collected alongside income tax, the student-loans administration also contributes to the process of reconciliation, and hence assists with enforcement.

earners are more heavily taxed than higher earners because the latter are more adept at hiding income. Clearly this is an area on which work is necessary.

11.3 Review of replacement rates and contribution and benefit levels

Over the coming years, major changes will emerge in the finances of the pension system, particularly when necessary reforms to make the system sustainable are implemented and coverage is extended to all formal-sector workers. Similarly, the balance between the basic pension and individual accounts might be reviewed in light of the non-contributory pension. If the latter pension is small enough so that little of it goes to workers in the contributory system because of the affluence test, there is no basis for change from this source. If the non-contributory pension becomes large relative to the basic pension, some rethinking may be warranted. Until the major reforms have been decided and long-term financial projections are available, it would be prudent to keep the basic parameters of the contributory system – replacement rate, contribution rate and benefit levels – unchanged. Frequent changes would be disruptive and mistakes would be made. In a number of areas, however, immediate consideration could be given to options for improvement.

The relevant replacement rates for a mandatory system are those of the system as a whole, i.e. the basic pension and individual accounts together with the net amount of the non-contributory pension. The balance between the two contributory elements should reflect how replacement rates should vary with earnings levels. Both of these issues need interpretation in light of the non-contributory pension. The overall target replacement rates should reflect a balance among the competing needs of affordability, adequacy, coverage and the ages at which benefits start.

The present method of calculating the pensions available from the individual accounts – monthly pensions calculated as 1/139 of the accumulated fund functions as a phased withdrawal with the longevity tail financed outside the individual account system. In contrast, if the expected cost were to be financed within the system, there would need to be an actuarially accurate pension calculation, which would yield a much

It is common in advanced countries for workers to receive annual statements about their pensions. This gives the opportunity to see and request correction for errors in reporting. By reporting both pension benefits already accrued and a projection of what pensions might be with continued work and alternative retirement ages, such statements help people plan for retirement.

11.5 Extending coverage of the exis

including foreign shareholders, through listing in China, Hong Kong, NY, etc. – are the extent of privatization of SOEs in China.

20. Given the extent of legacy obligations, continuing transfer of state shares to the NSSF offers two potential advantages. Shifting the dividend flow from current beneficiaries to the pension system reduces the level of fiscal subsidies required from the Budget and improves pension

extent to which bonds transferred to the pens

lower because early retirement has increased sharply – a predictable outcome of the prevailing incentive structure. Workers face incentives to retire early, particularly those who work for failing enterprises with wage arrears, and even more since many productive workers will be able to find a new job while continuing to receive a pension. Enterprises going through hard times encourage early retirement in order to shift the burden of compensation to the pension authorities. In contrast, the average age at which a worker first receives a social security retirement pension in the USA is 63.7 (men) and 63.6 (women) (2002 data).

Longer life expectancy and large-scale early retirement together result in a long period of retirement. Table 3 shows life expectancy at age 60 in China, Japan and the USA. In China, the combination of lengthy retirement and the one-child policy creates a dependency ratio that has risen dramatically, from 1:13 in 1980 to 1:3 in 2002, and is projected to reach 1:2 in 2030. The combined effect on pension finance of reduced working years and increased years receiving pension, because of early retirement and rising life expectancy, is obvious and should be addressed.

Table 3 Life expectancy at age 60, China, Japan and USA, 2005-2010

Country	Men	Women
China	18	21
Japan	22	28
USA	21	25

Source: United Nations Statistics Division,
(http://unstats.un.org/unsd/demographic/products/indwm/tab3a.htm)

A number of countries have increased the earliest age at which benefits can be claimed and/or the age for full benefits. For example, in the US, 1982 legislation increased the age for full benefits in stages with delays and slow phasing. The age was 65 in 1982, is now 66 and will reach 67 in 2022. In the UK, recent legislation phases in an increase in state pensionable age, which will rise from 65 to 66 in 2024, and thereafter by one year each decade (thought there is talk about accelerating the process). Japan is slowly increasing the official age for benefits from 60 to 65. Also many countries that had different retirement ages for men and women have legislated increases in the ages for women to match that for men, although not all that harmonized have done so in this way. .

14.1 Retirement age and unemployment

Many people in China are concerned that raising the retirement age would increase unemployment. This is based on the belief that if workers stay in their jobs longer there are fewer job opportunities for new entrants to the labour force. Apart from temporary, short-run effects, that view is erroneous in a ma

entrants to the labour force, there is no long-run relationship, as labour demand responds to labour supply.

Although the labour market is not yet working efficiently in China today, the pension system needs to be set up for the long run. Thus the retirement age needs to be raised and there should not be permanent encouragement or mandate of early retirement. Indeed, many other countries have come to the conclusion that the government should not establish a mandatory retirement age at all; if worker and employer both wish it, a person should be able to continue working.

Box 12 discusses some concerns about proposals to raise the retirement age and Box 13 sets out principles for how any such policy should be implemented.

Box 12 Unfounded worries about raising the retirement age

Raising the retirement age will increase unemployment. This topic was discussed in Box 4. The central point is that job creation is dynamic – an increase in the number of workers, through greater availability of workers and downward pressure on wages, will increase the number of jobs. Conversely, attempting to decrease the number of workers through a pension policy that encourages early retirement does not help with unemployment on an ongoing basis. Internationally, there is no correlation between a country's retirement age and unemployment – countries with a higher retirement age do not have higher unemployment rates.

There may, however, be short-run effects, until labour markets have adjusted. Thus a policy to raise retirement age should move the age smoothly and should be timed to avoid periods of serious

workers needing to continue beyond the contributory benefit eligibility age because they are waiting to finance retirement from the sum of different pensions.

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24. Voluntary pensions can be received at a younger age than the earliest entitlement age for basic and individual account pensions.

The sharp constraints on the age at which *mandatory* pensions can be paid do not apply to voluntary arrangements. As discussed below in section 16, a central purpose of voluntary pensions is to allow for differences in people's preferences and to extend the options of industries with jobs that have harsh working conditions, etc.

15 Options for Public Employee Pensions

Pensions for public employees, both civil servants and those working in the public provision of services, such as teachers, are generous worldwide. Mostly, the pension systems are defined benefit, basing benefits on a short period of earnings at the end of a career. For example the system for US federal employees relies on three years of earnings. This is also the most common structure for employees of the individual states in the US. Strikingly the UK has recently instituted a consumer-price indexed career earnings pension for civil servants, (called Nuvos), while still maintaining the final pay plans for other public employees. Analyses of pensions for public employees frequently consider whether the pension plans, which are typically more generous than is common in the private sector, offset lower pay in the public sector or, instead, further increase the extent that compensation of public employees is higher than that of comparable private employees. Frequently the latter is seen to be the case. Analysts also frequently lament the low level of funding for these defined benefit pensions, and attribute their generosity to a political process that puts the cost of the generous pensions into the future by inadequate funding. Beyond these two issues there has been only a little analysis of the implications of pension design for the pattern of relative compensation of public employees with different earnings histories and for the incentives for retirement and for movement in and out of public employment. The studies that do exist find the typical pattern of incentives unsatisfactory as inducing behaviour more strongly for pension reasons than would be appropriate for overall labour market efficiency.

Pensions for public employees in China are based on earnings at the end of work. Pensions that rely on earnings in only a few years shortly before retirement are a poor design – encouraging manipulation, including promotions that are based on gaming the system rather than having the best match between workers and jobs. And such pensions have poor incentives for moves between public and private employment and retirement. In moving away from this poor design, it would be good to include public employees in the mandatory contributory pension system. That, too, matters with labour mobility between public and private employment.

China has initiated experiments of incorporating public employees who are not government employees in the mandatory contributory system. We think this is a move in the right direction.

calculate the drop in the value of assets at retirement as a consequence of annual management fees. In the case of a one percent per year charge, this is nearly 20 percent. Such large costs should be avoided. The limitations on investment choices also avoid some of the worst mistakes that inexperienced investors may make.

If China sets up a system along the broad outlines of the Thrift Savings Plan, the plan could also play a role in encouraging regulation in asset markets. In addition it could play a role in giving workers access to a low-cost well-run investment opportunity. This might be a way in which provincial governments organize a defined contribution system for their workers, consistent with avoiding discouraging mobility. This might just apply to public employees or might be a way in which provinces could have a mandatory funded account along with the notional account. And it could be a vehicle for individual retirement savings. This would greatly enhance private retirement savings opportunities.

16. Options for Voluntary Pensions

Voluntary retirement plans play an important role in complementing mandatory pensions in many countries. This applies as well in China. Such plans allow individuals to exercise different preferences about the time path of

The administrative fees for a pension can vary greatly with administrative structure, whether individual or group. High fees for pension administration are a recurring issue in many countries. Care should be taken to encourage lower cost systems in order to provide higher benefits for given contributions.

27. Supplementary voluntary pensions should be fully funded DC pensions, with income tax treatment clarified and set on a consistent basis.

There are many options available for the design of voluntary pensions. Should they be funded? Should they be designed as DC or DB? Should they be organised at the level of the individual, or of the firm, or of the industry? The history of voluntary corporate pensions in developed countries illustrates different approaches. Some have been DB and some DC. While DC pensions

provides some diversity for workers covered in the voluntary system. Being voluntary, this diversity, while not as thorough as with a funded portion of the mandatory system, avoids the difficulties that arise from increasing mandatory contribution rates, which would be necessary in a system seeking to build funded accounts while

basic benefits. Indeed, some of the pilots might have individual accounts that are not linked to see how alternative administrative arrangements might work. In particular, accounts could be managed through the banks and other financial intermediaries (as are IRAs in the US) or through a government agency. Some of the comments would hold equally well if they are linked, and we will identify some differences below. If we think of these as stand-alone voluntary accounts (ignoring the link with basic benefits) we have the following comments.

- There should be a calculation of annual administrative costs relative to the deposits – very small accounts may not warrant bearing the administrative costs, which are largely a fixed cost per account. This is particularly an issue if a new government agency is created to handle these accounts. If they are handled through existing institutions, such as the banks, then the higher cost relative to an ordinary savings account could be evaluated and is likely to be small.
- A voluntary account should allow an earlier retirement age than do mandatory accounts since one role of voluntary accounts is to bridge a gap between an individual's sensible individual retirement age and an appropriate economy-wide earliest entitlement age for a basic pension or a mandatory contributory pension. However, if eligibility for the basic pension is linked to eligibility to the individual account, then the re

Guidelines need to be established to limit the extent of risk, since general revenues would be needed to make up for shortfalls in the event of low returns on the pension portfolio.

- It is not clear that the rural poor would be better off with a retirement accumulation, rather than a more general savings account that could be tapped for other purposes, for example medical expenses. Only when incomes are sufficiently high can money be segregated for separate uses without too much inefficiency in spending. While tax-favoured retirement savings in some programs do allow earlier withdrawals when certain (hardship) conditions are met, such a process adds to administrative costs. Perhaps it is

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Glossary

Actuarial benefits. A stream of benefits in which the expected *present discounted value* of

may pay a dividend, for example quarterly or twice a year, to stockholders. If the corporation flourishes, the value of its stock rises, resulting in a capital gain to stockholders. If it goes bankrupt, the value of its stock is based on whatever value remains in the corporation after its creditors have been paid. Thus stocks represent a title to ownership, in contrast with *Bonds*, which are a form of loan.

Voluntary pensions. Pensions can be voluntary in two different ways. They can be voluntary for an individual worker, or a firm may voluntarily introduce an employer plan, membership of which may be compulsory for its workers.

Individual accounts should be credited for contributions since the start of individual accounts in 1998, including interest.

9. The notional interest rate in

current directive. The weights should reflect a balance between the competing needs of affordability and adequacy. The citizen's benefit should probably use the same index.

20. Given the extent of legacy obligations, continuing transfer of state shares to the NSSF offers two potential advantages. Shifting the dividend flow from current beneficiaries to the pension system reduces the level of fiscal subsidies required from the Budget and improves pension system financial balance. Adding the NSSF as a long-term shareholder could contribute to improved corporate governance of the SOEs and thus to the overall reform in China.

21. The eligibility age for both the basic pension and individual account pension should be slowly increased to 65 for both men and women. Early access to pensions should not be used as a substitute for unemployment benefits. There should not be a mandatory retirement age on a national basis, only on the basis of firms and jobs, as selected by the firms and workers (and regulation where public safety is at issue).

22. Any worker who continues in employment beyond the pension eligibility age should either start receiving contributory benefits while working or should receive a larger contributory benefit