SOCIAL SECURITY REFORM IN CHINA: ISSUES AND OPTIONS

January 27, 2005

Foreword

This report is the first policy study of the China Economic Research and Advisory Programme, in which eminent economists from China and abroad have participated. The report focuses on the problems faced by China in the reform of its social security system. On the basis of economic principles and drawing on the most recent international experience, the report offers practical policy recommendations.

The report analyses issues raised by the reform of China's social security system from a very broad perspective, thus avoiding the limitation of simply addressing the question of how to overcome the financial crisis in the pension system. Taking account of actual conditions in China today, the report compares the feasibility and implications of various pension models and suggests that China adopt the 'Notional Defined Contribution Account' (NDC or 'Notional Individual Account') system, which has been implemented in several European countries. The paper considers that this model would not only maintain the benefits of individual accounts, but could also avoid some of the drawbacks of the funded system. The report includes a number of policy recommendations, including the establishment of a unified national social security management system, raising the retirement age, transferring state assets, increasing coverage, improving the capital markets, and enhancing social equity.

The report was prepared by an international. research team. The foreign team included Professor Mukul Asher (National University of Singapore), Professor Nicholas Barr (London School of Economics), Professor Peter Diamond (Massachusetts Institute of Technology), Dr Edwin Lim, and Professor James Mirrlees (University of Cambridge). Professor Stanley Fischer, Professor Nicholas Stern, and Professor Salvador Valdes-Prieto (Pontifical Catholic University of Chile) reviewed the draft report and provided comments.

On the Chinese side, Li Jiange and Gao Xiqing were responsible for the study. Chinese experts included Zheng Silin, Xiang Huaicheng, Zhou Xiaochuan, Liu Zhongli, Wu Jinglian. Li Jiange, Gao Xiqing, Guo Shuqing and Yu Yongding. In addition, Hou Yongzhi, Li Shaoguang, Zheng Bingwen, Jiang Shiming, Wang Ruichao, Mao Na, Huang Bihong, Cheng Yonghong, Xia Dan, Lu Meng, Liu Xiangdong and Hu Xiang all did a lot of work for the completion of the report.. We would also like to express our appreciation for the support of the Ministry of Labor and Social Security, the National Council for Social Security Fund, and the Development and Research Center of the State Council. We are grateful, too, for the financial support of the East Asian Institute of the National University of Singapore and the UK's Department for International Development.

Issues of social security system reform cut across many disciplines and involve long time horizons. Given that China is both a transitional economy and a large developing country going through an ageing process, the issues are particularly complicated. There are very divergent views about social security reform and there is no consensus even within our expert team. As this study brings together the wisdom of many top experts within and outside China who have deep understanding of Chinese conditions as well as of economic theory, we hope the report will have significant relevance for those scholars conducting research on related issues as well as for the concerned government departments. Above all,

we hope it will serve to promote social security system reform in China.

Li Jiange
2004-11-4

China Economic Research and Advisory Programme

This study, 'Social Security Reform in China: Issues and Options', is the first of a series of policy studies to be conducted by the China Economic Research and Advisory Programme. The objectives of the Programme are as follows. .

- To contribute to economic policy formulation in China by supporting policy research and providing a forum for international exchanges on current economic policy issues in China, as well as global economic issues relevant to China. In particular, to bring to policy making in China an international perspective and the lessons of international experience.

- To strengthen the capacity of Chinese economists and research institutions to undertake economic policy analysis and research through collaboration with eminent economists and researchers abroad.

Activities of the Programme include:

- facilitating dialogue on current economic issues between international economists and senior Chinese economists and policy-makers;

- organising research on economic issues of relevance to Chinese and international policy-makers, with emphasis on economic reforms and China's integration into the global economy;

- sponsoring conferences and workshops on Chinese economic policy issues to promote exchanges on Chinese and global economic issues and to disseminate the results of research organised by the Programme.

Chinese advisors to the Programme include: Liu Zhongli, Chairman, Economic Committee of Political Consultative Committee; Xiang Huaicheng, Chairman, National Council for Social Security Fund; Zhou Xiaochuan, Governor, the People's Bank of China; Wu Jinglian, Senior Fellow, the Development and Research Center of the State Council; Li Jiange, Deputy Chairman, the Development and Research Center of the State Council; Lou Jiwei, Senior Vice Minister, Ministry of Finance; Guo Shuqing, Deputy Governor, the People's Bank of China; and Yu Yongding, Director General, Institute of World Economics and Politics, Chinese Academy of Social Science.

International advisors to the Programme include: Stanley Fischer (President, Citigroup International; formerly, First Deputy Managing Director, International Monetary Fund, Chief Economist, World Bank, and Professor of Economics, MIT); Caio Koch-Weser (Deputy Minister of Finance, Germany; formerly, Managing Director, World Bank); Professor Sir James Mirrlees (Nobel Laureate and Professor of Economics, University of Cambridge); Professor Sir Nicholas Stern (Second Permanent Secretary, UK Treasury; formerly, Chief Economist, World Bank, and Professor of Economics, London School of

Economics); and Dr Teh Kok-Peng (President, GIC, Special Investment Pvte, Ltd, Singapore; formerly, Deputy Managing Director, Monetary Authority of Singapore).

Dr Edwin Lim (formerly Director, World Bank, first World Bank Chief of Mission in Beijing and first CEO of China International Capital Corporation) is responsible for overall management of the Programme.

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SOCIAL SECURITY REFORM IN CHINA: ISSUES AND OPTIONS

Summary

As part of its far-reaching reform of the overall economy, China has successfully initiated fundamental reforms of the social security system over the past decade, establishing a structure consistent with the needs of a market economy. The combination of a **social pool** and **individual accounts** in the mandatory system provides a structure which addresses the basic objectives of a pension system – poverty relief, income redistribution, insurance and consumption smoothing. Outside the mandatory system, enterprise annuity schemes, individual retirement plans, and other pension schemes organised by industries or localities are further essential components. These **voluntary pensions** can accommodate different needs, tastes and jobs, particularly necessary in a country as large and diverse as China. Thus the three elements of the present reformed system, if properly designed and administered, complement and strengthen one another, and together can serve as the basic structure of China's pension system for the coming decades.

In the course of implementation, however, problems have emerged. Fragmented organisation and limited coverage contribute to financing difficulties and to incompleteness of social insurance. The deficits contribute to the 'empty individual accounts' – empty because local governments often use the contributions made by workers to their individual accounts to finance deficits in the social pool. Moreover, a system has not been developed for organising investments in capital markets by individual accounts. Nor are the capital markets in a satisfactory condition for such investments. Over time these problems will be a vicious circle, as the deficits are likely to persist, requiring continuing large fiscal subsidies, while 'empty accounts' and other systemic problems continue to undermine the credibility of the system, making further implementation – enforcing compliance and extension of coverage – increasingly difficult. The emerging problems are therefore serious and should be addressed urgently.

This report by an international team of economists and social security experts is an attempt to address the key challenges faced by the Chinese pension system today. The full report contains 23 recommendations for further reforms, as well as a brief summary of the economic principles and international experience that form the basis for these recommendations. The next section briefly discusses the principles of pension design. The last section presents the team's key recommendations.

I. Principles of Pension Design

Objectives of a Pension System

Retirement pensions allow a person to transfer consumption from his productive middle years to his older years in retirement. They also provide insurance, mainly in the form of annuities, i.e. weekly or monthly payments to the individual for the rest of his life. Since the length of life is uncertain, such annuities are a form of pooling against the risk of individuals outliving their pension savings.

For a government, pension systems have additional objectives. They can redistribute incomes on a lifetime basis, complementing the role of progressive taxes on annual income. This can be achieved, for instance, by paying low earners pensions which are a higher percentage of their previous earnings. Pension systems can also redistribute 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. Finally, poverty relief targeted at the elderly, through minimum or citizen's pensions, can be particularly efficient compared to a general system of poverty relief for the entire population. The latter creates some disincentives to work and a country may not be able to afford it.

Issues of Pension Design

Many different structures can combine to address the objectives of pensions, but design must avoid large distortions which contribute little, if anything, to the achievement of core objectives. For instance, labour mobility is essential for an efficient labour market. To avoid unduly discouraging mobility, pensions should be portable for workers moving from job to job and place to place. Portability is achieved most readily when the system has a uniform structure across the covered population, both across localities and across sectors.

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). Funding may or may not be desirable, depending on the circumstances of each country. 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. Funding may also improve the efficiency with which savings are channelled into investment. This is more likely in countries with developing financial institutions, if increased investment encourages reform of regulatory and supervisory capacity to improve the functioning of capital markets. However, greater recourse to capital markets with poor regulation and insufficient improvement can increase the risk and lower the return to investment. Finally, funding means increased contributions by the current generation of workers so that future generations may enjoy lower contributions or higher benefits, and thus it involves income redistribution from this generation to future generations.

A desirable characteristic of a pension system is that it has the capacity to evolve in a straightforward way as incomes rise, overall economic reforms proceed and administrative capacity grows.

International Experience

There is a wide range of pension designs across countries and many ways to design good systems. Most countries have a combination of different pension schemes. The simplest scheme is a tax-financed **citizen's pension**, available to everyone beyond a given age, as in the Netherlands and New Zealand. 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. A most common element internationally is a **national defined-benefit (DB) scheme**, in which a worker receives a pension based on his wage history and his age on first receipt of benefits. With **funded**

defined-contribution (DC) schemes, also known as **funded individual accounts**, pensions are paid from a fund built over the years from members' contributions. Countries with DC systems can use publicly organised investment (as in Singapore) or private, regulated financial intermediaries (as in Chile). A recent innovation internationally is the **notional defined-contribution** (NDC) schemes of Sweden and Italy, which have many properties of the DC element in individual accounts but with no funding. These various elements are assembled in different ways and with different relative sizes across countries. Thus, internationally, there is no single, dominant system.

II. Options for Further Reforms

On the basis of economic principles and lessons from international experience, our full report makes a number of recommendations for further reform of the pension system in China, of which the most important are discussed in the section below.

National Pensions Administration

Pooling lies at the core of the redistributive and risk-sharing elements of pensions. Given the size and diversity of China, national pooling of the mandatory pension schemes is particularly important. The following measures will help achieve this.

There should be a single set of regulations on mandatory pensions, preferably in the form of legislation that is enforceable.
The rules on contributions and benefits should be set centrally by formula, though they should include room for regional variation in basic benefit levels, to reflect disparities both in price levels and living standards. Variation must be compatible with a national system for portability of pension rights and hence labour mobility.

There should be a single national pensions administration.
A single administration which receives all pension revenues and delivers pensions is essential to achieve national pooling. A necessary element is a national database with information on each worker's account, both to foster a national labour market and to control the pension spending of localities (which could otherwise pay pensions at whatever level they wanted out of the national pool). The national pensions administration should be part of central government and funded from the central government budget. The pensions administration should administer both the basic pension and individual accounts.

Contributions should be collected by the tax authority.
The contributions base should be changed to match a definition of earnings to be used also in determining income-tax liability, with the contribution rate adjusted so that total contributions are broadly unaffected by the change.

Reforms of the Individual Accounts

Individual accounts should be organised on a notional defined contribution (NDC) basis. NDC pensions are a recent innovation internationally, used by countries seeking to retain the usefulness of defined contributions without the necessity of funding. Each worker accumulates a notional individual account, comprising his contributions over the years, which is each year credited by the pensions administration with a notional interest rate defined by law. At retirement, each worker receives a pension based actuarially on his accumulation.

Basing individual accounts on the NDC approach has significant advantages in China's current circumstances. It offers consumption smoothing to today's contributors in a similar way to funded DC schemes, and hence maintains the purpose of individual accounts. But, because no fund is built up, it 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 schemes, since it 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. Finally, the NDC approach will not require an increase in the contribution rate, or an increase in subsidies from the central Budget, as will be necessary if the 'empty' individual accounts are to be funded under the present scheme. By regularising the encouragement and regulation of voluntary supplementary pensions, there can be adequate capital-market demand for economies of scale and for further encouragement of improved regulation of the capital markets.

Funding individual accounts with marketed securities and deposits – as currently contemplated in China – does not seem desirable or feasible in China's present circumstances. This is not, however, a recommendation against possible funding in the future. Ten, twenty years from now, China may wish to raise the saving rate, the financial system may be able to provide individual accounts with improved allocation relative to that available elsewhere, pension-fund administration and private investment managers may have the capacity to cope with the heavy demands of funded individual accounts, and regulatory capacity may have been established. It is therefore important that the individual accounts of today are designed so as to allow a smooth and gradual transition to funding. The NDC approach does that. For example, Sweden's 18.5% contribution rate is divided – 16% going to the NDC system and 2.5% to fully funded accounts.

Age for Receiving Full Pension Benefits

The age for receiving full benefits from the basic pension should be slowly increased to 65 for both men and women. The basic pension should be pro-rated for individuals with less than a full career. The basic pension should be adjusted on an actuarial basis for the age at which it starts.

The earliest age at which a person is eligible for the basic pension and for pension from his individual account should be slowly increased as well, and should be the same for both pensions.

Since pensions reduce consumption during working life in order for an individual to have a reasonable level of consumption during retirement, there is a direct relationship between the length of working life, life expectancy and the affordable level of pension, and so there is a limit to the earliest age at which the workers can retire if they are to be provided with a reasonable level of consumption during retirement. Thus, early retirement may not be affordable in poorer countries, particularly those with rising life expectancies. In China, the mandatory retirement age for state-owned enterprise (SOE) workers derives from an earlier time when life expectancy was shorter. And the actual retirement age today is even lower, because early retirement has increased sharply as a result of the prevailing incentive structure. Retirement age is now earlier in China than in many countries with much higher levels of income. The combination of lengthy retirement and the one-child policy creates a ratio between retired persons and workers that has risen dramatically, from 1:13 in 1980 to 1:3 in 2002, and is projected to reach 1:2 in 2030. Thus it is important that the age at which workers receive their full pensions be raised. The change should be gradual, however, so that nobody close to retirement faces a sharp increase in his working years.

Many in China are concerned that raising the retirement age would increase unemployment, based on the belief that if workers stay in their jobs longer there are fewer job opportunities for new entrants to the labour force. In a market economy, however, it is incorrect to think about the labour market in terms of a fixed number of jobs. The number of jobs in the economy is responsive to the availability of labour; increased numbers of workers, by exerting downward pressure on wages, tend to encourage the creation of more jobs. Thus, except possibly in the very short run, there is no relationship between early retirement and the availability of job opportunities. This is evident in advanced countries, where earlier retirement ages across time and across countries have not resulted in systematically less unemployment. Although the labour market is not yet working efficiently in China today, pension systems need 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.

Implicit Debt and Transfer of State Assets

The pensions of workers who retired before 1998, and the accrued pension entitlement of current workers for employment prior to 1998 represent China's 'legacy obligations', sometimes also referred to as 'implicit pension debt' (although there are other definitions of such debt). These legacy obligations were not only built up under the old pension arrangements, but also under a different economic system. If these obligations are paid by assets from outside the reformed pension system – as many countries have done in the process of pension reforms – then future workers would be relieved of at least part of the burden of the old system, at the expense of the present beneficiaries of these assets.

In recognition of the legacy obligations, the government decided in 2003 to transfer some of its shares in SOEs, particularly those that were being listed on stock markets and those not listed but

already organised as joint stock companies, to the National Social Security Fund (NSSF).[1] Progress has been slow and only a small quantity of shares has been transferred.

Transfer of state shares to the National Social Security Fund (NSSF) offers two potential advantages. Shifting the dividend flow of shares from current beneficiaries to the pension system reduces the level of fiscal subsidies required from the Budget – 54 billion yuan in 2003 – and improves pension system financial balance. In addition, as long as the NSSF holds the shares and relies on the dividends from the shares to help finance pension obligations, it has the opportunity to function as a long-term strategic owner of these companies, with a major interest in protecting shareholder rights, including the right to a reasonable level of dividends. This interest could be pursued by monitoring firms, exercising voting rights, and being represented on the boards of some companies. In many countries pension funds have played an important role as a long-term strategic shareholder in overseeing the performance of the companies and in improving corporate governance generally. Similarly, the interest of NSSF in corporate governance would lend more weight to the entire enterprise reform process, including better legislation and better regulation, just as in Chile the investment of mandatory worker accounts in the stock market assisted the reform process by contributing to efforts to improve the regulation of the stock market. As the State Asset Management Bureau (SAMB) will continue to own substantial shares in SOEs, even after the transfer of some shares to the NSSF, the ownership roles of SAMB and NSSF, with their different perspectives, can complement and reinforce each other.

Worldwide experience with investment in diversified portfolios of assets by government agencies makes it clear that good-quality investment is far more likely with full and transparent accounting of the operations of such government agencies. Thus, for the transfer of shares to accomplish the fiscal and governance goals, it is important that the NSSF holds the shares over the longer run, has clear and explicit responsibilities, independent non-political management, and detailed, credibly audited accounts that are published regularly. Such an approach to the state shares may help to prevent the loss of state assets in the process of reform, as happened in countries such as Russia.

Coverage

Priority for the future must be to extend coverage first to uncovered urban workers and eventually to the rural population.
The extension of the basic pension and individual accounts to all urban workers has already been decreed, but enforcement has been slow. The aim is entirely right. One approach to achieving it is to phase in increased coverage, starting with the largest firms. The extension of coverage to all workers in urban areas will make additional demands on administrative capacity. A sudden imposition of a large contribution rate on earnings can also disrupt young growing businesses. For both reasons, coverage needs to be extended carefully. In addition, coverage could be spread to firms in rural areas, particularly township and village enterprises in more developed rural areas.

[1] We distinguish between a transfer of assets to social security based on historic considerations from the issue discussed above of providing government debt in response to worker contributions.

The poverty-relief element in the pension system should be widened and deepened. For example, the minimum-income guarantee for urban residents (Dibao) can be enhanced for the elderly. One approach is simply to set the minimum income level and other rules of Dibao differently for the elderly than for the younger population. Another simple arrangement is a flat-rate pension, financed from general taxation, paid to everyone over a certain age, which can be done with or without an income test.

Enhancing old-age security in rural areas should be a high priority.
This study includes only urban pensions, which at best would cover one-third of the population. For China, the highest priority must clearly be old-age security for the remaining two-thirds of the population, whose traditional forms of security have eroded over the past decade and who, with migration of the younger members into urban areas, face an aging problem more severe than the average for the country as a whole. In addition to the various experiments under way in different provinces, China might wish to study the experience of other countries in addressing the old-age security of a large poor population, particularly the citizen's pensions and minimum-income guarantee schemes outlined above. The introduction of such schemes in the urban areas could serve as a pilot for the rural areas; unified citizen's pensions and minimum-income guarantee schemes for the elderly could begin to unify the social security system in urban and rural areas.

Implications for the Future

These reform measures will have important implications for the pension system in the coming years. A national pool makes income redistribution and risk sharing more effective. The administrative reforms should strengthen compliance. The transfer of state-owned assets to the NSSF for financing legacy obligations also assists compliance by making the pension system a better deal for current and future workers, although at the expense of the current beneficiaries of these assets. The combination of improved compliance, the use of notional individual accounts, a later age for a full basic pension, and actuarial adjustment for the age at retirement of both pensions improves the financing of pensions and improves the efficiency of labour markets. And greater financial resources and improved coverage can assist poverty relief among the urban and rural elderly population. Regularising the encouragement and regulation of voluntary supplementary pensions will help their development, which will also help with development of the capital markets.

Depending on the speed and extent of adjustment of the pension system, the need for fiscal subsidies will be considerably reduced, and, over time, possibly eliminated. Indeed, some combination of reforms could put the pension system into long-run surplus. In this event – if careful quantitative projection of the mandatory system shows a long-run surplus – it would be possible to consider a mix of further opportunities:

- to reduce contribution rates, thus creating more room for voluntary pensions, reducing the resistance of private firms to the mandatory system, and reducing the financial shock for them;
- to increase benefits from the social pool;
- to enlarge the notional individual accounts;

- to use revenues to add some funding of individual accounts;
- to strengthen poverty relief by introducing some form of minimum pension, or by accelerating extension of the system to the rural population.

SOCIAL SECURITY REFORM IN CHINA:

ISSUES AND OPTIONS

I. Principles of Pension Design

A. 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 it.[1]

Longevity insurance
Pension systems provide insurance mainly in the form of annuities, i.e. weekly or monthly payments to the individual for the rest of his life. Since the length of life is uncertain, 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 in the event of a worker's death before retirement.

Income insurance and redistribution
Pension systems can redistribute incomes on a lifetime basis, and this may complement the role of progressive taxes (taxes which take an increasing proportion of income as income rises) on annual income. This can be achieved, for instance, by paying low earners pensions which are a higher percentage of their previous earnings (i.e. a higher replacement rate). 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.

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.

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 it. 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 the masculine pronoun is used to refer to an individual and his pension, but it is recognised that the pensioner may equally be a woman.

B. 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. This section sets out some of the criteria for good pension design. It is important to note 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.

Labour-market efficiency

The multiple objectives of a pension system will inevitably involve distortion of the labour market.[2] Consideration of pension systems must be 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 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 appropriate for less profitable firms to decrease employment. Productivity is enhanced if workers are able easily to move to more productive jobs. To avoid unduly discouraging mobility, pensions should be portable in the face of at least four types of movement by a worker: from one firm to another, from one geographical area to another, from the state to the private sector (employment and self-employment), and from the uncovered (rural) to the covered (urban) sector. Such portability is achieved most readily when the system has a uniform structure across the covered population, both across localities and across sectors.

There should not be heavy reliance on final wages in determining a person's pension. Such systems are very difficult (in practice, impossible) to organise in a way that permits efficient labour mobility. Moreover, they are subject to manipulation (e.g. raising final wages and so benefits excessively) and tend to give higher benefits to better-paid workers, since they are more likely to have rising earnings trajectories.

In addition, pension systems should not create strong incentives for early retirement (by, for example, offering the full pension) to workers who often have considerable skills, and are possibly still at their most productive. While it is common to think of early retirement as a route to easing urban unemployment, this is not the case in a market economy. From a long historic perspective, developed countries have seen a vast decrease in the average retirement age, yet unemployment has shown no trend decrease. Empirical evidence for a number of developed countries over a 10-year period shows no systematic pattern whereby countries which encourage early retirement have lower unemployment. There is no reason to think that the basic insight is different in developing countries. It is mistaken for several reasons to think in terms of a fixed number of jobs. First, increased numbers of workers, by exerting downward pressure on wages, tend to encourage the creation of new jobs; conversely, if early retirement decreases labour

[2] It is impossible to have a modern economy without labour-market distortions. The real issue is to balance distortions with other goals, not to pretend that there is a way to accomplish multiple goals without distortions. In economists' vocabulary, this is second-best analysis.

supply, it tends to slow down job creation. Second, however, early retirement frequently does not remove workers from the labour force, since workers who retire early often continue to work while receiving a pension. Third, the large pool of rural workers is potentially a much greater source of unemployment, both because of its scale and because reduced unemployment in urban areas tends to attract new migrants.

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.

Savings and economic growth
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.

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.[3] 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

[3] The impact on national savings can even be negative if workers reduce private savings to offset the mandate and yet government uses the easier availability of funds to decrease public savings.

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 anticipated growth in earnings.[4]

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, while simultaneously placing into workers' accounts a matching value of newly issued government debt. The effect on national savings of the latter policy is similar to that of a PAYG system. However, conventional PAYG systems are based on the payment of future pensions out of future contributions, whereas placement of newly issued bonds by the government into the individual accounts calls for payments, at least in part, out of future tax revenues. Though their effect on saving is similar, the policies may differ over time in their impacts on future benefit levels, contribution rates, general government revenues, and the interest rates on government bonds. With bond funding, the level of benefits depends on the interest rate earned on the bonds; with a defined-benefit system, the level of benefits depends on the formula determining benefits. Thus it is important to distinguish between funding whose purpose is to increase savings and funding based on placement of newly issued bonds, which does not increase savings.

A separate argument for funding is that it may improve the efficiency with which savings are channelled into their investment use. This is more likely in countries with developing financial institutions if increased investment encourages better reform of regulatory and supervisory capacity to improve the functioning of capital markets. However, greater recourse to capital markets with poor regulation and insufficient improvement can increase the risk and lower the return to investment.

Income distribution

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

[4] Many advocates of funding do not present fairly the advantages and disadvantages of increased funding. 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. This can be seen most clearly in the start-up of a new system. If a new system is fully funded, then those already retired get nothing and those nearing retirement, with little time to accumulate assets, get very little. In contrast, a PAYG system can choose to provide benefits to the already retired and larger benefits to those nearing retirement when the system begins. The cost of these actions is that future workers receive less than if some of their contributions had not been diverted to help older workers and retirees. So choosing between funding and PAYG depends on evaluating income redistributions across generations, and cannot be answered just by the difference between the rate of interest and the rate of growth of contributions.

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.[5] Another example, already discussed, is the use of pensions to increase national savings, which redistributes income across cohorts.

Individual or family benefits

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 (for example, by mandating joint-life annuities for retirement benefits); but it can also involve such redistribution (for example, by favouring one-earner couples over two-earner couples and single workers in the benefit formula).

Risk sharing

Different pension systems share risks differently. It is useful to recognise the different underlying philosophies of risk sharing in different systems, since that philosophy is likely to influence actions taken.

With funded individual accounts based on private financial assets, the risks of different outcomes are imposed on the individual worker through benefit adjustment. The risks include differing returns on assets and the pricing of annuities. With corporate defined-benefit (DB) schemes, the risk is borne by the employer (and therefore future workers at the firm and its future shareholders). With PAYG DB systems financed by social security contributions, the risks are shared by current and future workers insofar as contributions are adjusted to preserve benefits. Finally, in systems financed by general tax revenues, the risks are shared by all taxpayers, and hence across generations (since future taxes as well as current taxes can change as debt varies). A central question for policy-makers is how widely risks should be shared, a question with both efficiency and equity implications. In practice, countries frequently adjust both contributions and benefits, undercutting the risk allocation that would follow from a pure approach to alternative systems.

Capacity to evolve

A desirable characteristic of a pension system is that it has the capacity to evolve in a straightforward way as incomes rise, reforms proceed and administrative capacity grows. This principle is particularly relevant to China, where there is rapid and widespread change, including the movements from rural to urban and from state to private sectors, a rapid change in the age structure, and major reforms in labour markets and financial markets.

[5] It is also noted that groups with different life expectancies will benefit differentially from a system that collects contributions from those who are working and pays benefits for the lifetime of the retired worker.

C. Pension Systems Around the World

This section briefly outlines the wide range of choices facing policy-makers. The key messages are that countries have successfully implemented pension systems using very different mixes of structures, and that choices widen with economic and institutional capacity.

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

Citizen's pensions and minimum-income 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. 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. A uniform pension could also be awarded on the basis of an affluence test (i.e. withdrawn from the best-off), as in Australia and South Africa.

Minimum-pension guarantees
Another approach is a minimum pension available only to those with enough years of contributions to the mandatory system. A country can combine a minimum-income guarantee with a higher minimum-pension guarantee, as in Chile.

Defined-benefit schemes
In a national DB scheme, a worker receives a pension based on his covered wage history and his age on first receipt of benefits. The pension may be based on the worker's wages in his final few years of work, or on a longer period, up to his entire career. There may be a taxpayer subsidy from general revenues. Most national DB schemes are primarily PAYG, with pensions paid out of current revenues with little or no funding, but some have partial funding, well in excess of a minimum reserve, through a build-up of assets held in a trust fund. Some partially funded DB systems hold only government debt. Others hold diversified portfolios (diversified both across assets and across countries). These portfolios can be managed either by government agencies or by private firms hired to handle investment transactions or even to make investment decisions.

Funded defined-contribution schemes
With funded defined-contribution (DC) schemes, also known as funded individual accounts, pensions are paid from a fund built over the years from members' contributions. The contribution rate is fixed, so that a person's pension is an annuity whose size is determined by the size of his lifetime pension accumulation, life expectancy and the rate of interest. Countries with DC systems can use publicly organised investment (as in Singapore) or private, regulated financial intermediaries (as in Chile).

Notional defined-contribution (NDC) systems
A recent innovation internationally, pure NDC systems are conceptually similar to pure DC pensions in the way risks are shared, with adjustment taking place on the benefits side. But they are different in that they are not fully funded and may be entirely PAYG. NDC systems parallel DC pensions in the way pensions are designed:

- each worker pays a contribution of *x*% of his earnings, which is credited to a notional individual account. The contribution rate can be different for workers of different ages and can be changed from time to time;
- the cumulative contents of the account are credited periodically with a notional interest rate, specified by the government in advance, and chosen to reflect what can be afforded;
- at retirement, the value of the person's notional accumulation is converted into an annuity, based on life expectancy and the rules in force for adjusting benefits (for example, for inflation) and using the notional interest rate as the discount rate;
- the account balance is for record keeping only, because the plan does not own matching funds invested in the financial market. This explains the term 'notional'.

Benefit adjustment after retirement
Once a person has retired, pensions based on a nominal annuity are vulnerable to inflation. A major question, therefore, is whether pensions are protected against inflation, and by what mechanism. Countries vary: some index benefits to prices, others to wages, and others to a weighted average of the two.

Voluntary pensions
Separate from pension systems mandated by government are pension systems organised by employers or industries, or set up by individuals. These are referred to as voluntary, in the sense that they are not mandated by government, although a worker may not have a choice if he joins a firm with a pension system that is mandatory for the firm's employees. For workers covered by the mandatory national system, such voluntary pensions can be thought of as supplementary. The 'enterprise annuities' in China fall into this category. Voluntary pensions 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 relative to earnings: for example, 12.4% in the USA, 18.5% in Sweden, 19.3% in Germany, and 32.7% in Italy.[6] This naturally results in different average replacement rates.

These various elements are assembled in very different ways and with different relative sizes across countries. Thus the range of pension systems is wide, with no single, dominant system.

[6] Italy also has mandated severance pay.

D. Lessons from International Experience

The main conclusion to be drawn from the descriptive analysis in the previous section is that there is a wide range of pension designs. Systems function reasonably well in countries that have made very diverse choices since there are many ways to design good systems.[7] The following central lessons may be taken from studies of international experience.

1. The scale of mandatory pensions and the complexity of their design must respect the constraints of financial capacity and technical capacity.

Financial capacity
Consumption by pensioners is at the expense of consumption by workers, spending on investment, etc. From a macroeconomic perspective, therefore, pensions are in part a device for dividing output between workers and pensioners. Clearly the amount that is spent on pensions must be compatible with a country's financial capacity.

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.

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 important is the process of educating workers – both about what they have at the time and can expect to have at retirement, and about how to think about the choices they can make. In an economy with vast numbers of workers with no experience in making such financial decisions, it is critical to provide education on the implications of different choices. All these steps have costs that vary with design and with the quality of services provided. It is worth noting that, notwithstanding Poland's considerable institutional capacity and heavy emphasis, during the reform process, on the importance of building an adequate administrative infrastructure, the reforms there almost collapsed because the system was initially unable to keep track of people's contributions. The roots of the problem were delayed implementation of the new computer system, initial compliance problems and administrative inefficiency. The situation has been rectified.

2. Both mandatory and voluntary pension systems depend critically on effective government.

The central role of government in running a mandatory system was discussed above.

[7] Many countries need to adapt their systems to take account of changing demography. That countries have been slow to adapt does not undercut our view that many systems have functioned reasonably well.

It is a fundamental error to suppose that voluntary pensions organised by the private sector relieve government of responsibility for pensions. Private pensions depend critically on government to set rules and to enforce them. Government must be able to enforce compliance with contribution conditions, to protect asset accumulations, to maintain the macroeconomic stability which is essential for long-term private accumulations, and to ensure effective regulation and supervision of financial markets – markets that do not function well without significant government regulation and supervision – including the insurance and annuities markets. Such regulation is vital to protect individuals in areas too complex for them to protect themselves. It requires tightly drawn-up procedures *and* a body of people with the capacity and will to enforce those procedures. More generally, private markets function best when 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 offers an illustration. Its system is sometimes described as relying on unfettered markets rather than government. This is a misreading. It overlooks the fact that, at the time the reforms were introduced, there was a substantial government surplus which helped to finance the transition. The individual accounts are handled by private firms specialised in such work, and those firms are tightly regulated by an agency set up specifically for this purpose. Regulations, which have evolved over time, restrict portfolios, the structure of charges to workers, and the process of competition between firms. Annuitised pay-outs are made by private insurance companies that are also tightly regulated on their investment portfolios and on the process of selling annuities.[8]

3. Funded individual accounts, where there is a choice of the provider of investment services or a choice of the individual portfolio directly from the market, have significant transactions costs. Individual accounts with a government-selected portfolio can have lower transactions costs, but can easily have a poor rate of return.

Funded individual accounts with a choice of provider or of portfolio from the market tend to have high administrative costs. Such costs, moreover, are largely a fixed overhead per account together with a large fixed cost to set up the network. Administrative costs erode the rate of return on pension accumulations, and the problem is particularly acute for smaller accumulations, i.e. those of people with lower earnings and, even more so, in countries where most people have low earnings. The past 10 years have seen increasing awareness both of the existence of these costs and of their significant size. For example, a charge of 1% of the balance per year would reduce the balance at the end of a 40-year career by roughly 20% because of the reduction in the net compound interest. In Chile, between 12 and 13% of contributions are currently used for administrative charges and returns to private firms (excluding the premia for disability insurance), although the charges were higher earlier. This does not include the additional costs associated with paying benefits, whether annuitised or not. In its first formulation, administrative costs in the privatised element of the UK system were on track to use roughly one-third of what would otherwise have been available for benefits. Sweden designed a system with centralised purchase of mutual funds for workers in the aggregate and rules limiting charges by mutual funds, but it still has charges that would reduce balances at the end of a career

[8] It should be noted that the Chilean economy also underwent other reforms that contributed to the outcome of its overall growth, so that it is wrong to attribute Chilean success solely to the pension reform.

by 14%. The situation is even more costly in Latin American countries that have followed Chile's lead, except in Bolivia, where investment managers' fees were set by bidding.

Centralised investment by a government agency can avoid high transactions costs. This can be through individual accounts, as in Singapore, or with a diversified portfolio for a DB system, as has been the case in Sweden for years and as recently adopted in Canada and Switzerland. Funding for DB pensions has a long history in state and local governments in the USA. The history of the quality of investment is very mixed. Some countries have done poorly with centralised investment. With recent focus on the incentives and transparency of the process of such investment, some countries have seen returns comparable to those of private investors. Good quality investment is more likely with full and transparent accounting of the operations of agencies doing the investment, including a clear and explicit remit, independent non-political management, and detailed, audited accounts that are published regularly. However, it is difficult to put in place a system that can ensure good quality investment, particularly where there is limited experience with such investment.

4. When can funding individual accounts assist the development of capital markets?

For funded individual accounts to function properly, contributions to the accounts should be used to buy assets. Purchasing assets is best done in financial markets and/or through financial intermediaries, such as banks and insurance companies. Thus two central questions are whether existing capital markets and financial intermediaries do a good job of providing the services needed for funded accounts; and whether funded accounts, by increasing the demand for market and intermediary services, improve the functioning of both.

In two polar cases the answer is simple. In some countries, the existing financial infrastructure is too weak to risk the pensions of a large number of workers by mandating funded individual accounts. While, in some developed countries, financial capacity is sufficiently well developed that further improvements as a consequence of such a mandate are unlikely. Between the two extremes is a range of country capacities where there is the potential to improve capital markets but also the risk that, without enough improvement, workers will not get good returns on their contributions, or the government will have to bear the cost of bailing out the pension system.

The risk is easy to comprehend – the performance of inadequate markets can range from low returns to large-scale embezzlement. Moreover, inadequate markets have much higher administrative costs than better developed ones. It should be noted that poor markets not only hurt pensioners but can also imply a worse allocation of investment than would occur with less formal ways of channelling savings to investment.

The possibility of gain is also easy to comprehend, since better-functioning capital markets increase economic efficiency and so economic growth. What is critical to the possibility of gain is a sustained effort to improve the regulation of markets and the functioning of the economy generally. In Chile, where individual accounts have helped with the development of the capital markets, they served as an additional source of political pressure to put in place better regulation. That is, while additional demand helps to some degree with the development of the 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 conditions that must be met before starting such accounts. Thus, the issue of whether to use funded individual accounts to help develop capital markets, or to consider mandatory funding only when those markets are further developed and regulated, requires careful consideration, in terms of detailed country specifics, of the potential gains and risks.

The use of existing markets by voluntary private systems and the quality of the resulting services can help to test their suitability for mandatory pensions. That is, voluntary pension accounts can also stimulate market development, particularly where the economy is large enough that economies of scale can be achieved on the basis of voluntary investments. The experience of Brazil and South Africa with employer pensions supports this view.

Beyond the impact on capital markets, in many countries pension funds have played an important role as long-term strategic shareholders in overseeing the performance of companies by monitoring firms, exercising shareholder voting rights, and being represented on the boards of some companies. Moreover, pension funds can contribute to improving corporate governance generally by lending more weight to reform, including better legislation and better regulation.

II. Options for Further Reform

A. Recent Reforms in China

The system

As part of its far-reaching reform of the overall economy, China has successfully initiated fundamental reforms of the social security system over the past decade. These reforms have transformed the old enterprise-based system into a mandatory nationwide system consistent with the needs of a market economy. A major accomplishment is the establishment of the three-part system – the basic pension, individual accounts, and voluntary pensions – which establish 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. And both parts provide longevity insurance by paying benefits on an annuitised basis. The combination of social pool and individual accounts thus provides poverty relief, insurance and consumption smoothing.

Voluntary pensions outside the mandatory system, including enterprise annuity schemes, individual retirement plans and other pension schemes 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 uniformity that must be a part of a national mandatory system, voluntary pensions, whether enterprise or 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 is most valuable when it coexists with a sizeable voluntary pension system. Voluntary pensions can also have an important role in supporting capital-market development and regulatory expertise, thereby enhancing the long-run role of the private sector in providing pensions.

Emerging problems

Thus the three elements of the present reformed system complement and strengthen one another and together can serve as the basic structure for China's pension system for the coming decades. In the course of implementing the new pension system, however, problems have emerged. At a strategic level, three stand out: fragmentation, system deficits, and problems with individual accounts. The embryonic system of voluntary pensions also raises issues.

Fragmentation

Fragmentation persists, with at least two manifestations: fragmented organisation and limited coverage. Despite the objective of central government to unify the pension system at least at the provincial level, organisation in practice remains highly fragmented, largely municipality based, and, in some areas, still enterprise based. Provincial unity has been achieved in very few provinces. At a municipal level, governments have often been unable to enforce contributions.

A second aspect of fragmentation is limited coverage. Despite the announced extension of the mandatory pension system to all urban workers over the last few years, contributions from employers and workers outside the state-owned-enterprise (SOE) sector remain very limited.

System deficits

Pensions in most areas run a deficit, the result of pension spending exceeding the ability to collect contributions and the intended use of some contributions for funded individual accounts. Future deficits are also anticipated, given current rules and the anticipated rise in the dependency ratio (the ratio of retirees to workers).

Problems with individual accounts

A move from PAYG towards funding has inescapable up-front cash-flow costs, because it is necessary to find a way simultaneously to finance the pensions of the current retired generations on a PAYG basis and to pay contributions into the funded individual accounts of current workers. With the deficit just described, it has not been possible to meet these transition costs,

resulting in so-called 'empty individual accounts', empty because local governments often used the contributions of workers to their individual accounts to finance deficits in the social pool. Moreover, a system for organising investments in financial markets has not been developed and those individual accounts that are funded are able to invest only in low-return bank deposits and government bonds.

Outline

On the basis of the economic principles and lessons of international experience discussed earlier, this report makes a number of recommendations for further reform of the pension system in China. The following sections discuss options for further reforms, considering in turn (B) the overall structure and management of the system, (C) improving the basic pension, (D) improving individual accounts, (E) adjusting benefits after retirement, (F) funding the implicit debt (legacy obligations), (G) strengthening voluntary pensions, (H) changing the retirement age and age for full pension benefit, (I) extending coverage, and (J) extending pensions to the rural population.

B. Overall Structure and Management

To address some of the problems that have emerged since the 1997 reforms, particularly the fragmentation of the system, the government should consider the following options regarding the overall management of the system.

National Pensions Administration

1. There should be a single set of regulations on mandatory pensions, preferably in the form of legislation that is enforceable.

While the rules on contributions and benefits should be set centrally by formula, they should include room for regional variation in basic benefit levels. Local variation is essential in a country with great disparities both in price levels and living standards, but that variation must be compatible with a national system, both to maintain equity in how regions share in a national pool and because a unified national system is essential to the portability of pension rights and hence to labour mobility. Interpretation and enforcement of the pension law should be the responsibility of a central ministry. The 1993 directive for separate bodies setting policy and administering the pension fund should be implemented.

2. There should be a single pensions administration with a nationwide responsibility. There should be a single national trust fund to receive all pension revenues (a single national pool).

A national system has core requirements. An essential element is a national database with information on each worker's account, both to foster a national labour market and because that is the only way to control the pension spending of localities (which could otherwise pay pensions at whatever level they wanted out of the national pool). Second, there needs to be a single system of record keeping and standard software. Such software needs to be constructed in such a way that localities cannot customise it with local variations, other than those allowed in the central rules. (Experience in other countries shows that excessive 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 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 essential to achieve national pooling, which is preferable to provincial pooling. 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 schemes is particularly important. This should not preclude local initiatives with voluntary pensions.

3. The central authority should create an institution for projecting the financial position of mandatory pensions. Moreover, an institution should be financed to carry out ongoing research on pensions.

Pension systems operate over long periods, so that projections of future spending are essential for mid-course adjustments to ensure that contributions and projected benefits are broadly in balance. Understanding how the pension system is functioning in practice, and not just in some simple theory, is critical for improving it, particularly in a country undergoing large changes, as is China. Keeping abreast of developments in both theory and foreign experience is also valuable.

Dedicated funding and revenue sources

4. The pension system should continue to be financially separate from the state budget, and pensions should be financed from dedicated revenue sources.

Workers rely on future retirement benefits and should be protected from large shocks to pension expectations at short notice. People who have already retired have no ability to adjust pensions, and so are less able to bear risk than workers, who can adjust earnings. Thus changes to the system should be made infrequently, with considerable lead time and with effects spread widely over cohorts. The more the finance of pensions is kept separate from the rest of the government budget, the less likely is inappropriate adjustment of pensions – either too frequent or too much influenced by fiscal matters other than pension costs and revenues. 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.

5. Contributions should be collected by the tax authority, with the revenue delivered promptly to the pensions administration. The contributions base 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 individual basic benefits should be based on average local earnings using the same definition of earnings as for determining contributions, with the formula adjusted so that basic benefits remain at approximately their current level. Thus benefits should vary with location, but within a formula set by a national authority.

There are both economic and administrative advantages if the contributions base and the tax base for personal income tax are the same. The most cost-effective way to collect contributions is alongside the personal income tax. More pragmatically, the tax authorities in China have the technical capacity required for the task (though it will be necessary to ensure that they have adequate resources). 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 to the pensions administration.

It is important to align the incentives facing the income-tax authorities and the pensions administration, to avoid a situation where the tax authorities concentrate on total collections at the expense of accurately tracking the contributions of each individual worker – a vital element in the pension system. The problem is minimised when the tax authorities and pension authorities both need broadly similar information on individuals.[9]

Contributions are currently based on the standard wage. This encourages workers and employers to move to forms of compensation not included in standard wage measurement. Contributions based on the standard wage are also regressive (i.e. bear proportionately more heavily on lower earners). The contributions base should, therefore, be changed to an earnings measure that approximates total compensation and is used for both pension contributions and the income tax. Such an approach improves consumption smoothing, since earnings are a better measure of consumption opportunities than the current contributions base.

Similarly, basic pension benefits from the social pool should remain at approximately their current level, but the calculation of individual benefits should be based on average local earnings, using the same definition as for determining contributions. The use of the same definition limits attempts to manipulate reported earnings to raise benefits without raising contributions. Thus benefits should vary with location, but within a formula set by a national authority.

[9] 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.

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 urban workers. 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 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 the mandatory system are those of the system as a whole, i.e. the basic pension and individual accounts together. The balance between the two elements should reflect how replacement rates should vary with earnings levels. 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 1/120 of the accumulated fund – is technically incorrect. An actuarially accurate pension from individual accounts would yield roughly half as much per month per yuan in an account.[10] Without actuarially accurate benefit calculations, the individual accounts would not preserve financial balance.

Once selection of further reforms is complete and cost and revenue projections are in place, the government should consider the trade-off between the level of the basic pension and the contribution rates for the basic pension and individual accounts.

Public information

6. A priority task for the national pensions administration is to inform the public of changes in the pension system, once they have been decided. There should also be a start to a process of informing workers of their accumulations from contributions and their anticipated pensions to assist in their choices about consumption and financial planning.

C. Options for the Basic Pension

In addition to the accounting changes described above, it is appropriate to adjust the determination of benefits in the basic pension to reflect labour-market mobility, which will inevitably increase in China. This will include recognition that different people retire at different ages.

7. The basic pension should be pro-rated for individuals with less than a full career. With pro-rating, there should be no minimum contribution period for receiving a pension. If a worker has made contributions to the basic pension in several locations, the initial value of the basic pension should be a weighted average of benefit levels in the different regions, the weights

[10] This calculation is done for a real interest rate of 3%, a growth of benefits in force of 1.5%, and a certain period of retirement of 25 years.

reflecting the number of years in each location. The basic pension should be adjusted on an actuarial basis for the age at which it starts.

It is important to consider the basic pension and individual accounts (discussed shortly) together. On their own, individual accounts do not adequately address poverty and distributional issues. Alongside rapidly rising income, many people in China are poor, so that individual accounts would leave them below the poverty line despite a lengthy career. Thus, the basic pension – the social pool – is of equal importance (though not necessarily of equal size) to individual accounts, and the desirable structure is that of a mix of social pool and individual account, though their relative size and the specific design of each will depend on the objectives of policy-makers.

Pro-rating for short careers and averaging across regions for mobile workers increases the link between contributions and benefits and limits opportunities to manipulate benefit levels.

D. Options for Individual Accounts

Individual accounts were introduced as part of the 1997 pension reforms and are now a central element in the pension system. Actual operation has been unsatisfactory, however, not least because, although designed to be funded accounts, with accumulation of actual financial assets in each account, most are empty, seriously undermining the credibility of the new system. Moreover, little has yet been done to establish an institutional structure with the capacity to handle asset purchase in the capital markets, asset holding and record keeping on a national basis. With five years of experience, it is opportune now to examine the design and make it workable in China's circumstances.

Funding individual accounts

The most important question about individual accounts is whether funding is desirable and feasible. 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, funding (*d*) needs to be feasible.

Increased saving
Will funding increase saving in China? Other things equal, the accumulation of real assets in individual accounts requires an increase either in contributions or in government subsidy. 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. Given the very high saving rate in China, a considerable offset is highly likely.

Second, is an increase in saving the right objective for China? China has high savings and rapid economic growth. Increased savings require a drop in consumption today in order to have even higher consumption tomorrow. Given current savings and growth, such a trade-off does not seem attractive; indeed, a priority of policy-makers in recent years has been to raise the level of consumption in the country.

Improved allocation
In China, future growth will depend not as much on an increase in the saving rate but on improved allocation of saving to investment. Clearly, improving the allocation is a major objective, but its achievement cannot just be assumed. As discussed in I.D.4, funding can improve allocation if the funding activities of individual accounts strengthen the functioning of capital markets or of financial intermediaries. There is evidence that the capital market was strengthened in Chile, which used a budget surplus to introduce funded individual accounts, which had a long-standing market system and a system of administration that was strong for the country's level of development, and which strengthened its market supervision in tandem with the introduction of accounts – the pension reform added political will to strengthen regulation. In China, by contrast, financial markets are at an early stage of development. Reforms of the banking system have only been initiated, interest rates are still not determined by the market, effective regulation is only being established, and credit-rating agencies – necessary for risky products – are not yet in existence. With the current very high saving rates, there is already a largely unsatisfied demand for long-term and relatively risk-free investment vehicles, and the constraints to further deepening of financial markets are mainly in effective intermediation and regulation. It is, therefore, not clear how increased demand, through the accumulation of financial assets in individual accounts, would contribute to further financial market reform. In the short run, in fact, funding individual accounts is likely to result in low returns or high risks. At a given saving rate, funded individual accounts, by taking more money from workers, cut down direct lending and own investment by these workers, which would be possibly more efficient uses of savings at present.

Reform of the financial sector is desirable for reasons much broader than pension design. At some point, funding individual accounts may well contribute to further improvements in the financial sector, particularly if it strengthens the pressure for improved regulation and greater reliance on market forces. Strengthening this pressure is the primary role of mandatory accounts, since there is already considerable potential demand and adequate savings. A mandatory state-run pension system, however, should not be the pilot for major innovations, given the state of 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 to stimulate these changes and to serve as a check on their adequacy. As explained in section G, 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.

Improved intergenerational distribution
Different ways of organising pensions distribute benefits and costs differently across generations. Would mandatory funding have desirable intergenerational redistributive effects? A decision to introduce funding will benefit a future generation of workers who, other things being equal, can pay lower contributions. The question is whether 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 great 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.

Feasibility
Can large-scale mandatory funding be implemented now? As discussed in section I.D.1, there are considerable hurdles to successful implementation of mandatory individual funded accounts with individually chosen portfolios. The requirements are stringent and do not seem to be in place yet in China. Centralised investment with no worker choice is administratively less demanding. However, as discussed in section I.D.3, it is difficult for a country with limited experience in centralised investment to do a good job of investing.

Thus funding of individual accounts with marketed securities and deposits in China's present circumstances does not seem desirable or feasible. This is not, however, a recommendation against possible mandatory funding in the future. Ten, twenty years from now, China may wish to raise the saving rate, the financial system may be able to provide individual accounts with improved allocation relative to that available elsewhere, redistribution from that generation to future generations may be considered desirable, pension fund administration and private investment managers may have the capacity to cope with the heavy demands of funded individual accounts, and regulatory capacity may have been established. It is therefore important that the individual accounts of today are designed so as to allow a smooth transition to funding. The NDC approach (options 8 and 9) does that. An alternative approach, based on additional government debt that also prepares for future funding and does not attempt to increase current savings is discussed as well.

Notional defined contributions and individual accounts

8. Future accumulations in individual accounts should be organized on a notional defined contribution (NDC) basis.

As described more fully in section I.C, NDC pensions are a recent innovation, used internationally by countries seeking to retain the usefulness of defined contributions without the necessity of funding. Each worker accumulates a notional fund, comprising his contributions over the years, which is credited each year by the pensions authority with a notional interest rate defined by law. At retirement, each worker receives a pension based actuarially on his accumulation. As with the pro-rated basic benefit, there is no need for a minimum contribution period for benefit eligibility.

Basing individual accounts on the NDC approach has significant advantages in China's current circumstances.

- It offers consumption smoothing to today's contributors in a similar way to funded DC schemes, and hence continues the purpose of individual accounts.
- But, because no fund is built up, it 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 schemes, since the scheme 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.
- NDC can be the basis for a future move to full or partial funding. For example, Sweden's 18.5% contribution rate is divided, 16% going to the NDC system and 2.5% to fully funded accounts.

9. The notional interest rate in the NDC system should be equal to the growth rate of national average earnings of covered workers, using the same definition of earnings as for the determination of the contributions base. Individual accounts should be credited for contributions since the start of individual accounts in 1998, including interest.

An important element in the design of an NDC system is the definition of the notional rate of interest with which accounts are credited. There are two commonly used definitions: the increase in average wages per worker (W), or the increase in total earnings (WL, where L is the number of workers). Particularly in a country like China, where coverage will grow rapidly and in uneven spurts, the former index, W, seems a better choice. This would roughly preserve replacement rates across cohorts, apart from the adjustment for life expectancy.

Funding with Newly Issued Government Bonds

If the government wishes to retain the principle of mandatory fully funded individual accounts, one approach (discussed in I.B) is to place into workers' accounts newly issued government bonds paying a market interest rate – the 'funding-with-government-bonds' approach. Since these assets represent additional debt, the immediate impact on national savings is similar to that with an unfunded NDC system. There would be no actual purchase of bonds. The government would simply credit the individual accounts with its bonds, while worker contributions would continue to finance the ongoing payment of pensions. The approach is thus similar to NDCs, except that the accounts accumulate the value of actual securities rather than notional credits:[11] the two approaches have the same impact on the current year's State Budget, very similar effects on national savings in the near term, similar administrative burdens, and similar intergenerational effects, since in both cases the costs of pensions fall on future generations.

There are, however, important differences. Notably, the NDC approach allows the government to retain flexibility in two important ways. First, it can adjust the notional interest rate to maintain the financial sustainability of the pension system – indeed, preserving long-term balance is the intended basis for determining the notional interest rate. There is no such flexibility with the funded approach without repudiating the property rights in the existing bonds

[11] In practice, there would be a single central portfolio of government bonds, with each account credited with the interest rate earned on the portfolio. Until the contributions were no longer sufficient to pay benefits in force, the interest could be paid by issuing more bonds. Once contributions were not sufficient to pay benefits, revenues would need to be transferred from the general budget to finance benefit payments.

or requiring the accounts to accept bonds that pay less than market rates.[12] Second, the NDC approach leaves open the option of a move to mandatory funded accounts in the future, rather than taking the decision now. In contrast, the funding-with-bonds approach effectively takes the decision now that mandatory funding to increase savings will be desirable in China in the future, leaving open only the timing of portfolio diversification and/or increased contributions to increase savings.[13]

10. The determination of full benefits from individual accounts should be based on actuarial principles, using the mortality table for the cohort to which a retiree belongs and the notional interest rate.

This option is intended to put individual accounts on to a sound actuarial footing, so that the expected cost of benefits for a cohort (in present discounted value – PDV) equals the cohort's notional accumulation at retirement. This parallels the way that the assets in funded accounts are used to purchase annuities at market prices. This is important for adapting the system to increasing life expectancy. Without adjustment for longer retirements, funding that is adequate with shorter lives becomes inadequate for longer lives. It is also important for preserving labour-market incentives for older workers – larger benefits become available for working longer. The present system pays benefits assuming a 10-year average duration of retirement and implicitly assuming that the real interest rate is zero. The method is actuarially faulty.

E. Adjusting Benefits after Retirement

Discussion thus far has focused on the initial level of benefits, i.e. the pension a worker receives at the time he retires. A separate issue is how those benefits should vary over time. As mentioned earlier, in developed countries, benefits after retirement are sometimes indexed to inflation rates, sometimes to changes in average wage rates, and sometimes to a weighted average of the two. From a given starting point, if benefits grow more rapidly, the pension system becomes more expensive; if they grow less rapidly, retirees fall increasingly behind the average living standard of workers as they age. Any pension system needs to strike a balance between the twin goals of affordability and adequacy. But another way to consider the growth of benefits is to recognise that for a given PDV of costs, there is a trade-off between the initial level of benefits and the growth of benefits after retirement. For a given PDV of costs, the more rapid the growth of benefits, the lower the initial replacement rate needs to be. Depending on views about the initial replacement rate, the relationship between pensions and average contemporaneous wages, and available finance, different countries can reasonably make different choices.

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[12] Because of the difference in commitment for future payments, and possibly other perceptual differences, the increase in government debt outstanding inherent in a government bond approach may raise the interest rate at which a government can borrow from an open market. This reflects the point that implicit debt and explicit debt are not perfect substitutes.

[13] In the social security debate in the USA, some advocates present portfolio diversification as a substitute for increased contributions, even though it does not directly increase savings. With the funding-with-bonds approach, similar mistaken analysis might result in diversification when it is not appropriate and the lack of a contribution increase when it is appropriate.

11. Basic pensions in payment should be indexed by a formula which applies nationwide (though with local parameter values). NDC pensions in payment should be indexed by the same formula, which applies nationwide. That formula should be a proper weighted average of indices of price change and wage change. That is, the weights should add to one, unlike in the current directive. The weights should reflect a balance between the competing needs of affordability and adequacy.

The real value of pensions should not vary erratically with the level of inflation, since inflation rates can vary significantly across years, even nearby ones. If pensions are fully indexed for price inflation, their real purchasing power is preserved. If pensions are indexed for the growth of nominal wages, then, insofar as wages keep up with inflation, pensions are adjusted for inflation. In this case, there is some risk-sharing between workers and retirees over the impact of inflation on wages, at least in the long run. Either of these rules, or a proper weighted average of the two, is reasonable, given different objectives.

It is important to index for inflation in a properly weighted way. Currently, the increase in benefits in China is supposed to be somewhere between 40 and 60% of nominal wage growth. That makes the real value of benefits erratic. An example illustrates the problem. Workers can have 5% real wage growth with 5% nominal wage growth and zero inflation, or with 10% wage growth and 5% inflation. If nominal benefits increase at one-half the rate of nominal wage growth, these two circumstances produce very different outcomes. With zero inflation, nominal and real pensions grow by 2.5% (half of 5%), half the growth in real wages. With 5% inflation, nominal pensions grow by 5% (half of 10%), which, with 5% inflation, means no growth in real benefits. Thus real benefits do not grow at one-half the rate of real wages. Higher inflation can make this more severe. With 15% wage growth and 10% inflation, benefits grow at 7.5% – a *decrease* in real benefits of 2.5%. Proper indexing avoids this erratic response to inflation.

This system can be changed without altering long-run projected costs. One way to do so is to set benefit growth as a proper weighted average (weights adding to one) of wage growth and price growth, with the weights chosen to keep expected costs at the same level as projected under the current rule. Alternatively, the government might decide that the weights should be chosen to protect the ratio between the increase in real benefits and the increase in real wages. The latter approach might require a one-time change in the initial benefit level if any change in projected costs is to be avoided. Alternatively the change in costs could be absorbed as part of the overall reform. Over the longer term, the greater the weight on wages, and so the smaller the weight on prices, the more rapidly benefits will grow and so the more costly the adjustments.

F. Implicit Debt and Funding from Assets

Alternative definitions of implicit pension debt

The term 'implicit pension debt' (IPD) has become part of the vocabulary of international dialogue on pensions – unfortunately without a standard definition, making it a source of much confusion.

Using a projection of future annual flows of contributions, benefits, trust-fund assets and asset returns, there are multiple measures that reflect the long-term financial position of a pension

system. One is the PDV of annual pension payments over a fixed time period, say 75 years. This is sometimes referred to as the 'gross implicit pension debt'. By itself, it is not a meaningful concept as it is only one side of the financial ledger – the outgoing without the incoming. Expressed as a percentage of the PDV of the total earnings of covered workers, this measure is interpretable as the contribution rate that would produce balance, and allows a check on whether the projected pension payments are viable. This definition, of course, results in the largest estimate of IPD in any given circumstances.

A more useful concept is the actuarial balance, sometimes referred to as 'net IPD', which is defined as the PDV of annual pension payments less annual contributions under the current rules.[14] Expressed as a percentage of the PDV of the total earnings of covered workers, this concept is interpretable as the immediate increase (or decrease) in the contribution rate which would produce balance. This concept is a good indicator of the financial sustainability of the existing pension system.

A third method is a shut-down calculation. If the system stopped collecting contributions now and stopped crediting workers with benefit increases based on any additional work (requiring some definition of accrued benefits), then how much money would be needed to pay the benefits for retirees already receiving benefits and accrued benefits for current workers once they do retire? This approach is also called the IPD by some analysts. It is a useful concept in a reform process, as it measures the obligations of the old system that have to be financed at the time a new system is being initiated, if these expectations are to be fully honoured. Instead of IPD, which has multiple definitions, this sum[15] might be better termed 'legacy obligations'. Countries reforming their pension systems can finance these obligations from inside and/or outside the pension system. Poland and Bolivia have used proceeds from the sale of state assets to create a social security trust fund. Chile issued 'Recognition Bonds' to individuals to assume the obligations of the old system being dismantled, relying on general revenues to finance the bonds as they matured. Thus the legacy burden in Chile falls on all taxpayers, not only on workers.

A country need not fully fund its legacy obligation, just as a country need not fully pay off its national debt. With an ongoing legacy obligation, future workers receive lower benefits than could be financed by their contributions if the legacy obligation had been paid off by someone else.

Funding from assets

The pensions of workers who retired before 1998, and the accrued pension entitlement of current workers for employment prior to 1998 represent China's 'legacy obligations'. These legacy obligations were not only built up under the old pension arrangements, but also under a different economic system. Current pensioners and those who will retire shortly devoted most of their lives to building up the state sector. In return, it was expected that SOEs or other state entities would provide for those workers in old age. Indeed, the pension was considered a 'lifetime

[14] If a trust fund exists, plus the value of the current trust fund minus the value of a trust fund at the end of the horizon, usually set equal to a level appropriate for a precautionary balance, of one year's expenses, for example.

[15] Less the value of assets in any trust fund.

wage', and so the replacement rate was close to 100%. In the past, this was provided from the current income of SOEs, but now the liability has been removed from these firms, to ensure a level playing field as they compete in a market economy. It is therefore necessary to use other resources to finance the legacy obligations.

Currently, some resources are coming from general revenues as fiscal subsidies to cover deficits (54 billion yuan in 2003 according to the White Paper issued recently by MOLSS). Without alternative actions, the rest of the legacy obligation would be borne by current and future workers in the form of lower benefits than could otherwise be financed by their contributions.

In recognition of the legacy obligations, the government decided in 2003 to transfer some of its shares in SOEs, particularly those that were being listed on stock markets and those not listed but already organised as joint stock companies, to the National Social Security Fund (NSSF).[16] Progress has been slow and only a small quantity of shares has been transferred.

12. 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.

The quality of corporate governance is a key ingredient in economic efficiency and economic growth. Good quality governance needs good legislation, good oversight by regulatory authorities and good oversight and exercise of voting rights by share owners. The transfer of shares can give the NSSF the opportunity to function as a long-term strategic owner of significant shares of these companies. As a major shareholder, the NSSF would have a major interest in protecting shareholder rights, including the right to a reasonable level of dividends. This interest could be pursued by monitoring firms, exercising shareholder voting rights, and being represented on the boards of some companies. In many countries pension funds have played an important role as a long-term strategic shareholder in overseeing the performance of companies and in improving corporate governance generally. Moreover, the interest of the NSSF in corporate governance would lend more weight to the entire process of enterprise reform, including better legislation and better regulation, just as in Chile the investment of mandatory worker accounts in the stock market assisted the reform process by contributing to efforts to improve the regulation of the stock market. As the State Asset Management Bureau (SAMB) will continue to own substantial shares in SOEs even after the transfer of some shares to the NSSF, the ownership roles of SAMB and NSSF, with their different perspectives, can complement and reinforce each other.

With the underdeveloped state of capital markets in China today and with the goal of having long-term investors, the NSSF should hold the shares over the longer term, relying on the dividends from the shares to help finance pension obligations. Worldwide experience with investment in diversified portfolios of assets by government agencies makes it clear that good-quality investment is far more likely with full and transparent accounting of the operations of

[16] We distinguish between a transfer of assets to social security based on historic considerations from the issue discussed above of providing government debt in response to worker contributions.

such government agencies. Thus, for the transfer of shares to accomplish the fiscal and governance goals, it is important that the NSSF has a clear and explicit remit, independent non-political management, and detailed, credibly audited accounts that are published regularly. Such an approach to these shares may help to prevent the loss of state assets in the process of reform as happened in countries such as Russia.

In addition to the potential gains in corporate governance, the transfer of shares helps with the financing of pensions. As an alternative (or additional) aid to financing, the government could transfer some government bonds to NSSF to finance legacy obligations.[17]

Without this transfer – or to the extent that such a transfer is incomplete and not sufficient for full funding of legacy obligations – the burden of the obligations from the old system would fall on current and future workers and thus would contribute to low compliance, particularly among those outside the sector who are currently being added to the pension system. On the other hand, removing a revenue flow from the government or requiring additional interest payments is likely to result in higher taxes than would otherwise be the case, an alternative source of compliance and efficiency issues.

How large should the trust fund be? The larger the fund, the lower the contributions necessary to finance a given level of pensions (improving the deal for younger workers and for those included as coverage expands), or the higher the level of pensions that can be financed from a given contribution (improving the deal for pensioners). Decisions about the size of the fund and the mix between SOE shares and bonds clearly have major efficiency, equity and political ramifications.

G. Options for Voluntary Pensions

Voluntary retirement plans potentially play an important role in China in complementing the basic and individual account pensions. They allow individuals to exercise different preferences about the time path of consumption and different degrees of risk aversion; they allow firms to respond to worker preferences, and enable industries where people work in harsh conditions, or where working life is short for other reasons, to provide for earlier retirement; they accommodate regional and private initiatives, and promote innovation, particularly in financial markets. Such responsiveness is of central importance in a country as large, diversified and rapidly changing as China.

13. Regulation and supervision need to be enhanced to safeguard voluntary pension arrangements by individuals and firms, and organisationally simplified so there is a single regulatory authority overseeing any given firm or individual retirement account. Government should put in place a clear set of rules, with regulatory oversight for voluntary pensions, including individual pensions, employer-provided pensions and those organised by regional

[17] Any bonds transferred should be indexed for inflation, and consideration should be given to making indexed bonds available to insurance companies (as backing for indexed annuities) and possibly to the public. Issuing more government bonds (in contrast with having a legacy obligation) may increase the interest rate at which the government borrows. That is, implicit pension debt and explicit government debt are not perfect substitutes.

governments. Enhanced regulation is also needed for any insurance companies that provide benefits on an annuitised basis.

Voluntary retirement plans may be enterprise-based, or they may be based on individual retirement accounts (IRAs) with approved institutions. In China, both types of voluntary retirement plans are likely to develop, and should be encouraged, although the timing of their introduction should take full account of the necessity for effective regulation and supervision. A start has been made on the regulation of enterprise-based plans with the issue of the 'Trial Measures on Enterprise Annuities'. Similar regulations will be needed for other types of voluntary pensions.

14. 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 are naturally fully funded, there have been varying degrees of funding of corporate DB pensions over time, across countries, and across firms within countries.

Some of this history has been unsatisfactory, leading to significant legislated changes. In the absence of a government guarantee, when a firm with an unfunded DB pension gets into financial trouble, the workers and retirees lose much, and possibly all, of the pension they were expecting. The same outcome can occur where a pension plan is organised for an industry rather than a single firm. Countries have found this highly unsatisfactory, leading to two types of legislation – requirements for funding and government-provided guarantees, the latter financed in part by charges to the pension plans that are being given guarantees.

While these safeguards can address the worst outcomes in an unfunded voluntary system, a major remaining difficulty is how to regulate the contributions of corporations so as to keep pension plans adequately funded. Fluctuations in asset values generate fluctuations in the degree of funding. When asset values fall by a large amount, firms need to increase their contribution rates if they are to restore adequate funding rapidly. But this demand on a firm's revenues comes precisely at a time when it is very likely to be experiencing low profitability – low profitability and declines in asset values are highly correlated. In a country with a well-developed DB system, the combination of a guarantee and a funding requirement may be the natural way to preserve the system while addressing the worst problems. In a country with few or no existing voluntary pension plans, there seems no reason to go down a route that is known to be difficult to maintain. Thus, all voluntary supplemental pensions which receive tax-favoured treatment should be DC schemes. This does not rule out the use of insurance companies to provide annuitised benefits.

While this places financial-market risk on the workers, it is a better approach than trying to move the risk to the corporate sponsors and the government. First, the attempt to move risk may not succeed, leaving workers with risks they did not anticipate, rather than ones they should have anticipated. Second, the difficulties in regulation may result in unsatisfactory incentives for

investment decisions. Third, in a country where the mandatory system is primarily unfunded, having a funded voluntary system gives the workers diversity in the risks they are bearing, since fluctuations in the contribution base for a mandatory system and fluctuations in the returns to assets, while correlated, are not perfectly correlated. Thus, combining a primarily unfunded mandatory system with a fully funded DC voluntary system 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 simultaneously financing existing pension liabilities.

The tax treatment of voluntary pensions should match that of mandatory pensions up to a ceiling. One common feature is to make them tax-favoured compared to other savings, with one accepted measure being referred to as EET tax treatment: pensions contributions should be from pre-tax income (exempt from tax, E); the earnings of pension accumulations should be tax free (exempt from tax, E); and the pension, when paid, should be treated as taxable (T) income on the same basis as earnings.

H. Retirement and the Age for Receiving Full Benefits

Policy directions for retirement age start from the following facts.

- Given that pension provision involves the reduction of consumption during working life in order to have a reasonable level of consumption during retirement, there is a necessary connection between the adequacy of monthly pension benefits, their cost, and the retirement age. If cost is regarded as excessive, policy-makers can act to increase the retirement age, to reduce monthly pensions, or both.
- People are living longer. This is a wonderful thing, but implies that if people continue to retire at a given age, the cost of providing a given monthly pension will rise.
- Leisure is a superior good. As countries get richer, people generally choose to consume more leisure through a shorter working week, longer holidays, and earlier retirement. Thus the average age at which a working population retires depends to a large extent on the level of per-capita income in the country.

In China, the mandatory retirement age for SOE workers (60 for men, 50 or 55 for women) derives from an earlier time when life expectancy was shorter. Actual retirement age is even 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. Such abuses are often ignored by local governments, since the cost of extra pensions does not fall on their budget. 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); the comparable figures for Japan are 62.1 and 61.0 (in 1990).

Longer life expectancy and large-scale early retirement together result in a long period of retirement (estimated life expectancy at retirement age in China is 20 years for men and 27 years for women). 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.

Retirement age and unemployment

Many people in China are concerned, however, 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. That view is erroneous in a market economy, where it is incorrect to think about the labour market in terms of a fixed number of jobs. As discussed in I.B, the number of jobs in the economy is responsive to the availability of labour. Moreover, many workers receiving pensions are still working, although with a different employer than before, or in self-employment. In the context of urban unemployment in China, there is the additional factor that job availability invites mobility from rural to urban areas. While it is possible that there may be some weak, short-run relationship between retiring additional older workers and employing some of the new 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, pension systems need 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 need not establish a mandatory retirement age; if worker and employer both wish it, a person should be able to continue working.

Determining benefits

With individual accounts, whether funded or notional, the benefit should be determined on an actuarial basis from the accumulation in the account. Thus there needs to be a minimum age for claiming a benefit (referred to as 'the earliest age of entitlement') but no other age that plays a significant role in determining benefits. For a DB pension, such as the basic pension, there is an age at which a person is entitled to a 'full pension'. This is termed the 'age for full benefits' in this paper. The age for full benefits need not be the earliest age at which the basic retirement benefit can be drawn, an option being an actuarially reduced pension from a slightly lower age. If this option is not available, the earliest entitlement age and the age for full benefits coincide.

15. The age for receiving full benefits from the basic pension should be slowly increased to 65 for both men and women. The earliest entitlement age for both the basic pension and the individual account should be slowly increased as well, and should be the same for both pensions. 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.

The way change is managed is important. Nobody close to retirement should face a sharp increase in his working years. There should be no large 'steps' in the earliest entitlement age,

such that person A must work much longer than person B, even though A is only slightly younger than B. Third, the changes should be rules based, rather than discretionary, and the rules should relate to date of birth, not date of retirement.

16. If workers are allowed to start receiving benefits before the age for full benefits, the benefit should be smaller, based on actuarial principles. Workers should not be allowed to start receiving benefits much earlier than the age for full benefits – the earliest entitlement age should be within approximately three years of the age for full benefits and should rise along with the age for full benefits. Early access to pensions should not be used as a substitute for unemployment benefits.

17. Any worker continuing in employment beyond the age for full benefits should either start receiving benefits while working or should receive a larger benefit when stopping work, based on actuarial principles.

Both reductions for earlier retirement and increases for later retirement are needed for good labour-market incentives – to avoid both over-encouragement and over-discouragement of different retirement ages.

18. Voluntary pensions can be received at a younger age than the earliest entitlement age for basic and NDC pensions.

The sharp constraints on the age at which *mandatory* pensions can be paid do not apply to voluntary arrangements. As discussed earlier, 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.

I. Coverage

As noted earlier, coverage of the mandatory pension system is patchy in urban areas and does not extend beyond them. Priority for the future must be to extend coverage first to uncovered urban workers and eventually to the rural population.

19. The extension of the basic pension and individual accounts to all urban workers in all sectors, i.e. SOEs, private-sector employment and self-employment, has already been decreed, but enforcement has been slow. The aim is entirely the right one. One approach to achieving it is to phase in increased coverage, starting with the largest firms. 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.

Enforcing the extension of coverage to all workers in urban areas will make additional demands on administrative capacity. In addition, a sudden imposition of a large contribution rate on earnings can disrupt young growing businesses. For both reasons, coverage needs to be extended carefully. Extending coverage to non-SOE workers will significantly improve the finances of the pension system, since non-SOE workers are much younger. This will be the case particularly if coverage extends to new arrivals in urban areas, who will disproportionately be young workers.

Thus growing migration to urban areas mutes the effects of demographic change – but it does so only in urban areas. The mirror image is that ageing will be even stronger in rural areas, where the aged have the least security and are at greatest risk of severe poverty.

20. The decision eventually to include the employees of public-sector units in the mandatory system and the voluntary system should be implemented.

This does not require a reduction in civil-servant pensions, since their participation in the national system should be supplemented by a government-provided pension, just as private firms are encouraged to supplement the mandatory pension. The supplemental pension should be a fully funded DC pension as part of the regime described for voluntary pensions generally. Inclusion of public-sector units in the mandatory system would make eventual labour mobility between public and private employment straightforward. One way to phase in the system would be to implement it for newly hired civil servants.

21. The minimum income guarantee for urban residents (Dibao) should be enhanced for the elderly.

Since the amount of labour provided by elderly people is not a primary issue for policy, it is possible to offer the elderly a minimum income guarantee on less restricted terms than to the rest of the population. Such an element would widen and deepen poverty relief in China.

There are many ways in which such a guarantee can be designed and integrated with the pension system. One approach is simply to set the minimum income level and other rules of Dibao differently for the elderly than for the younger population. Another simple arrangement is a flat-rate pension, financed from general taxation, paid to everyone over a certain age. Arrangements of this broad type – sometimes called a citizen's pension – exist in New Zealand and the Netherlands. They have the great advantage of coverage and administrative simplicity; but they have higher direct fiscal cost than benefits that do not have universal coverage. An alternative is a tax-financed pension paid to all but the best off (as in Australia and South Africa); such a system is administratively more complex, but somewhat cheaper in fiscal terms. On the other hand, any system restricting access to the pension based on income contains a disincentive to saving for old age. Any such system needs to be concerned with workers who are mobile between sectors (e.g. formal and informal labour-market activity, part-time and full-time work), and not just with urban workers with formal, full-time jobs. Moreover, since the basic pension is the redistributive portion of the social security system, there is an issue as to whether some part of the basic pension should be an offset against a pension that is paid to everyone.

J. Rural areas

22. Township and village enterprises (TVEs) and other rural enterprises with workers not already in the pension system should be encouraged to establish voluntary enterprise pension schemes. Indeed, consideration should be given to including some rural regions within the urban system.

23. Enhancing old-age security in rural areas should be a high priority. An eventual aim is to unify urban and rural pensions in structure and to unify minimum-income guarantees in structure, although levels may vary.

This study includes only urban pensions, which at best would cover one-third of the population. For China the highest priority must clearly be old-age security for the remaining two-thirds of the population, whose traditional forms of security have eroded over the past decade and who, with migration of the younger members into urban areas, face an aging problem more severe than the average for the country as a whole. In addition to the various experiments under way in different provinces, China might wish to study the experience of other countries in addressing the old-age security of a large poor population, particularly the citizen's pensions and minimum-income guarantee schemes described in Option 21 above. The introduction of such schemes in the urban areas could serve as a pilot for the rural areas; unified citizen's pensions and minimum-income guarantee schemes for the elderly could be the beginning of the unification of the social security system in the urban and rural areas.

K. Concluding Remarks

As part of its far-reaching reform of the overall economy, China has successfully initiated fundamental reforms of the social security system over the past decade, establishing a structure consistent with the needs of a market economy. The combination of a social pool and individual accounts in the mandatory system provides a structure which addresses the basic objectives of a pension system – poverty relief, income redistribution, insurance and consumption smoothing. Outside the mandatory system, enterprise annuity schemes, individual retirement plans, and other pension schemes organised by industries or localities are a further essential component. These voluntary pensions can accommodate different needs, tastes and jobs, particularly necessary in a country as large and diverse as China. Thus the three elements of the present reformed system, if properly designed and administered, complement and strengthen one another, and together can serve as the basic structure of China's pension system for the coming decades.

In the course of implementation, however, problems have emerged. Fragmented organisation and limited coverage contribute to financing difficulties and to incompleteness of social insurance. The deficits contribute to the 'empty individual accounts' – empty because local governments often use the contributions made by workers to their individual accounts to finance deficits in the social pool. Moreover, a system has not been developed for organising investments in capital markets by individual accounts. Nor are the capital markets in a satisfactory condition for such investments. Over time these problems will be a vicious circle, as the deficits are likely to persist, requiring continuing large fiscal subsidies, while 'empty accounts' and other systemic problems continue to undermine the credibility of the system, making further implementation – enforcing compliance and extension of coverage – increasingly difficult. Thus, the emerging problems are serious and should be addressed urgently.

Our recommendations for further reforms in China are based on the principles of design and lessons of international experience discussed earlier. The recommendations include organisation of the mandatory pensions as a single national system, with a single national pool, together with reforms of the social pool and the individual accounts for improved administration and increased

economic efficiency. The recommendations also call for making the individual accounts notional rather than funded. The age for full benefits from the social pool should be increased, while both the social pool and the individual account pensions should be adjusted on an actuarial basis for the age at which the pension starts. More effective encouragement and regulation of voluntary, supplementary pensions are also important. Continuing transfers of state shares to the National Social Security Fund (NSSF) shifts the dividend flow of shares from current beneficiaries to the pension system, reducing the level of fiscal subsidies required from the Budget and improving pension system financial balance. Adding the NSSF as a long-term shareholder could contribute to improved corporate governance, provided that it has a clear and explicit remit, independent non-political management, and detailed, audited accounts that are published regularly.

A national pool should result in more effective income redistribution and risk sharing within the pension system. The administrative reforms should also contribute to greater compliance, as would the transfer of assets from outside the pension system to finance the obligations of the old system. Increased compliance, a later age for the receipt of full benefits, and adjustment of pensions on a correct actuarial basis for a worker's age at retirement can address the financing problems of the pension system, while improving the efficiency of the labour market, and so increasing economic growth. Greater financial resources will make it possible to do more to address poverty among the elderly, in both the urban and rural areas.

Thus, the further reform measures strengthen poverty relief, extend coverage, increase the coherence and economic efficiency of the system and substantially reduce the financial deficit of the current system. Depending on the magnitude of the adjustments and the speed with which they are phased in, the need for fiscal support will be substantially reduced – possibly even eliminated, in time, although it will take a number of years for these reforms to be implemented and their effects to be visible. Indeed, some combinations of reform measures would put the system into long-run surplus. In this event – if careful quantitative projection of the mandatory system shows a long-run surplus – it would be possible to consider a mix of further opportunities:

- to reduce contribution rates, thus creating more room for voluntary pensions, reducing the resistance of private firms to the mandatory system, and reducing the financial shock for them;
- to increase benefits from the social pool;
- to enlarge the notional individual accounts;
- to use revenues to add some funding of individual accounts;
- to strengthen poverty relief by introducing some form of minimum pension, or by accelerating extension of the system to the rural population.

Annex: List of Options Discussed in the Text

1. There should be a single set of regulations on mandatory pensions, preferably in the form of legislation that is enforceable.

2. There should be a single pensions administration with a nationwide responsibility. There should be a single national trust fund to receive all pension revenues (a single national pool).

3. The central authority should create an institution for projecting the financial position of mandatory pensions. Moreover, an institution should be financed to carry out ongoing research on pensions.

4. The pension system should continue to be financially separate from the state budget, and pensions should be financed from dedicated revenue sources.

5. Contributions should be collected by the tax authority, with the revenue delivered promptly to the pensions administration. The contribution base 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 individual basic benefits should be based on average local earnings using the same definition of earnings as for determining contributions, with the formula adjusted so that basic benefits remain at approximately their current level. Thus benefits should vary with location, but within a formula set by a national authority.

6. A priority task for the national pensions administration is to inform the public of changes in the pension system, once they have been decided. There should also be a start to a process of informing workers of their accumulations from contributions and their anticipated pensions to assist in their choices about consumption smoothing.

7. The basic pension should be pro-rated for individuals with less than a full career. With pro-rating, there should be no minimum contribution period for receiving a pension. If a worker has made contributions to the basic pension in several locations, the initial value of the basic pension should be a weighted average of benefit levels in the different regions, the weights reflecting the number of years in each location. The basic pension should be adjusted on an actuarial basis for the age at which it starts.

8. Future accumulations in individual accounts should be organised on a notional defined contribution (NDC) basis.

9. The notional interest rate in the NDC system should be equal to the growth rate of national average earnings of covered workers, using the same definition of earnings as for the determination of the contributions base. Individual accounts should be credited for contributions since the start of individual accounts in 1998, including interest.

10. The determination of full benefits from individual accounts should be based on actuarial principles, using the mortality table for the cohort to which a retiree belongs and the notional interest rate.

11. Basic pensions in payment should be indexed by a formula which applies nationwide (though with local parameter values). NDC pensions in payment should be indexed by the same formula, which applies nationwide. That formula should be a proper weighted average of indices of price change and wage change. That is, the weights should add to one, unlike in the current directive. The weights should reflect a balance between the competing needs of affordability and adequacy.

12. 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.

13. Regulation and supervision need to be enhanced to safeguard voluntary pension arrangements by individuals and firms, and organisationally simplified so there is a single regulatory authority overseeing any given firm or individual retirement account. Government should put in place a clear set of rules, with regulatory oversight for voluntary pensions, including individual pensions, employer-provided pensions and those organised by regional governments. Enhanced regulation is also needed for any insurance companies that provide benefits on an annuitised basis.

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

15. The age for receiving full benefits from the basic pension should be slowly increased to 65 for both men and women. The earliest entitlement age for both the basic pension and the individual account should be slowly increased as well, and should be the same for both pensions. 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.

16. If workers are allowed to start receiving benefits before the age for full benefits, the benefit should be smaller, based on actuarial principles. Workers should not be allowed to start receiving benefits much earlier than the age for full benefits – the earliest entitlement age should be within approximately three years of the age for full benefits and should rise along with the age for full benefits. Early access to pensions should not be used as a substitute for unemployment benefits.

17. Any worker continuing in employment beyond the age for full benefits should either start receiving benefits while working or should receive a larger benefit when stopping work, based on actuarial principles.

18. Voluntary pensions can be received at a younger age than the earliest entitlement age for basic and NDC pensions.

19. The extension of the basic pension and individual accounts to all urban workers in all sectors, i.e. SOEs, private-sector employment and self-employment, has already been decreed, but enforcement has been slow. The aim is entirely the right one. One approach to achieving it is to phase in increased coverage, starting with the largest firms. 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.

20. The decision eventually to include the employees of public-sector units in the mandatory system and the voluntary system should be implemented.

21. The minimum income guarantee for urban residents (Dibao) should be enhanced for the elderly.

22. Township and village enterprises (TVEs) and other rural enterprises with workers not already in the pension system should be encouraged to establish voluntary enterprise pension schemes. Indeed, consideration should be given to including some rural regions within the urban system.

23. Enhancing old-age security in rural areas should be a high priority. An eventual aim is to unify urban and rural pensions in structure and to unify minimum-income guarantees in structure, although levels may vary.