

# the graying of the middle kingdom

The Demographics and Economics  
of Retirement Policy in China

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## Foreword

Falling fertility and rising longevity are ushering in a dramatic demographic transformation in China. Thirty-five years ago, children in China outnumbered the elderly six to one. Thirty-five years from now, the ratio will be two to one—the other way around.

*The Graying of the Middle Kingdom* explores the economic and social implications of the coming age wave. It warns that China may face a crisis later in the century unless it takes adequate steps to prepare. As the report explains, China's public pension system is mostly restricted to urban workers at state-owned enterprises—and it is collapsing under the fiscal weight of unfunded benefit promises. The great majority of Chinese still count on their children to support them in old age. But due to China's strict one-child birth policies, family support networks may be unable to fulfill their traditional role. A growing share of Chinese will reach old age with no means of support.

The age wave may pose an enormous challenge, but it need not cut short China's astonishing rags-to-riches story—provided that China makes the right policy choices. *The Graying of the Middle Kingdom* argues that funded pensions are an important part of the solution. According to the report, they can help China care for a larger number of elders without overburdening the working generation. At the same time, they will broaden and deepen China's capital markets and speed China's integration into the global economy.

The stakes can hardly be exaggerated. If China fails to confront its aging challenge, it faces an uncertain economic future. If China rises to the occasion, the future can be one of growing prosperity and influence in world affairs. *The Graying of the Middle Kingdom* describes the risks and the opportunities clearly and concisely. We hope that you find it as informative and thought-provoking as we do.



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# Will China Grow Rich Before It Grows Old?

CHINA IS ABOUT TO UNDERGO A STUNNING DEMOGRAPHIC TRANSFORMATION. Today, China is still a young society. In 2004, the elderly—here defined as adults aged 60 and over—make up just 11 percent of the population. By 2040, however, the UN projects that the share will rise to 28 percent, a larger elder share than it projects for the United States.<sup>1</sup> (See Figure 1.) In absolute numbers, the magnitude of China’s coming age wave is staggering. By 2040, assuming current demographic trends continue, there will be 397 million Chinese elders, which is more than the *total* current population of France, Germany, Italy, Japan, and the United Kingdom combined.

The forces behind China’s demographic transformation—falling fertility and rising longevity—are causing populations to age throughout the world. China’s aging, however, is occurring with unusual speed. In Europe, the elder share of the population passed 10 percent in the 1930s and will not reach 30 percent until the 2030s, a century later. China will traverse the same distance in a single generation.

How China navigates its demographic transformation will go a long way toward determining whether it achieves its aspiration of becoming a prosperous and stable developed country. In the near term, while its population is still young and growing, China must rush to modernize its economy and raise living standards. In the long term, it must find ways to care for a much larger number of dependent elderly without overburdening taxpayers or overwhelming families.

**How China meets its aging challenge will determine whether it becomes a prosperous and stable developed country.**

When China embarked on its “Open Door” program of economic reform in 1978, it was an impoverished country with few ties to the global marketplace. Today, China is the factory floor of the world, producing roughly 20 percent of the refrigerators

sold each year, 30 percent of the televisions, and 50 percent of the cameras. Along the way, living standards have improved dramatically. In the twenty-five years since China began its transition to a market economy, real per capita income has risen sixfold.

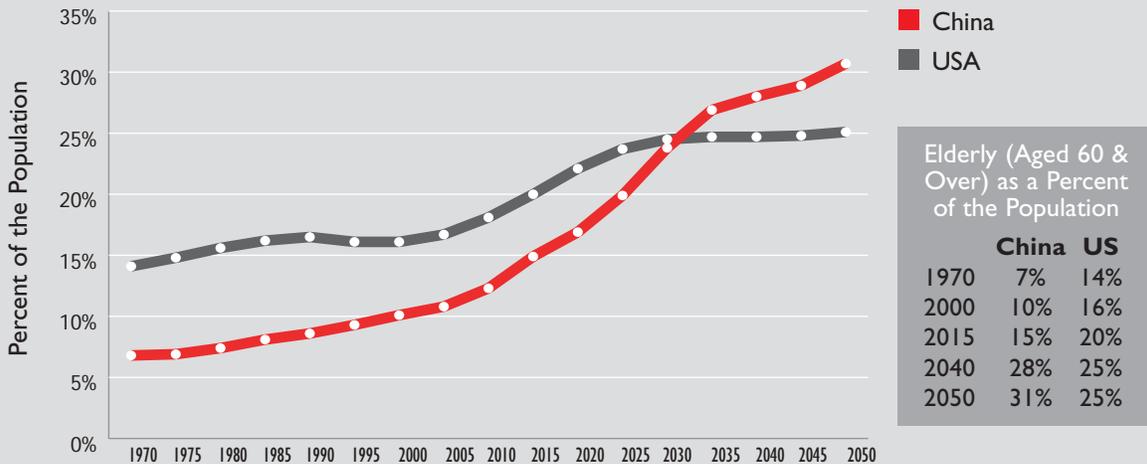
Yet despite China’s remarkable success, it is encountering difficulties on the path to modernization. The downsizing of state-owned enterprises (SOEs) is swelling the unemployment rolls. Even when workers find new jobs in the private sector, they lose the cradle-to-grave social protection they enjoyed under the old planned economy. In 2002, widespread labor demonstrations rocked the old industrial cities of Liaoning province in China’s rustbelt. The rise of the market economy is also opening a widening income gap between rich and poor. Peasants are abandoning the countryside, where economic development lags, and streaming into the cities, where they add to a worsening labor glut. As of 2000, this rootless “floating” population numbered at least 125 million.

China’s leaders know that they have to deliver on the promise of economic development or face a major social—and perhaps even political—crisis. The only way to outgrow the debts, narrow the income inequalities, and create enough jobs to keep unemployment from rising is to keep the economy growing at a rapid pace. The Chinese economist Fan Gang sums it up this way: “You have to keep things going. That’s the fate of a developing country. If you stop, you’re dead.”<sup>2</sup>

1. The UN publishes several demographic scenarios. Unless otherwise noted, all population projections cited in this report refer to the UN’s 2002 “constant fertility” scenario. The UN projections, as well as all other major sources for data on China’s population, economy, and retirement system, are discussed in the Note on Data and Sources at the end of the report.  
2. Quoted in “Money Worries,” *The Economist*, U.S. edition (June 15, 2002).

## Within a generation, China will have an older population than the United States.

Elderly (Aged 60 & Over), as a Percent of the Population in China and the United States, History and UN Constant Fertility Scenario, 1970-2050



Source: UN (2003)

Figure 1

### Most of today's workers have no pension or health-care coverage at all.

The aging of China makes the success of its development agenda even more urgent. Historically, China's state- and collectively owned enterprises offered workers generous pension and health-care benefits. As the state sector downsizes, the system is careening toward bankruptcy. The biggest problem, however, is that most of today's workers—and hence most of tomorrow's retirees—have no pension or health-care coverage at all. The great majority of Chinese continue to rely on the traditional form of old-age insurance: children. But as birthrates decline and urbanization breaks up extended families, this informal safety net is beginning to unravel. In China, demographers call it the "4-2-1 problem," a reference to the fact that in many families one child will be expected to support two aged parents and four grandparents.

China is attempting to reform its retirement system. In the late 1990s, the State Council, China's highest executive body, began to extend pension coverage to private-sector enterprises. At the same time, it initiated a transition from the old pay-as-you-go

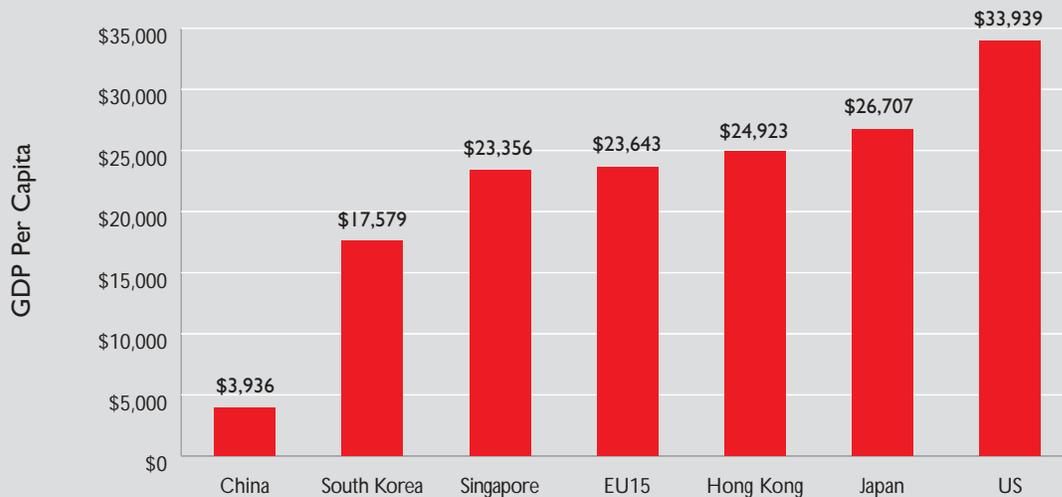
system, in which current workers are taxed to pay for current retirees, to a new two-tiered system consisting of scaled-back pay-as-you-go benefits and personal retirement accounts. According to most observers, however, the reform is running into serious trouble. Private businesses are resisting joining the pension system, since their contributions mostly go to pay off the unfunded liabilities of the SOEs. As for the personal accounts, they are entirely unfunded. China's municipal and provincial social security bureaus routinely divert the contributions to cover deficits in the system's pay-as-you-go tier.

### Today's great powers became affluent societies before they became aging societies.

Today's great powers became affluent societies before they became aging societies. China may be the first major country to grow old before it grows rich. Despite the impressive growth of the past twenty-five years, China is still a low-income country. Per capita income may have risen sixfold since the beginning of the reform era, but even taking into account differences in purchasing power, it is still just one-fifth the level in South Korea and one-ninth the level

## Despite its recent rapid growth, China remains a low-income country.

GDP Per Capita, in Purchasing Power Parity Dollars, by Country in 2000



Source: World Bank (2003)

Figure 2

in the United States. (See Figure 2.) In exchange rate dollars, China produces 4 percent of global GDP, while the United States, with less than one-fourth of China's population, produces 32 percent. (See Figure 3.) As of 2000, according to the World Bank, 204 million Chinese still lived in abject poverty, defined as an income of less than \$1 a day.<sup>3</sup>

China can still prepare for the age wave, but it needs to act soon and decisively. For the next ten years, the demographic climate in China will be largely favorable. As the single-child "peach generation" born during the era of China's strict birth policies comes of age, the growth in the working-age population will decelerate, easing China's labor glut. Although the number of elderly will increase, the growth will be more than offset by the decline in the number of children. Beginning around 2015, however, China's large postwar baby boom generation will start reaching elderhood—and the climate will change abruptly. If China hasn't put in place an adequate system of old-age support by then, it may be too late to manage the demographic transition without widespread economic hardship.

The best solution may be to combine a modest but universal pay-as-you-go floor of protection with a mandatory system of genuinely funded personal

retirement accounts. The case for funding is a compelling one. In the near term, funded pensions can help broaden and deepen China's capital markets, the crucial next step in its development agenda. In the long term, they are the key to maintaining rates of savings, investment, and living standard growth in a graying China. There are other advantages as well. Funded pensions, and in particular personal accounts, give workers a stake in the success of economic reform. They foster the middle-class values of thrift and stewardship—and, over time, may help transform China into a democratic society.

### The case for funded retirement savings is a compelling one.

Some Chinese wonder why they should pursue a funding strategy when many developed countries operate purely pay-as-you-go pension systems. The answer is that these systems may not be sustainable as populations age—and to the extent that they are, it is because the developed countries are vastly more affluent than China. An aging France or Germany or United States may, at least for a while, be able to tax

3. *World Development Indicators* (World Bank; 2003).

away a rising share of workers' wages without impoverishing the next generation. An aging China cannot. The choice is simple: Does China want to support the elderly out of workers' meager earnings on a pay-as-you-go basis or out of the new wealth a funded pension system will create?

**If China fails to prepare for its age wave, it could face a crisis of immense proportions later in the century.**

China finds itself at a crossroads similar to that facing many other developing countries. Throughout East Asia and Latin America, falling fertility and rising longevity are ushering in the same demographic transformation. Although most nations still have relatively young populations, most are due to age dramatically over the next few decades. Although most remain relatively poor, most are struggling to modernize their economies, boost living standards, and integrate themselves into the global economy.

Perhaps nowhere, however, are the stakes as high as they are in China. If China fails to prepare for the aging of its population, it could face a crisis of



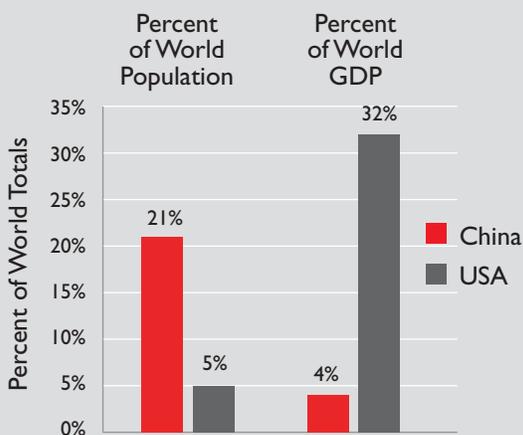
immense proportions later in the century. If it confronts the challenge, tens of millions of elders will be spared a destitute old age. The social traumas of modernization, from SOE downsizing to the breakup of the extended family, will also become much more manageable. Young households will gradually become property-owning stakeholders in the future of China's economy. Popular trust in government will rise and the specter of social disorder will recede. In time, a China that ages well will become a dynamic member of the developed world, with a major role to play in the global economy and world affairs.

*The Graying of the Middle Kingdom* turns the spotlight on China's efforts to prepare for the aging of its population. Chapter 1 describes the coming demographic transformation and the economic and social challenges it poses. Chapter 2 takes a close look at China's recent pension reform and why it is running into trouble. It also discusses what the elements of a workable plan might be. Chapter 3 broadens the horizon to consider how the aging of China's population will affect its place in the global economy.

The report finds reason to be hopeful that China will successfully navigate its demographic transformation. But it also warns that there are many pitfalls along way and that the time to put effective solutions in place is fast running out.

**China accounts for a fifth of the world's population, but produces less than 5 percent of the world's GDP.**

Population and GDP, as a Percent of World Totals, China versus the United States in 2002



Source: UN (2003)  
World Bank (2003)

Figure 3

# The Dimensions of China's Aging Challenge

A YOUNG NATION IS ABOUT TO GROW OLD. THIRTY-FIVE YEARS AGO, THERE WERE eight working-age adults aged 15 to 59 in China for every elder aged 60 and over. Today, there are six. Thirty-five years from now, assuming current demographic trends continue, the number will fall to just two. (See Figure 4.) By then, there will be twice as many elders over the age of sixty as children under the age of fifteen.

**The aging of its population will test China's ability to provide for the old without imposing a heavy burden on the young.**

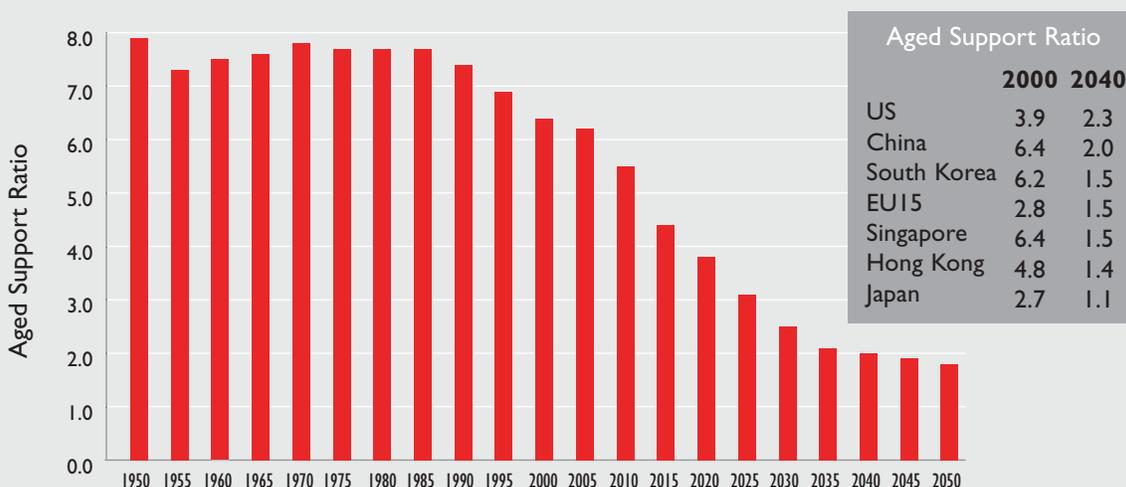
The rapid aging of its population will test China's ability to provide a decent standard of living for the old without imposing a heavy burden on the young. Part of the burden of the age wave will show up in government budgets and employer payrolls, which are already under pressure from rising expenditures for pensions and health care. But the fiscal costs of aging are just the beginning. An even greater burden will fall on families, which constitute the only safety net for the vast majority of China's elderly.

Confronting the aging challenge will require a shift in attitudes and expectations every bit as sweeping as the demographic transformation itself. Today's leaders came of age in an era of abundant youth—and worries about runaway population growth. Since the People's Republic was founded in 1949, China's population has grown by a staggering 750 million people, an *increase* that alone is two and one-half times greater than the entire current population of the United States. As young men and women, few of today's leaders could have imagined that they would someday have to prepare for a future in which China's population will not only be graying, but shrinking.

Yet this is precisely the future that most demographers now project. China's falling birthrate is not only transforming the traditional population pyramid,

## The number of working-age adults available to support each Chinese elder is declining rapidly.

Ratio of Working-Age Chinese (Aged 15-59) to Elderly Chinese (Aged 60 & Over), History and UN Constant Fertility Scenario, 1950-2050



Source: UN (2003)

Figure 4



narrowing it at the bottom and widening it at the top, it is also ushering in an era of gathering population decline. China's child population already peaked in the mid-1970s and has since fallen by roughly 75 million. Its working-age population is on track to peak by 2015. Its total population isn't due to peak until 2029, but only because the number of elderly will be growing faster than the number of youth will be declining.

## The Demographic Transformation

China may boast the world's oldest living civilization, but for most of its history it has been a demographically young society. As recently as the mid-1960s, when Mao Zedong called on the nation's youth to launch the Cultural Revolution, China's median age was 20, meaning that half the population were children or teenagers. The elderly made up just 7 percent of the population, about what they had since time immemorial.

Over the past few decades, however, a far-reaching demographic transformation has been gaining momentum. The transformation, which will soon lead to a dramatic aging of China's population, is the result of two fundamental forces: falling fertility and

rising longevity. The first force is decreasing the relative number of young in the population, while the second force is increasing the relative number of old.

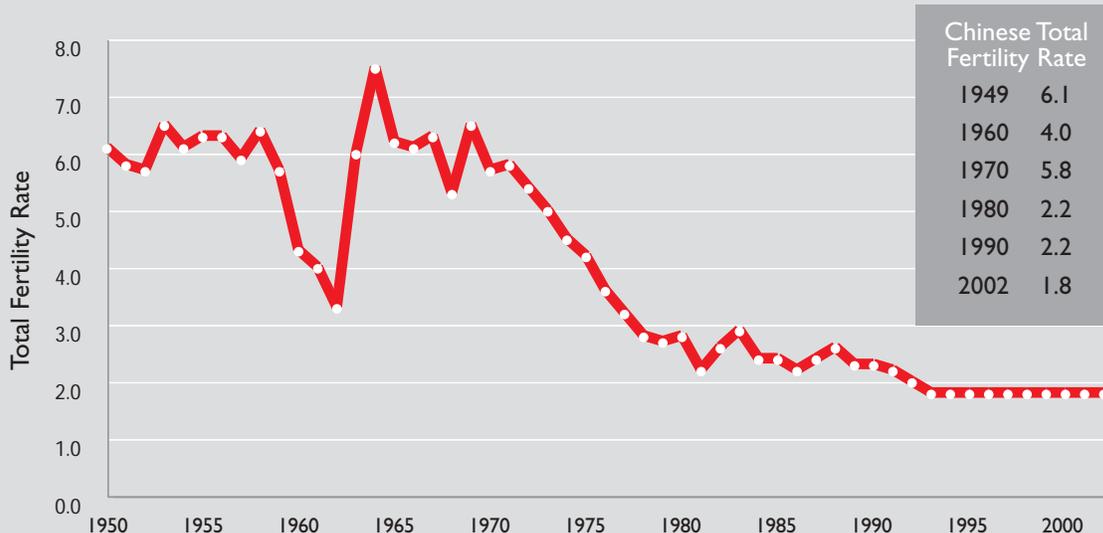
**There are two fundamental forces behind China's age wave: falling fertility and rising longevity.**

The Chinese fertility rate has fallen precipitously since the days of the Red Guards. Back in 1970, the fertility rate was 5.8, meaning that women averaged that many births over their lifetimes. Today, the average is 1.8, well beneath the 2.1 replacement rate needed to maintain a stable population over time. (See Figure 5.) Even as birthrates have fallen, improved nutrition, sanitation, and health care have been leading to large increases in life expectancy. Since the People's Republic was founded, life expectancy has risen from 41 to 70, making China one of the longest-lived low-income nations. (See Figure 6.)

The decline in Chinese birthrates is in part the inevitable result of modernization, in part the result of deliberate government population control policy. As living standards have risen in recent decades, fertility has fallen throughout East Asia—and indeed,

### Behind China's age wave: A dramatic decline in fertility rates.

Chinese Total Fertility Rate, 1949-2002

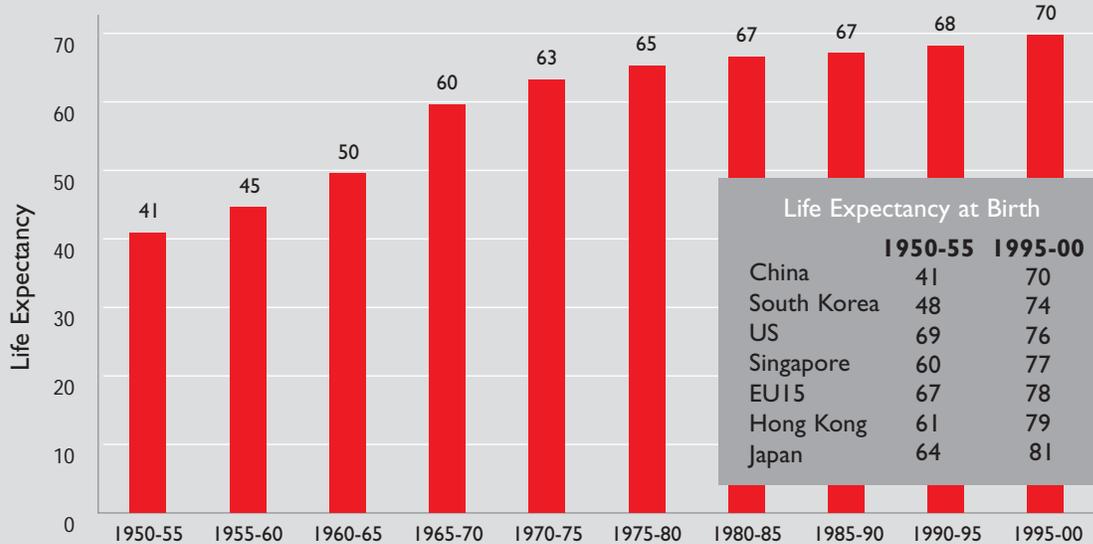


Source: NPFPC (various years)

Figure 5

## Behind China's age wave: An equally dramatic rise in life expectancy.

Chinese Life Expectancy at Birth, 1950-2000



Source: UN (2003)

Figure 6

most of the developing world. In China, however, the decline has been given an extra push by the government's strict birth policies. Beginning in the early 1970s, the government, worried about China's ability to support its enormous population, began encouraging couples to limit children to only two. In the early 1980s, it announced the "one child policy," together with a system of birth permits, targets, and penalties to enforce it.

In the countryside, where local authorities typically allow families whose first child is a girl to "try for a son," fertility remains higher than the official one child target—though even here families are barely replacing themselves. In the cities, where only the wealthy can afford to "buy" the right to a second child by paying a hefty penalty that can come to several times the family's annual income, fertility has fallen further. In Beijing and Shanghai, the fertility rate now hovers just over 1.0.

**In Beijing and Shanghai, the fertility rate has fallen to about 1.0.**

China's demographic transformation is being given an extra twist by the aging of its postwar baby boom—or rather child boom. The developed

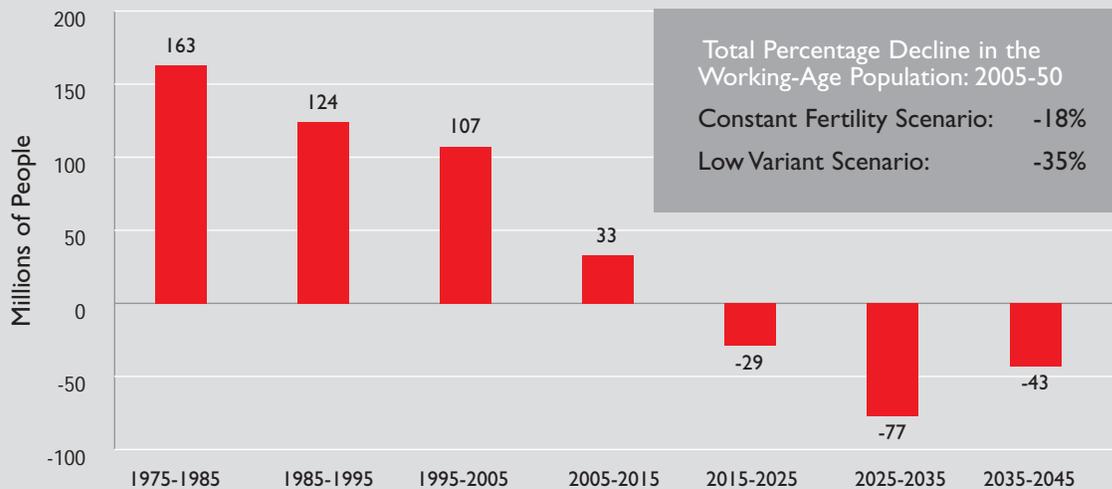
countries, and especially the United States, had large postwar baby booms that are temporarily slowing the aging of their populations. China had a baby boom too, but it was the result of a rapid decline in child mortality rather than a rise in fertility. Although survival rates for children began to improve dramatically beginning in the 1950s, birthrates did not begin declining until the early 1970s. The result was a large increase in completed family size.

With its outsized boomer cohorts now in their thirties and forties, China's aging challenge still looms over the horizon. China's median age has already risen substantially since the days of the Red Guards, from 20 to 32. But this rise mostly reflects the surging number of working-age adults, rather than an increase in the number of elderly. In fact, the elder share of China's population has risen only modestly and now stands at 11 percent, compared with an average of 20 percent in the developed countries.

For the time being, the big challenge is finding jobs for China's large working-age population. The number of working-age adults is now growing by about 10 million each year. In addition, the SOEs are shedding about 5 million jobs each year. To keep unemployment from rising, China thus needs to create 15 million jobs annually, which is roughly the *total* number of net jobs created by the U.S. economy

## China's working-age population will soon begin to shrink.

Change in China's Working-Age Population (Aged 15-59) by Decade, in Millions, History and UN Constant Fertility Scenario, 1975-2045



Source: UN (2003)

Figure 7

since 1990. Moreover, this figure doesn't count the rural migrants who leave China's countryside each year to look for better jobs in the cities. This so-called floating population is now growing at the rate of at least 5 million a year—and some experts believe that the pace of migration will accelerate as China's entry into the WTO exposes farmers to increasing global competition. The situation is so serious, warns Chinese economist Hu Angang, that it could lead to “an unemployment war, with people fighting for jobs that don't exist.”<sup>4</sup>

The demographic engine behind the growth in China's workforce, however, is already slowing and will soon be thrown into reverse. Over the next ten years, the growth in the working-age population will decelerate sharply as the postwar boom generation begins to retire and is replaced in the workforce by today's relatively small “peach generation” born after the 1970s. In fact, the UN projects that China's working-age population will peak around 2015 and thereafter begin to decline. (See Figure 7.) By 2040, assuming current demographic trends continue, there will be 10 percent fewer working-age adults than there are today; by 2050, there will be 18 percent fewer. Even with the working-age population shrinking, the pressure to create jobs may remain

intense for a while as the state-owned sector continues to downsize and the countryside continues to empty out. Eventually, however, the labor glut will ease—and in some areas may even give way to labor shortages.

**When its boom generation starts retiring around 2015, China's age wave will arrive in full force.**

Meanwhile, China's age wave will arrive in full force. The elder share of China's population is due to rise from 11 percent in 2004 to 15 percent in 2015, then leap to 24 percent in 2030 and 28 percent in 2040. Over the same period, China's median age will climb from 32 to 44. A median age of 44 will not make China the oldest country in the world. Germany's median age is already 42 and is heading for 50 by 2040. Japan's is already 43 and is heading for 54. A median age of 44, however, will make China an older country than the United States.

If anything, these projections may understate the magnitude of China's age wave. As it turns out, there is considerable debate about what China's current

4. Quoted in Matthew Forney, “Workers' Wasteland,” *Time International* (June 17, 2002).

fertility rate actually is. The UN estimates that the fertility rate is now 1.8—and the projections cited throughout this report assume that this 1.8 rate will continue indefinitely. According to Chinese Census data, however, the current fertility rate is now just 1.3. All demographers agree that the Census number is too low, because parents, fearful of running afoul of family planning rules, systematically under-report births. But they disagree about the level of under-reporting and the size of the upward adjustment that should be made. If China’s fertility rate is now lower than the UN estimates—or if it falls in the future—the age wave could be more severe than the projections cited in this report suggest.



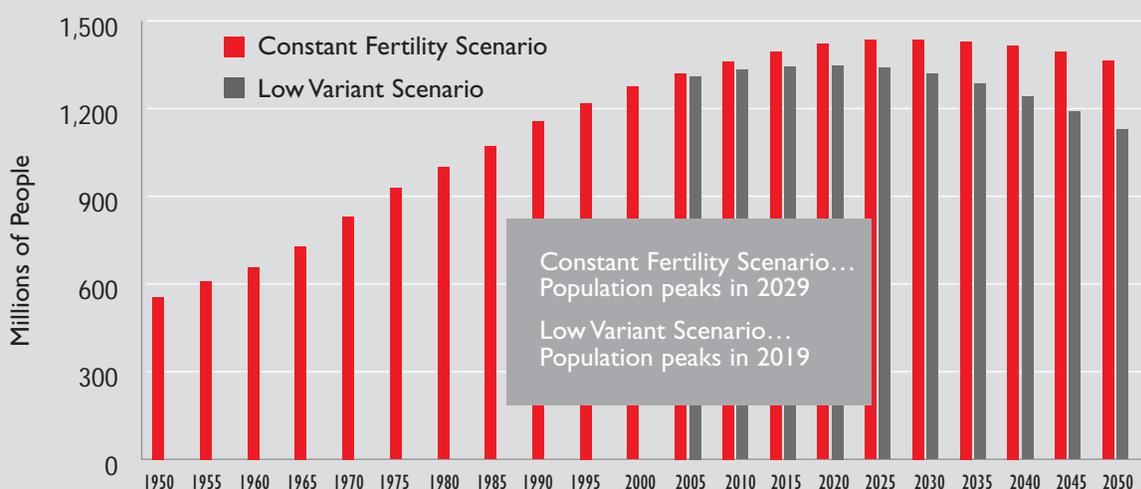
**By 2050, China could lose between 18 and 35 percent of its working-age population.**

How much more severe? It’s worth taking a look at an alternative UN projection that assumes China’s fertility rate will drop to 1.35. Although this may seem like an extremely pessimistic assumption, 1.35 is about the current fertility rate in Singapore and well above the current rates in South Korea (1.2) and Hong Kong (1.0).<sup>5</sup> Under the UN’s “low variant”

projection, the elder share of China’s population would climb to 32 percent by 2040 (instead of 28 percent), still less than Japan, but on a par with France, Germany, and many other countries of continental Europe. The decline in China’s population would also be much steeper. By 2050, China would lose 35 percent of its current working-age population (instead of 18 percent). China’s total population would also peak sooner—in 2019—and then enter a much steeper decline. (See Figure 8.)

**Within a few decades, China’s total population will peak and begin to decline.**

Chinese Population, in Millions, UN Constant Fertility versus Low Variant Scenario, 1950-2050



Source: UN (2003)

Figure 8

5. The figures are for 2002. See “Demographic Fact Sheet,” Research and Library Services Division, Hong Kong Legislative Council, online at [www.legco.gov.hk](http://www.legco.gov.hk).



## A Retirement System in Crisis

China is poorly prepared to care for a rapidly increasing elderly population, and the time to address the challenge is running dangerously short. The existing retirement system covers only a fraction of the population and, as the state-owned sector where coverage is concentrated downsizes, it is running into financial trouble. Tens of millions of Chinese reaching old age over the next half century will have no pension or health-care coverage at all. All that stands between them and a destitute old age is the family—and the family may no longer be up to fulfilling its traditional support role.

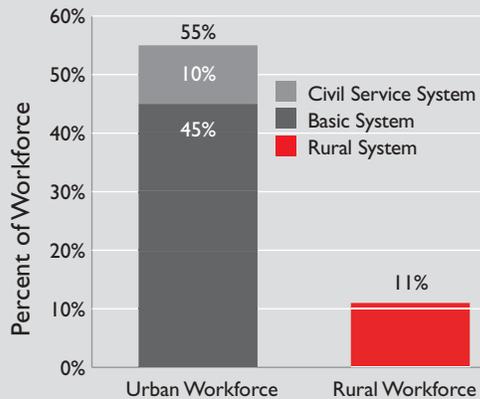
**China is poorly prepared to care for a rapidly growing number of elders.**

Pension coverage in China is largely limited to urban workers in the state-owned sector of the economy.<sup>6</sup> In 2002, the “basic pension system” covered 45 percent of the urban workforce, mainly employees at state- and collectively owned enterprises. Although the government has begun to extend pension coverage to the private sector, participation remains minimal. A separate and more generous pension system for civil servants covers another 10 percent of the urban workforce. Rural workers are excluded from the basic pension system, although 11 percent participate in a small and voluntary rural pension system. All told, just 25 percent of China’s total workforce, urban and rural, have any pension provision at all. (See Figures 9 and 10.) By and large, government health insurance is limited to the same privileged groups, although overall coverage rates are somewhat higher than for pensions.

For urban workers lucky enough to receive a pension under the basic or civil service systems, benefits are generous. Replacement rates for current retirees average about 80 percent of wages for workers under the basic system and nearly 90 percent for civil servants. Official retirement ages are also early: 55 for women and 60 for men. In practice, most workers retire even earlier. Some enterprises now offer early retirement to women as young as age 40 and to men as young as age 50, a

**Even in the cities, China’s public pension system leaves nearly half of the workforce uncovered.**

**Percent of Chinese Urban and Rural Workforces Covered by Public Pension Systems in 2002**

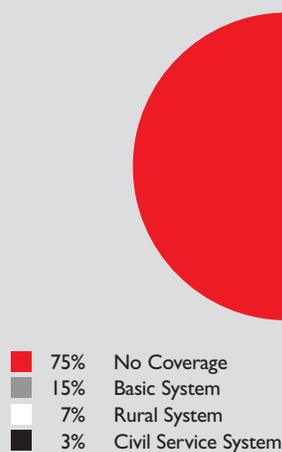


Source: MOLSS (2003) and authors’ calculations

Figure 9

**Overall, three out of four Chinese workers have no pension.**

**Percent of Total Chinese Workforce Covered by Public Pension Systems in 2002**



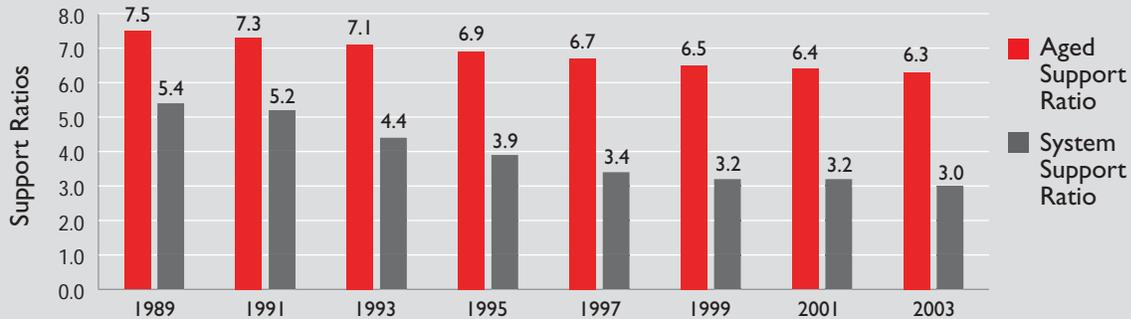
Source: MOLSS (2003) and authors’ calculations

Figure 10

6. In 2002, there were 737 million Chinese workers, of whom 248 million—or one-third of the total—were classified as “urban.” The terms urban and rural in this report (and in the literature on China in general) are administrative classifications that do not always correspond to the usual economic definitions. Most importantly, in addition to peasants, China’s rural workforce in 2002 included 133 million workers at “town and village enterprises,” whose jobs are urban in all but name.

## China's pension system is aging faster than the population as a whole.

Aged Support Ratio of Working-Age Chinese (Aged 15-59) to Elderly Chinese (Aged 60 & Over) versus System Support Ratio of Covered Workers to Retirees in the Basic Pension System, 1989-2003



Source: UN (2003) and MOLSS (2003 and 2004)

Figure 11

development known as the “40-50 phenomenon.” At age 57, half of all male participants in the basic pension system are already retired. The corresponding age for women is just 50.<sup>7</sup>

The downsizing of the state-owned sector is rendering China's pension system unaffordable even before the age wave rolls in. The *system* support ratio of contributing workers to retired beneficiaries in the basic system dropped from 5.4 in 1989 to 3.0 in 2003, just half the current *demographic* support ratio of all working-age adults to elders. (See Figure 11.) In some heavily industrialized provinces, the system support ratio has fallen even further. In Liaoning province in China's rust belt, it stood at 2.4 to 1 in 2002. In Shanghai, it stood at 1.8 to 1, a level that China's demographic support ratio won't reach until 2050. Even these numbers may understate the deterioration, since they count millions of laid-off SOE workers as active contributors.

**The downsizing of the state-owned sector is rendering China's pension system unaffordable even before the age wave rolls in.**

The falling support ratio translates directly into a rising cost burden. Although contribution rates vary

significantly from province to province, the rate for the basic pension system is typically 24 percent of payroll—twice the contribution rate for the U.S. Social Security system. Including mandatory payroll contributions for health insurance, unemployment insurance, and the housing provident fund, the total contribution rate for China's social insurance system comes to nearly 50 percent of payroll, as high as that in Europe's most generous welfare states.<sup>8</sup> (See Figure 12.)

**High pension contribution rates are leading to massive evasion.**

Because public retirement programs only cover a fraction of the workforce, the cost is still modest as a share of the economy. In 2002, China spent about 3.5 percent of GDP on public pensions, including the civil service and rural pension systems. It spent roughly another 0.5 percent of GDP on health-care benefits for retirees, bringing the total cost of public retirement benefits to 4.0 percent of GDP. Although retirement benefits consume a relatively small share of China's economy, they are nonetheless a heavy burden on workers and employers. High contribution rates are leading to high rates of evasion in the basic pension system—and to widening deficits that the central government must cover.

7. Noriyuki Takayama, “Pension Reform in the PRC: Incentives, Governance, and Policy Options,” paper presented at the Asian Development Bank Institute's 5th Anniversary Conference (Tokyo; December 5-6, 2002).

8. *China in the World Economy: The Domestic Policy Challenges* (OECD; 2002); and (in Japanese) *Impacts of China's Social Security Reform* (Masanobu Otsuka and Japan Center for Economic Research; 2002).

## The total payroll tax rate in China approaches 50 percent—on a par with Europe’s most generous welfare states.

Current Chinese Social Insurance Contribution Rates by Program, as a Percent of Taxable Payroll

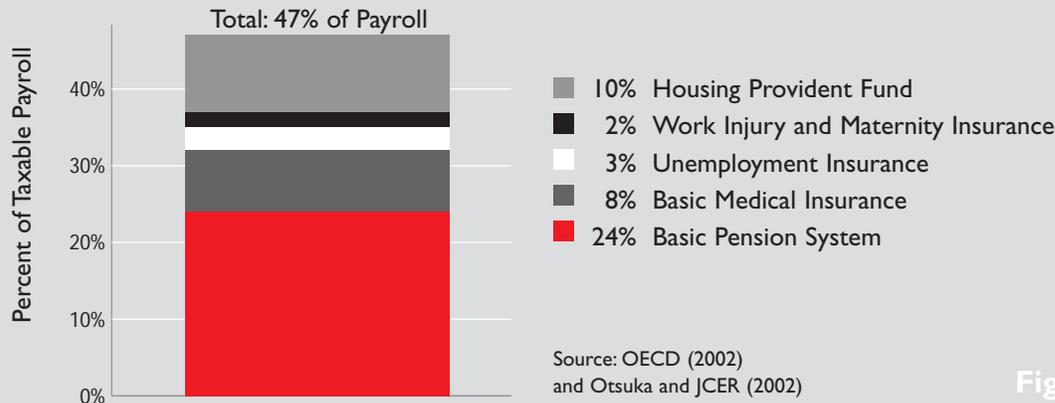


Figure 12

Meanwhile in rural China, most workers continue to count on the extended family for support in old age. In the early 1990s, the government established a retirement savings system for rural workers. The system, however, is small, voluntary, and almost entirely beneficiary-financed. Coverage rates are low—just 11 percent of the rural workforce participated in 2002—and contributions are tiny. The majority of participants contribute at the minimum rate of 2 yuan or 25 cents per month. Total contributions amount to a mere 1 percent of total contributions to the basic pension system for urban workers. Besides the pension program, there are rural relief programs for the indigent elderly, including one called the “Three No’s” for elders who have no relatives, no money, and no physical ability to work. But these programs are also very small. Currently, less than 10 percent of poor rural elders receive any government assistance at all.

Although pensions have always been rare in rural China, until recently most people had basic health-care coverage. During the 1960s and 1970s, nine out of ten peasants enjoyed access to subsidized health care at rural clinics run by the famous “barefoot doctors.” The clinics, which were originally administered by China’s rural collectives, became an early casualty of economic reform. After the collectives were abolished in the 1980s, most clinics shut their doors. By 1998, the last year for which data are available, less than 10 percent of rural residents had access to government-paid health care.<sup>9</sup>

## The rapid growth in out-of-pocket health-care costs is an ominous development for an aging China.

The erosion in coverage is not limited to the countryside. Although the share of the urban workforce with government health insurance is stable, the generosity of the coverage is not keeping up with rising health-care costs. In 1990, Chinese households overall paid for just 36 percent of health-care expenses out-of-pocket. By 2002, that share had risen to 58 percent—an ominous development for an aging China.

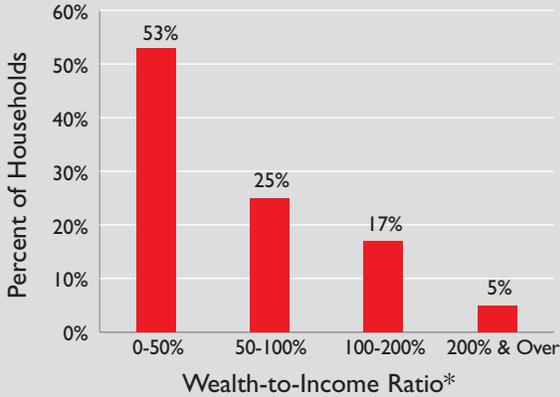
## The “4-2-1 Problem”

For the majority of Chinese without public retirement benefits, the alternative means of support are limited. Despite China’s prodigious savings rate, estimated at 40 percent of GDP, few elders will be able to count on personal wealth to make up the difference. Household savings only comprises a fraction of total savings, and much of it is invested in the family home. As for financial savings, although the number of households who purchase life insurance or invest in China’s fledgling stock markets is growing, most is still deposited in low-return bank accounts. Asset ownership, moreover, is

9. *Research on National Health Services—An Analysis Report of the Second National Health Services Survey in 1998* (Ministry of Health, PRC; 1999).

## Only a fraction of Chinese elders can count on personal savings to finance their retirement years.

Distribution of Chinese Urban Households Aged 55 & Over, by Wealth-to-Income Ratio\* in 1995



\*Financial assets as a percent of annual income.  
Source: Takayama (2002)

Figure 13

highly skewed by income. According to a survey conducted in the mid-1990s, less than one-quarter of urban households headed by adults aged 55 and over own financial assets exceeding their annual income. Just 5.4 percent own financial assets exceeding twice their income—hardly enough to finance a retirement that on average will last two decades.<sup>10</sup> (See Figure 13.)

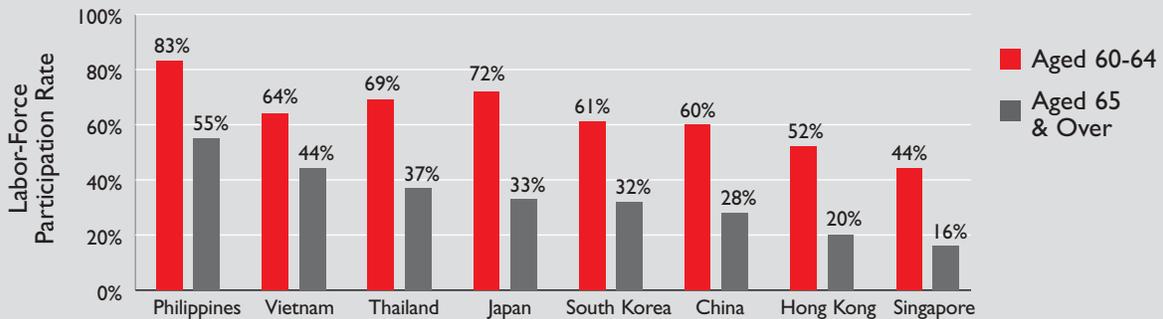
Nor will most elders be able to count on private pensions to pick up where public benefits leave off. Although employer-sponsored plans exist, they are still rare. In the late 1990s, the government gave employers the option of setting up supplemental retirement savings schemes called “enterprise annuities.” It failed to give them any tax incentive to do so, however—and it restricted the option to employers already making contributions to the basic public pension system. As of the end of 2000, just 6 million workers were covered by the new plans, or less than 1 percent of China’s workforce.<sup>11</sup>

**As of 2000, less than 1 percent of China’s workforce had a supplemental employer pension.**

Staying on the job is an obvious alternative to collecting retirement benefits. The elderly labor-force participation rate in China, however, has been falling for decades and is now lower than the rate in most East Asian countries. Just 28 percent of men aged 65 and over are still on the job in China, even including peasants working the family farm. In the Philippines, which has almost precisely the same per capita income, the share is 55 percent. (See Figure 14.) Although many members of China’s aging baby boom generation may want to work longer than today’s elders do, they will find it hard to compete with younger, healthier, and better educated cohorts. As

## Relatively few Chinese elders work compared with other Asian countries.

Labor-Force Participation Rate of Older Men by Age Group, in Selected Asian Countries in 2000



Source: ILO (2004)

Figure 14

10. Noriyuki Takayama, *op.cit.*

11. John B. Williamson and Zheng Bingwen, “The Applicability of the Notional Defined Contribution Model for China,” *China and World Economy*, XI:3 (June 2003).

youths, many Chinese boomers missed out entirely on secondary and higher education during the Cultural Revolution. As elders, they may find themselves competing with teenagers for sweatshop jobs.

### For most elders, the only backstop against a destitute old age is the family.

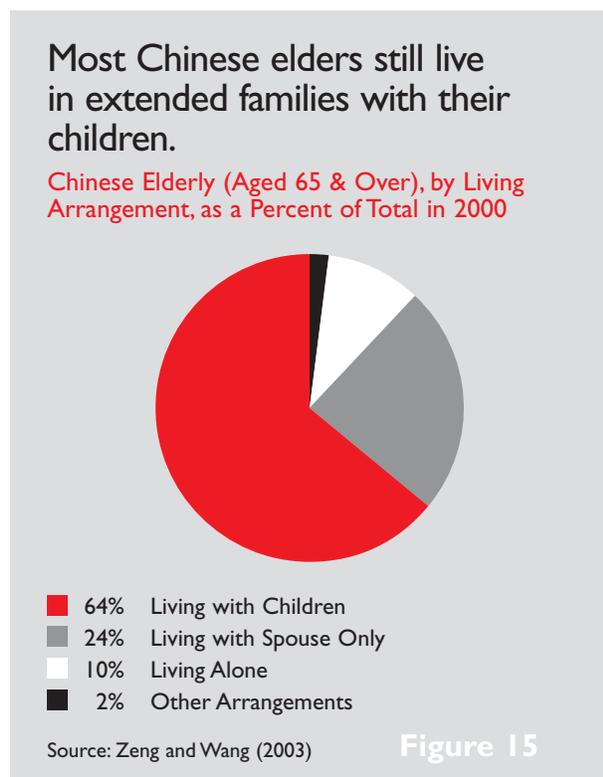
The truth is that for most Chinese elders, the only backstop against a destitute old age is the family. In Chinese society, the ethic of filial piety requires children to take care of their aged parents—and most children do just that. According to the latest 2000 Census data, 64 percent of elders aged 65 and over live with their children. (See Figure 15.) The shares are somewhat higher for rural elders than for urban elders and considerably higher for the old elderly than for the young elderly. Among elderly women, 67 percent aged 65 to 79 live with their children, compared with 80 percent of those aged 80 and over. Even when elders do not live with their

children, they are usually dependent on them financially, at least in the countryside. According to one survey of rural households, elders aged 60 to 64 receive one-third of their income from their children, a share that rises to three-quarters by age 75 and to nine-tenths by age 85.<sup>12</sup>

As China modernizes, its informal old-age support network is coming under stress. The exodus of young adults from the countryside is separating rural elders from their children. Meanwhile in the cities, as western “individualistic” values gain currency, urban elders are being stripped of their traditional social role. Multigenerational families, though still the norm, are already less common than a decade ago. In 1996, China’s People’s Congress actually passed a law requiring children to support their elderly parents—a danger sign that the ethic of filial piety may be waning.

In the coming decades, the informal support network will have to withstand a series of unprecedented demographic challenges. To begin with, rural youth will continue to leave their villages in search of opportunity in the big city. On average, per capita income in China’s cities exceeds that in the countryside by three to one. Meanwhile, the OECD estimates that at least 200 million rural workers are underemployed.<sup>13</sup> In 2001, city dwellers made up 37 percent of China’s population. By 2030, according to UN projections, that share will rise to 60 percent.<sup>14</sup> With more young people than old people leaving for the city, rural China is aging faster than urban China. Like the American Great Plains, large tracks of the Chinese countryside may someday be dotted by towns and villages populated almost exclusively by elders.

Beyond migration, there is the challenge of shrinking family size. Today’s elders, who started their families before the era of China’s strict birth policies, typically have four or five children to share the burden of supporting them. China’s fertility decline will soon change this. According to Chinese demographer Xiaochun Qiao, urban women who will turn 65 over the next five years on average gave birth to 3.0 children, while rural women gave birth to 3.7. The average number of children per elder will continue to decline with each successive cohort reaching old age. By 2025, urban women turning 65 will on average have just 1.3 children, while rural women will have 2.2.<sup>15</sup> Today’s pampered single-child



12. Xiaochun Qiao, “Aging Issues and Policy Choices in Rural China,” paper presented at the International Union for the Scientific Study of Population’s 24th General Population Conference (Salvador, Brazil; August 20-24, 2001).

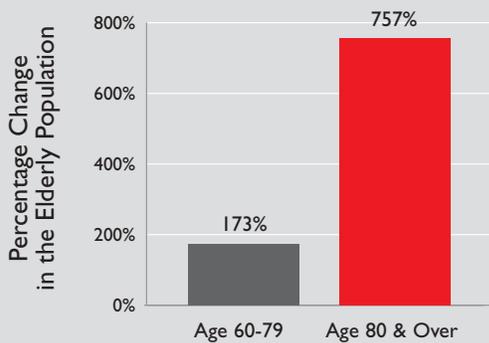
13. *China in the World Economy: The Domestic Policy Challenges* (OECD; 2002).

14. *World Urbanization Prospects: The 2001 Revision* (UN, Population Division; 2002).

15. Xiaochun Qiao, *op.cit.*

## The oldest elderly age brackets will be the fastest growing of all.

Percentage Change in the Chinese Elderly Population by Age Group, UN Constant Fertility Scenario: 2000-2050



Source: UN (2003)

Figure 16

“little emperors” may someday find that the burden of filial piety is a heavy one indeed.

**By 2050, there will be nearly 100 million Chinese aged 80 and over.**

Then there is the phenomenon that demographers call the aging of the aged. While the number of Chinese aged 60 to 79 is due to grow nearly threefold between 2000 and 2050, the number aged 80 and over will grow more than eightfold. (See Figure 16.) What makes this trend so ominous is that rates of disability rise steadily with age, even among the elderly themselves. Just 5 percent of Chinese aged 65 to 69 have difficulty performing one or more basic “activities of daily living,” such as dressing or cooking. For elders aged 80 to 84, the share is 20 percent; for those aged 90 to 94, it is 40 percent.<sup>16</sup> In other words, not only will there be more elders for each child, but the elders will be older and frailer. It is a testament to the strength of the Chinese family that nursing homes are virtually unknown today. Less than 1 percent of elders aged 80 and over are institutionalized in China, compared with nearly 20 percent in the United States. But if families fail, a vast new long-term care infrastructure will need to be built. By 2050, there will be

98 million people aged 80 and over in China, more than there are in the entire world today.

Finally, there’s the matter of China’s “missing girls.” In a normal population, roughly 105 boys are born for every 100 girls. According to the 2000 Census, the sex ratio at birth in China is now 118 boys for every 100 girls. The imbalance, the largest in any modern society, is the unintended consequence of China’s one child policy. Part of it reflects under-reporting of baby girl births by parents who still hope to have a son, but much of it is real—the result of sex-based abortion and even infanticide. Although illegal, sex-based abortion is widely practiced in the countryside, not just because parents need a son to help out on the farm, but because it is the son who is expected to care for the parents in old age. The desperation of couples who didn’t produce a son the first time around is evident when sex ratios are calculated by birth order. For first children, the ratio is 107 to 100 in favor of boys, while for second children it is 152 to 100.

China’s missing girls, as demographers call them, pose a big problem for a Confucian society in which virtually everyone expects to marry—and more to the point, in which women do virtually all of the caregiving. Already today, “bachelor villages” dot China’s poorer regions in Shaanxi, Ningxia, and Guangxi provinces. To meet the emerging bride shortage, there is a growing market in foreign brides from countries like North Korea and Vietnam—and a growing traffic in kidnapped ones.

**China’s bride shortage will eventually become a caregiver shortage.**

Some observers worry that the bride shortage will add fuel to simmering popular resentments about unemployment, the unraveling social safety net, and growing income disparity. Gender imbalance has sometimes played a role in igniting social unrest in the past—most notably during the Nien Rebellion in the mid-1800s, when bands of surplus bachelors turned to brigandage and insurrection. Even more ominous than the shortage of brides, however, is the looming shortage of daughters-in-law. The missing brides of today, after all, will become the missing caregivers of tomorrow, for while it is the son who bears responsibility for caring for his aged parents in Chinese culture, it is the daughter-in-law who actually does the caring.

16. Zeng Yi and Zhenglian Wang, “Dynamics of Family and Elderly Living Arrangements in China: New Lessons Learned from the 2000 Census,” *The China Review*, III:2 (Fall 2003).



# The Long March to Retirement Reform

CHINA IS BEGINNING TO CONFRONT ITS AGING CHALLENGE AND THE NEED TO build a more inclusive and affordable retirement system. Starting in the late 1990s, it began to expand coverage under the basic pension system to include the urban private sector. At the same time, it is implementing a plan to transition from a purely pay-as-you-go system to a new system consisting of scaled-back pay-as-you-go benefits and personal retirement accounts.

Unfortunately, the reforms are not working out as planned. Private enterprises have little incentive to join the new pension system, whose onerous contributions mainly go to pay off the unfunded liabilities of the old system. As of 2002, more than nine out of ten private-sector workers still had no pension coverage at all. Meanwhile, the personal accounts, which are administered by municipal and provincial social security bureaus, are not being saved and invested. Worker contributions are simply treated as tax revenue and used to cover the growing deficit in the pension system's pay-as-you-go tier.

## Successful retirement reform will require more radical steps.

Solving these problems will require more radical steps than the Chinese government has yet been willing to take. To ensure that coverage under the new pension system is affordable, the central government must be prepared to assume the cost of the old system's liabilities. To ensure that personal accounts are genuinely funded, it will need to transfer their management gradually from the social security bureaus to independent asset managers. At the same time, it will have to engage the immense challenge of building an old-age safety net in the countryside.

This chapter takes a close look at China's long march to retirement reform. It describes China's recent attempts to reform the pension system and explains why they are running into trouble. It also discusses what the elements of a workable plan might be.

## From Iron Rice Bowl to Empty Accounts

In the days of China's planned economy, urban workers enjoyed cradle-to-grave social protection. The state-owned enterprises guaranteed lifetime employment along with a wide range of social benefits, including pensions, health care, and housing. China's "iron rice bowl" was based on the work unit, but backed up by the government. Workers could be confident that the SOEs would meet their pension promises because the government subsidized the SOEs.

When China launched its program of market reforms in 1978, it in effect began dismantling the social safety net. To force the SOEs to become more efficient, the government made them responsible for their bottom lines, and hence their pension obligations. Each enterprise ended up running a miniature social insurance system with its own contribution rates and retirement provisions. Inevitably, the solidity of an enterprise's benefit promises came to depend on its financial status. Unprofitable enterprises delayed or canceled pension payments, throwing millions of retirees into poverty.

Beginning in the late 1980s, the State Council took the first steps toward reconstructing the safety net. The first order of business was to set up local social security bureaus to collect and "pool" SOE pension contributions. The creation of the pools served several purposes. It allowed the bureaus to restandardize contributions and benefits. It facilitated SOE restructuring, since workers could leave unprofitable enterprises for profitable ones without losing pension coverage—at least so long as they remained within the local pension pool.

And it improved retirement security, since pensioners' benefits no longer depended on the solvency of their particular employer.

**By the mid-1990s, it became clear that China's public pension system needed a bailout to avoid near-term financial collapse.**

Pooling alone, however, was not enough to solve China's worsening pension crisis. As the state-owned sector downsized, its demographics rapidly deteriorated. Young workers (who cared less about losing benefits) tended to leave for the private sector, while older workers and retirees (who cared more) tended to stay behind. Without a bailout, the system faced near-term financial collapse. Meanwhile, leaders were beginning to focus on the long-term aging challenge. During the mid-1990s, the government consulted extensively with foreign pension experts. It also encouraged the provinces to stage pension reform pilot projects. In 1997, the State Council settled on a blueprint for a new national pension system that seemed to address both the near-term and long-term challenges.

The 1997 reform for the first time extended coverage under the basic pension system to private-sector workers. In principle, everyone working in the cities was to be covered, including rural migrants. At the same time, the reform replaced the old pension system with a new two-tiered system consisting of scaled-back pay-as-you-go benefits and personal retirement accounts. The change-over naturally involves a long transition period. Under the reform, the "old men," those who were already retired in 1997, will continue to receive pre-reform benefits that typically replace 80 percent of wages. The "new men," those who join after 1997, will receive a pay-as-you-go benefit replacing 20 percent of wages and a personal account benefit that the government estimates will replace about another 40 percent. The "transitional men," those who were contributing workers in 1997, will receive partial benefits under both systems.

The contribution rate for the new system is generally 24 percent of payroll, although there is considerable regional variation. Contributions are divided into two parts: 13 percent of payroll is credited to the "social pools" that pay for the first-tier benefits, while the remaining 11 percent is credited to the personal

accounts. In addition, employers can contribute up to 4 percent of payroll to a third tier of voluntary employer-sponsored enterprise annuities. The local social security bureaus administer both the social pools and the personal accounts—and in some cases, the enterprise annuities as well.

The reform was clearly an effort to help the SOEs by bringing new contributors into the pension system. Private-sector workers, after all, are disproportionately young men and women with years of contributions to make before they can claim a benefit. Even the personal accounts, with their promise of individual savings and higher returns, were intended to attract new contributors. Yet the reform also represented a major step toward addressing the looming old-age dependency challenge. The private sector, which was nonexistent in 1978, now accounts for over half of urban employment and an even larger share of urban output. Excluding it from the pension system made no long-term policy sense.

The plan to extend coverage, however, is running into resistance. The government has been largely successful in persuading foreign-funded enterprises and joint ventures to join the pension system, since it can withhold necessary business permits from firms that fail to sign up. Overall, however, the results have been disappointing. As of 2002, coverage had been extended to just 6 percent of workers in the broader private sector. In some cities, local authorities are trying to boost participation by lowering contribution rates for private businesses and migrant workers, but as yet they are having only limited success. Evasion, moreover, is by no means limited to the private sector. SOEs that already participate in the basic pension system routinely under-report wages and underpay contributions—and the problem is getting worse.

**The government's plan to extend pension coverage to the private sector is running into resistance.**

The epidemic of evasion is due in large part to the system's prohibitive cost. The benefits being promised to new joiners could be funded at a fraction—perhaps half—of the current 24 percent of payroll contribution rate they are being asked to pay. The reason that the contribution rate is so high is that participants in the new system must also pay off the unfunded liabilities of the old system. In effect, the

government is asking the new men from the private sector to finance two retirements: their own and those of the participants in the pre-reform system, with its much more generous benefits and its much older age profile. The new men, for their part, are refusing to join.

### **The personal accounts set up by the 1997 reform have turned out to be entirely unfunded.**

The failure of the 1997 reform to fund the personal accounts tier of the pension system is another cause of discontent. As it turns out, local governments routinely “borrow” personal account contributions to cover cash shortfalls in the social pools. There is no legal or even procedural obstacle to using the money, since contributions to both tiers of the pension system are deposited in the same government bank accounts. Incredibly, benefit payments to current retirees now exceed total social pool contributions and personal account contributions combined, leaving an overall deficit, equal to 10 percent of benefit costs, that must be filled by government subsidies. Personal account contributions are still credited to workers’ accounts. But the accounts have become purely “notional.” Like the U.S. Social Security trust fund, they represent a claim on future tax revenues, not real assets that can finance future retirement benefits. Understandably, workers are coming to view the contributions as a tax, which further exacerbates the evasion problem.

The same dynamic helps to explain the failure of China’s rural pension system to attract more participants. The system consists entirely of voluntary beneficiary-financed personal retirement accounts. Like the personal accounts tier of the basic pension system for urban employees, the rural accounts are managed by the local social security bureaus. Peasants, being at least as shrewd as workers, have realized that their contributions are really a tax and are dropping out of the system. Coverage peaked shortly after the program was launched in the early 1990s and has since declined steadily.

The government is increasingly concerned about what the Chinese call the “empty accounts problem.” In 2001, the State Council launched a three-year pilot project in Liaoning province designed to fund the accounts. The project centralizes the administration of the pension system at the provincial level. It also provides for a

“firewall” that segregates personal account and social pool contributions in separate government bank accounts. Along with these procedural changes, Liaoning is receiving large central government subsidies that help cover its first-tier pension costs. Expert opinion is mixed on whether the pilot project is working. To the extent it is working, however, its success is probably due more to the subsidies than to the firewall. Liaoning province possesses just 3 percent of China’s urban workforce, but in 2001 received 12 percent of total central government social security subsidies. Without the subsidies, it is hard to see how the firewall would prevent the Liaoning provincial authorities from spending personal account funds. The money, after all, is still collected, administered, and in effect owned by government.

### **To the extent the Liaoning pilot project is working, it is due to massive government subsidies.**

The Liaoning pilot project also includes a number of other provisions that the State Council is considering extending to the rest of China. One provision is unambiguously positive: Contributions for enterprise annuities are made tax-deductible. Another provision, however, pushes in the wrong direction: The overall contribution rate for the basic pension system is increased from 24 to 28 percent of payroll—hardly a recipe for attracting more non-participating enterprises. In the long term, the higher contribution rate is supposed to pay for a higher first-tier replacement rate for new joiners. In the near term, the hope is to raise more revenue to keep benefits flowing to current retirees. Apparently, the government has yet to learn the lesson that hiking the rate and collecting the money are not the same thing.

Many westerners will be surprised to learn that a single-party state like China finds it difficult to enforce payroll tax collection. But in fact, it is virtually impossible for the government to coerce unwilling businesses to participate in the pension system. Outside the “formal sector” of the Chinese economy, which is comprised mainly of state- and collectively owned enterprises, government institutions, joint ventures, and foreign-funded firms, the government often lacks accurate business and employment data. The local social security bureaus, moreover, have no authority to take delinquent enterprises to court—and though they can levy

administrative penalties, they often lack the means to collect them. In such an environment, the only way reform can succeed is to create a pension system that gives businesses and workers a real incentive to join.

## A New Direction for Reform

China's aging challenge could hardly be more daunting. Within the span of a single generation, a young country will grow old. The rapid pace of modernization is complicating the demographic transformation by breaking up traditional old-age support systems. The government has taken major steps to shore up the safety net, but the reforms aren't working. The pension system is burdened by excessive contribution rates. It promises workers funded savings but gives them empty accounts. Meanwhile, despite the heavy cost burden, it leaves three-quarters of the workforce without any coverage at all.

How can a rapidly developing yet still poor China design a retirement system that can care for tomorrow's elders without overburdening tomorrow's youth? How can it follow through and ratify what the 1997 reform set out to achieve but is failing to deliver?

### The foundation of the retirement system must be a universal floor of poverty protection.

The foundation of the retirement system must be a universal floor of protection against destitution in old age. At a minimum, the floor should cover the entire urban workforce and rural workers in town and village enterprises. Over time, it could be expanded to include agricultural workers as well. The floor might be set to replace 20 percent of the average regional wage, which is the replacement rate for the first-tier benefit in China's basic pension system. At this level, the floor of protection would be somewhat higher than either the Chinese government's new Minimum Living Standard Guarantee for urban workers or the World Bank's dollar-a-day threshold of abject poverty. The floor, which would be payroll-tax financed on a pay-as-you-go basis, would serve as a first-line defense against poverty-stricken old age.

To ensure broad participation, contribution rates must be reasonable. This in turn means that the central government will have to assume responsibility for paying off the unfunded pension liabilities of the SOEs. The lesson of the 1997 reform is clear: Saddling the new pension system with the debts of the old system leads to massive evasion. An aging China can no longer afford to hold retirement reform hostage to SOE restructuring. The legacy costs of the SOEs are a collective problem, and should be paid for out of general government tax revenues, not workers' payroll contributions.

### Socializing SOE legacy costs is necessary, fair, and affordable.

Socializing SOE legacy costs is necessary, fair, and affordable. Indeed, China is already moving in this direction. In 2000, it set up a National Social Security Fund to subsidize the local social security pools. This "pension fund of last resort" is financed entirely out of general revenues. The government's financing strategy relies heavily on privatizing state assets. In June 2001, the State Council announced a plan to sell state-held SOE shares to raise cash for the fund. The announcement triggered a sell-off in the Shanghai and Shenzhen stock markets, and the government was forced to cancel the sale. Since then, however, it has begun selling SOE shares on foreign stock markets and crediting a portion of the proceeds to the National Social Security Fund.

If SOE fire sales fail to generate enough revenue, the government may need to raise income taxes. While this would be a burden, it would be broadly shared. The burden, moreover, would decline each year as China's GDP grows and current beneficiaries die off. Issuing debt is also an option. When Chile replaced its pay-as-you-go pension system with a system of personal accounts in the early 1980s, it issued "recognition bonds" to workers and retirees in the amount of their accrued benefits. China, however, should be cautious about making its implicit pension debt explicit. At the time of its reform, Chile was running large budget surpluses. China is running widening deficits. And although its official debt-to-GDP ratio is relatively low—just 20 percent at the end of 2003—the figure ignores bad loans at the state-owned banks. Depending on the estimate, this off-the-books debt amounts to an additional 30 to 60 percent of GDP.<sup>17</sup>

17. Syetam Hansakul, *China's Financial Sector: Institutional Framework and Main Challenges* (Deutsche Bank Research; January 9, 2004).

Beyond a solid floor of old-age poverty protection, China needs a mandatory system of supplemental pensions that will allow elders to enjoy something approaching their preretirement standard of living. In meeting this goal, funded pensions offer great advantages over pay-as-you-go benefits. In a funded system, worker contributions generate a return equal to the rate of return on capital, which is typically much higher than the return on contributions in a pay-as-you-go system, especially when the population is aging rapidly. Not only do funded pensions raise per capita incomes, they democratize the ownership of capital and help foster middle-class values of thrift and stewardship. They will also increase the incentives for workers to participate in the pension system, thus bringing in more contributors to help finance the pay-as-you-go floor of protection as well.

### **To ensure that real savings occurs, personal account assets should be independently managed.**

The challenge is to ensure that the funding is genuine. Here too, the 1997 reform offers a clear lesson: So long as personal account contributions are government-owned and government-managed, government is likely to spend them. To ensure that real savings occurs, workers need to be given explicit property rights to their accounts. At the same time, management of the funds needs to be transferred to independent entities. Let us be clear: This is not a recommendation to privatize the public pension system. Assets in funded accounts would be personally owned and independently managed. The system, however, would remain a public social insurance program organized and supervised by government.

The government will have to overcome major administrative hurdles to set up a workable system. At the local level, there will have to be an infrastructure for routing contributions from workers and employers to fund managers. At the national level, there will have to be a central supervisory board to certify fund managers and establish everything from investment guidelines to withdrawal rules. The board may also need to administer default investment funds and sell annuities. To win participants' trust, the government must at the same time ensure the security and transparency of the personal accounts system. In the United States and other developed countries, regulatory bodies

like the Securities and Exchange Commission have established strict accounting rules and fiduciary standards to protect the interests of individual investors. China has only begun to put the necessary safeguards in place.

There is also the obstacle of China's immature capital markets. Despite impressive growth over the past decade, China's stock markets remain small and illiquid. In the United States, total stock market capitalization outweighs total bank deposits one and one-half to one. In China, the ratio is fourteen to one the other way around. (See Figure 17.) The lack of liquidity, along with poor corporate governance and lax accounting standards, breeds a speculative investment culture. If anything, China's bond market is even less developed. Although the Ministry of Finance issues bonds worth hundreds of billions of yuan each year, China's secondary government bond market is highly illiquid. Municipal and provincial governments are forbidden to issue bonds to finance capital spending, which is one reason why they find personal accounts a tempting source of cash. As for corporate bonds, issuance is subject to the approval of the central government, which effectively sets the coupon rate.

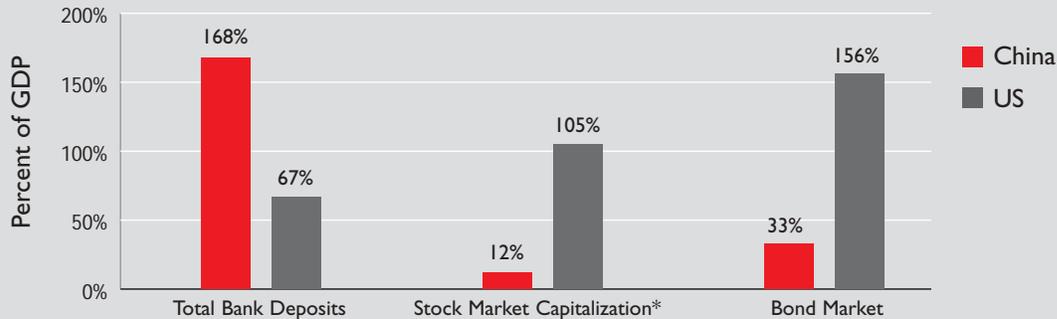
Other features of mature capital markets are missing as well. There is no authoritative domestic credit rating system. There are no index funds, which are widely used in IRA and 401(k) retirement plans in the United States. And the bankruptcy law, which dates to the 1980s, is ineffective. A revised law has gone through several drafts in recent years, but the fear that it might spur another rash of SOE layoffs and closings has kept the government from passing it.

### **Foreign financial services firms will be crucial to the success of a genuinely funded system.**

In addition to immature capital markets, China has an immature financial services industry. Chinese firms have little experience in managing pension assets, mainly because government has thus far monopolized the business. The central government forbids local social security bureaus to outsource pension funds to independent asset managers—and though it has begun to outsource a portion of its own National Social Security Fund reserves, the sums involved are modest. In the beginning, the participation of foreign financial services firms will

## In China, bank deposits still dwarf the stock and bond markets.

Assets by Type, as a Percent of GDP, China versus the United States at End of Year 2002



\*China figure is for tradable stocks only.  
Source: CSRC (2004) and ADB (2003)

Figure 17

thus be crucial to the success of a funded personal accounts system. As China's financial markets are progressively opened to foreign competition under the terms of the WTO, domestic firms are beginning to learn "best practices." The process, however, will take time to complete.

### Funded pensions are the ground zero where China's development and aging challenges meet.

Reform will therefore have to proceed in stages. Initially, no more than a small share of personal account contributions would be transferred to independent fund managers. Investment options would also be restricted, perhaps just to government bonds. As capital markets mature—and as the experience of fund managers grows—the share of contributions under independent management would be allowed to rise and investment restrictions would be eased. Over time, a growing share of personal account contributions would be invested in domestic corporate bonds and equities and ultimately in foreign securities. The government could closely monitor the pace of liberalization in order to avoid a shock to the Chinese financial markets and economy. Allowing the gradual movement of pension assets into foreign capital markets is not only sound investment strategy, but also provides a controlled alternative to the sudden outflow of savings that the government fears would occur if it lifts capital controls.

Although China may not be ready to introduce a full-fledged personal accounts system like Hong Kong's Mandatory Provident Fund, neither can it afford to wait for the full development of its capital markets before taking the initial steps. In fact, introducing a funded pension system may be the key to ensuring that very development. In many of today's developed countries, funded pensions have played a crucial role in broadening and deepening capital markets. As pension funds grow, so will the size and liquidity of China's capital markets. Along with professional fund management will come greater accountability, transparency, and long-term returns. Funded pensions are thus the ground zero where China's development and aging challenges meet.





# An Aging China in an Aging World

HOW CHINA CONFRONTS ITS AGING CHALLENGE WILL DO MUCH TO DETERMINE the shape of its economy and society over the next half century. If China fails to forge an effective retirement policy, the costs of rapid economic development will increase. If it succeeds, the potential benefits will be enlarged. Indeed, without an effective retirement policy, it is hard to envision a prosperous and peaceful long-term future for China.

The rapid pace of China's economic development, and the sweeping social changes that accompany it, have sometimes been likened to a speeding bicycle that has to keep going just to keep from falling over. Exports, wages, rural-to-urban migration, public infrastructure, productive business capital, the energy supply, and the housing stock must all keep rising in tandem with the expectations of investors and families. If any sector of the economy falters, the whole system may crash.

China's aging increases the pressure. On the one hand, it makes rapid growth even more essential, since workers will have to transfer a rising share of their wages to nonworking elders, either within families or through public budgets. On the other hand, it intensifies the social and political perils of breakneck development. Like many developing economies, today's China is experiencing the stresses of modernization. Tens of millions of people are moving from traditional agricultural villages to bustling manufacturing hubs. Worker mobility and turnover is rising and the income gap between the rich and poor is widening. Social services are spotty and civic authority is strained. Such stresses, bearable in a youthful society, become less tolerable in an aging society. Imagine a large share of China's postwar baby boom generation, tens of millions of whom have joined the ranks of its low-wage and rootless floating population, maturing by the year 2020 or 2030 into tens of millions of indigent urban elders who lack nearby families, lack pensions, and lack access to health care. Or imagine, in western rural regions, entire towns of demographically stranded elders.

**Without reform, China will soon have tens of millions of indigent elders who lack nearby families, pensions, and access to health care.**

The mood of a youthful society in the face of personal adversity is often hope; the mood of an aging society in similar circumstances may be despair. This mood shift could have political consequences, especially if the public sees tomorrow's overburdened workers and destitute elders as evidence of the state's lack of foresight.

Successful reform of retirement policy can forestall the crisis. With a universal floor of old-age poverty protection in place, elders will no longer have to fear that China's overburdened family support networks may fail them. With a second tier of genuinely funded personal accounts in place, a rising share of elders will look forward to a comfortable retirement. Workers would not have to transfer an ever-larger share of their wages to nonworking elders. The trajectory of China's living standard would no longer be at the mercy of demography.

**With funded pensions, China's living standard will no longer be at the mercy of demography.**

Successful retirement reform would have many other benefits as well. If elders have a guaranteed minimum pension, young workers will be able to move away to take a better job without having to worry about their aging parents; young entrepreneurs will find it easier to take risks in starting a new business if they do not have to fear jeopardizing their own future old-age security. The long-term political result may be to bolster popular support for the public planners and administrators who wisely prepared for China's unprecedented demographic makeover.

Successful retirement reform would play an especially profound and positive role in fostering the growth of China's capital markets. Nearly all economists agree that sooner or later a developing economy needs to build broad and deep capital markets. China is no

different. It needs them to raise capital efficiently from the savings of hundreds of millions of working families who today often invest their money in unproductive housing or deposit it in banks that have trouble lending further due to the liability overhang of nonperforming loans. China also needs broad and deep capital markets to allocate capital efficiently to different industries and businesses.

China's labor markets and product markets are now more liberal than those in some capitalist economies. Its capital markets, however, have changed only superficially since the days of central planning. In effect, most of the capital in China is still allocated by the government through the state-owned banks. History has proven, time and again, that no administrative process can approach the efficiency of decentralized markets in allowing investment resources to seek out the highest return. Today in China many large favored enterprises are awash in investment funds despite poor expected returns and prospects, while many small unnoticed enterprises are starved for funding despite excellent expected returns and prospects.

Over the past twenty-five years, the underdevelopment of China's capital markets has not done much to hinder China's economic performance, because so much of the stellar gains in real GDP have been generated by the mass internal migration of workers from the country to the city. Underemployed workers from nonmarket rural sectors who once hardly participated in the national economy are taking full-time, low-skilled production jobs that are integrated with the global economy. With the migration comes a huge jump in the productivity of the workers, even when the firms offering the jobs are not accountable to financial markets (for example, large and politically sensitive SOEs) or rely mainly on foreign capital (the so-called "manufacturing platforms").

### **China's development agenda will increasingly depend on the vitality of its capital markets.**

As a major source of productivity growth, however, migration cannot continue indefinitely. In the decades to come, gains in productivity and living standards will depend increasingly on workers with good jobs finding better jobs—and on firms with established markets finding innovative ways to win

new markets. China's development agenda will, in other words, depend increasingly on the vitality of its capital markets.

A funded pension system can be a powerful means of fostering that vitality. Clearly, many institutional reforms may be needed to prepare the way, including legislation that better defines personal and financial property; court-enforced due process protecting ownership rights; better collection of economic data by government agencies; and an expert regulatory administration with enforcement authority that codifies "fair" trading in financial markets and protects investors against deception and fraud. Once in operation, however, millions of personal accounts would prove to be a vital source of strength to China's capital markets. If China's current personal accounts system were extended to the entire urban workforce, total contributions this year would come to about 250 billion yuan. That's equivalent to roughly 20 percent of the current market value of all tradable equities in China's stock market. Even a small fraction of this sum would constitute a substantial inflow of market capital. Beyond the sheer volume of funds, moreover, personal accounts will educate workers about how financial markets function. In the long run, workers will begin to see themselves as stakeholders in the existing economic system and—to the extent it protects and acts on behalf of that system—as property-owning supporters of the existing political regime.

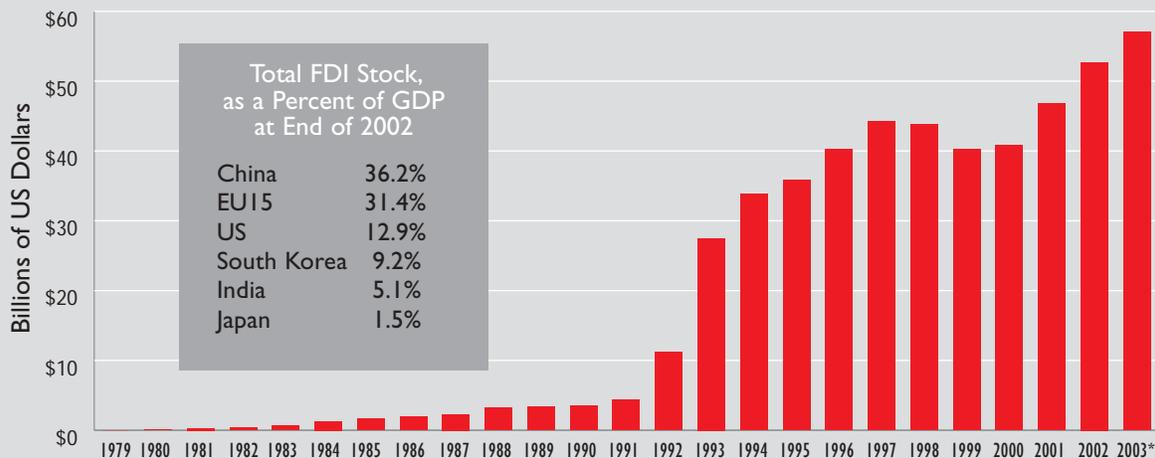
### **Successful retirement reform could help steer China toward a more dominant role in world affairs.**

The future of China's capital markets will do much to determine the future of China's role in the world economy. Strong and globally integrated markets will ensure balanced economic growth and a more dominant world role. Weak and isolated markets may lead to unbalanced growth, overdependence on foreign creditors, and a less important world role. Successful retirement reform could help steer China toward the more dominant role—and this would redound not just to its own benefit, but to the benefit of all nations.

It is well known that global markets are giving an enormous boost to China's economic development. A generation ago, China had little economic contact

## China's economic development is underpinned by massive foreign direct investment.

Annual Foreign Direct Investment in the Chinese Economy, in Billions of US Dollars, 1979-2003



\*Preliminary estimate.

Source: UNCTAD (2004) and World Bank (2003)

Figure 18

with the rest of the world. Today, exports of goods and services have reached 27 percent of GDP, ranking China (in dollars) as the world's sixth largest exporter. At current rates of export growth, China's rank will within five years climb to fourth place, behind only the United States, Germany, and Japan. Between 1990 and 2002, foreign direct investment in China rose from 7 percent to 36 percent of GDP. In dollars, the inflow of new investment totaled \$57 billion in 2003, making China the largest recipient of FDI in the world. (See Figure 18.) No other large economy at a similar level of economic development and living standards—not the United States 150 years ago, nor Japan 100 years ago, nor Mexico 50 years ago, nor India today—has experienced such a rapid integration into the global marketplace.

Yet there are drawbacks to a prolonged dependence on foreign markets, especially if the dependence means that foreign owners continue to act as direct investors in the most innovative and productive firms. It means that the high rates of return on these firms will continue to accrue to foreign rather than Chinese owners. It may hinder the “hands-on” experience of a new generation of professionals, managers, and entrepreneurs who can gradually take Chinese-owned and Chinese-managed firms “up the value chain.” Together with the immaturity of China's own capital markets, heavy reliance on foreign export platforms

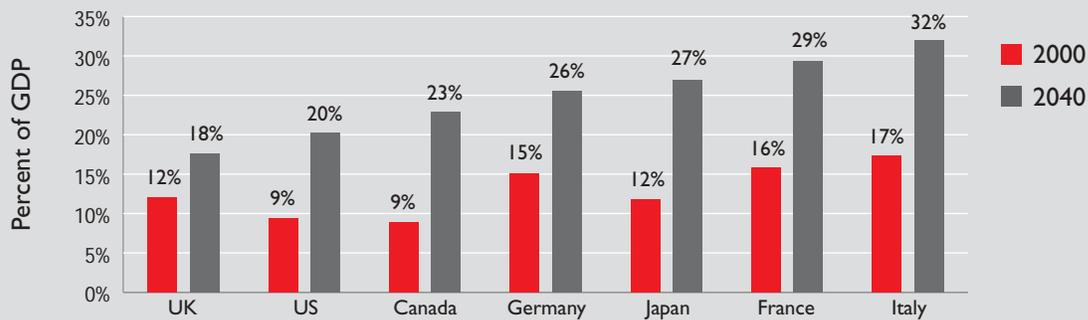
leaves China's workforce and economy perilously vulnerable to sudden drops in global prices for a relatively small number of export products. Because China is such a large economy, such busts could easily be triggered by its own export growth—the so-called immiserating growth scenario.

**As the developed world ages, China's reliance on foreign capital inflows will become dangerous.**

Another problem may be a decline in the availability of affordable foreign capital over the next few decades. Most of today's rich countries face towering age waves that are cresting sooner than China's. Traditional economic theory says that global capital flows naturally from older, slower-growing, developed economies to younger, faster-growing, developing economies. But in recent years this theory has been called into question. Although investment demand in the developed countries will certainly decline as these countries age, the steep rise in the share of households in their retirement years could also erode the supply of private-sector savings. Meanwhile, public sectors throughout the developed world may well be burdened by large and chronic

## The economies of today's rich countries may be increasingly hobbled by the enormous fiscal cost of their age waves.

Public Benefits to the Elderly (Aged 60 & Over), as a Percent of GDP, 2000 and CSIS Projection for 2040



Source: CSIS (2003)

Figure 19

deficits. Nearly all developed countries have expensive pay-as-you-go retirement and health benefit programs whose costs will climb steeply in coming decades. According to CSIS projections, the average cost of public benefits to the elderly in the seven largest developed economies is due to rise from 13 percent of GDP in 2000 to 25 percent of GDP in 2040. (See Figure 19.) Even if they enact large benefit cuts, most of these countries will have trouble maintaining fiscal balance.

The lesson for China is that indefinite dependence on foreign capital inflows may not even be a viable option, much less a desirable one. China today runs a modest overall current-account surplus, but only because its large net inflow of private-sector direct investment is more than offset by large net government purchases of foreign securities. To maintain balanced development as its economy matures, China would be well advised to plan on increasing its current-account surplus in the decades to come—not through continuing government intervention, but through policies that allow China's capital markets to compete directly with global capital markets as a source of business financing.

Such policies, once again, would require China to build deeper and broader capital markets. They would also require China gradually but fully to open up its capital markets and integrate them with the global economy. Chinese investors must be able to compare the return on any domestic industry or

company with similar industries or companies abroad. Chinese firms must learn to “read” global markets to seek out new customers, diversify their exports, and, if necessary, make their own strategic direct investments in developed countries. Over time, the funded personal accounts tier of China's reformed pension system could prove to be a powerful force behind the global integration of its capital markets. Personal accounts would be the vehicle by which millions of ordinary households help diversify China's portfolio.

### Personal retirement accounts could help the government manage the transition to a float.

Capital market integration would of course be a gradual process lasting many years. It would, eventually, require floating China's currency against most other nations. Transitioning to a float in turn raises concerns about the possibility of a large initial drop in the RMB as Chinese investors start moving into foreign securities. Personal retirement accounts could be helpful in managing this transition by enabling the government to regulate the flow of Chinese savings abroad. For example, administrators could gradually raise (or freeze, if necessary) a cap on the foreign share of assets in each account. Funded retirement accounts thus furnish an ideal means to regulate a transition that

most policy experts in any case believe is sooner or later unavoidable.

### **The whole world has a stake in China's success.**

China needs broader and deeper capital markets to build the funded pension system on which a successful retirement policy rests. But it also needs a funded pension system to build the broader and deeper capital markets on which its development agenda ultimately depends. If China is successful, the future will not only be one in which elders retire in greater comfort and families live with less worry, it will also be a future in which capital

formation is stronger, living standards are higher, and public trust in government is firmer. Most of all, it will be a future in which China's maturing role in the global economy undergoes a basic shift—from a vast reservoir of unskilled labor to a dynamic, high-saving, high-investing, high-value-added economy. The whole world thus has a stake in the outcome.

Current projections indicate that China will catch up in age with the developed world by the middle of the twenty-first century. Looking back, China may not have to regret that it grew old before it grew rich. Instead, if it chooses wisely today, it may take pride that it prepared for the future before it grew old.



## A Note on Data and Sources

*The Graying of the Middle Kingdom* draws on a wide variety of sources, from government statistical yearbooks to academic articles, trade and industry reports, newspaper stories, and discussions with experts. This note identifies the most important data sources and calls attention to a few of the most useful studies.

Most basic demographic data, historical and projected, come from the UN Population Division and are published in *World Population Prospects*.<sup>18</sup> These data include total population, population by age, support ratios, median ages, total fertility rates (except for Chinese historical figures), and life expectancy at birth. The advantage of using UN population data and projections is that it facilitates international comparisons. For a few specific types of data, however, the report relies directly on Chinese Census data or on studies based on Census data. These include historical estimates of Chinese total fertility rates<sup>19</sup> and sex ratios,<sup>20</sup> estimates of the floating population,<sup>21</sup> and data on the living arrangements of the elderly.<sup>22</sup>

Unless otherwise noted, all demographic projections refer to the UN's "constant fertility" scenario. As its name implies, this scenario assumes that current fertility rates in each country will remain unchanged in the future. CSIS believes that this scenario constitutes a better baseline than the more commonly cited "medium variant" scenario, which arbitrarily assumes a convergence in fertility rates. The two scenarios diverge substantially for some countries. In the case of China, however, the choice makes little difference. By 2050, China's total population under the medium variant and the constant fertility projections differs by less than 3 percent.

Basic data on the Chinese economy, including GDP (total and by economic sector) and household income (total and by residence registration) come from the National Bureau of Statistics of China (NBS) and are published in the *China Statistical Yearbook*.<sup>23</sup> Except for participation rates by age, data on the Chinese labor force (total, by economic sector, and by residence registration) come from the Ministry of Labor and Social Security (MOLSS) and are published in the *China Labor Statistical Yearbook*.<sup>24</sup> This is also the source for average wages (national and by region) and unemployment rates. Data on general government outlays, revenue, and debt come from the *China Statistical Yearbook*. Data on Chinese financial markets—bank deposits, stock markets, and bond markets—come from the People's Bank of China, the China Securities Regulatory Commission, and the Asian Development Bank.

Data on the international economy come from a variety of sources. GDP and GDP per capita (in exchange rate and purchasing power parity dollars) are from the World Bank.<sup>25</sup> Labor-force participation rates by age are from the ILO's LABORSTA database, online at [www.laborsta.ilo.org](http://www.laborsta.ilo.org). Data on foreign direct investment are from the United Nations Conference on Trade and Development's FDI database, online at [www.unctad.org](http://www.unctad.org). Data on international trade and capital flows are from standard WTO (*International Trade Statistics*), IMF (*International Financial Statistics*), and World Bank (*World Development Indicators*) sources.

18. *World Population Prospects: The 2002 Revision*, 2 volumes (UN, Population Division; 2003).

19. *Statistical Bulletin of Family Planning* (NPFPC; various years).

20. *Tabulation on the 2000 Population Census of the People's Republic of China*, 3 volumes (Population Census Office and NBS; 2002).

21. Cai Fang, *Migration and Socio-economic Insecurity: Patterns, Processes, and Policies* (ILO; 2003).

22. Zeng Yi and Zhenglian Wang, "Dynamics of Family and Elderly Living Arrangements in China: New Lessons Learned from the 2000 Census," *The China Review*, III:2 (Fall 2003).

23. *China Statistical Yearbook* (NBS; 2003 and various earlier years).

24. *China Labor Statistical Yearbook* (MOLSS and NBS; 2003 and various earlier years).

25. *World Development Indicators 2003* (World Bank; 2003).

Data on China's basic pension system, including coverage and finances (total, by region, and by type of enterprise), are compiled by MOLSS and published in the *China Labor Statistical Yearbook* and *MOLSS Statistical Bulletins*. Most of the data are online at [www.molss.gov.cn](http://www.molss.gov.cn). Data on the rural pension system are from the same MOLSS sources. Data on civil service pensions are from specialized studies.<sup>26</sup> Data on health-benefit programs that are considered part of the social insurance system come from MOLSS and are published in the *China Labor Statistical Yearbook*. Comprehensive data on national health-care expenditures (total and by source of financing) are compiled by the Ministry of Health and were supplied to CSIS by the China Health Economics Institute. Some of the data are online at [www.moh.gov.cn](http://www.moh.gov.cn). Data on welfare programs, such as the "Minimum Living Standard Guarantee," the "Five Guarantees," and the "Three No's" are from the *China Statistical Yearbook*.

In addition to the data sources, dozens of specialized studies on China's demography, economy, and retirement system were consulted in the course of preparing this report. The following selection is meant to orient the interested reader.

On China's demography, the reader might begin with three able synopses: Athar Hussan, "Demographic Transition in China and Its Implications," *World Development*, XXX:10 (2002); Xiaochun Qiao, "From Decline of Fertility to Transition of Age Structure: Aging and Its Policy Implications in China," *Genus*, LVII:1 (January-March 2001); and Nicholas Eberstadt, "China's Population Prospects: Problems Ahead," *Problems of Post-Communism*, XLVII:1 (January-February 2000). On China's economy, the indispensable guide is *China in the World Economy: The Domestic Policy Challenges* (OECD; 2002).

There is no single authoritative and up-to-date overview of China's retirement system. A few studies, however, proved especially useful: Noriyuki Takayama, "Pension Reform in the PRC: Incentives, Governance, and Policy Options," paper presented at the Asian Development Bank Institute's 5th Anniversary Conference (Tokyo; December 5-6, 2002); Peter Whiteford, "From Enterprise Protection to Social Protection: Social Security Reform in China," paper presented at the Oxford Initiative for Policy Dialogue Workshop (September 4-5, 2001); Nelson Chow, *Socialist Welfare with Chinese Characteristics: The Reform of the Social Security System in China* (University of Hong Kong; 2000); *Old Age Security: Pension Reform in China* (World Bank; 1997); and *Financing Health Care: Issues and Options for China* (World Bank; 1997).

Among the many technical studies on Chinese pension reform, a few merit particular mention: Yan Wang, Dianqing Xu, Zhi Wang, and Fan Zhai, "Options and Impact of China's Pension Reform: A Computable General Equilibrium Analysis," *Journal of Comparative Economics* (forthcoming); Qixiang Sun and John W. Maxwell, "Deficits, Empty Individual Accounts, and Transition Costs: Restructuring Challenges Facing China's Pension System," *Journal of Insurance Issues*, XXV:2 (Fall 2002); and Estelle James, "How Can China Solve Its Old Age Security Problem?: The Interaction between Pension, SOE, and Financial Market Reform," paper presented at the Conference on Financial Sector Reform in China (September 11-13, 2001).

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Otsuka and JCER (2002) = (in Japanese) *Impacts of China's Social Security Reform* (Masanobu Otsuka and Japan Center for Economic Research; 2002).

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