Panel Discussion
Lessons from Overseas

The Reform of Social Security in Mexico

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Mexico, like many other countries in Latin America, has recently embarked on a major reform of its social security system. The main element of this reform is a transition from a pay-as-you-go pension system to a fully funded system with individual accounts and a minimum pension guarantee. In more general terms, this is basically a transition from a defined-benefit to a defined-contribution system. Mexico's previous pension system was operated by two public institutions: IMSS for private sector employees and ISSSTE for federal government employees. The IMSS pension system, which covers over 70 percent of the formal sector work force, was the focus of the recent reform. The most immediate motivation for the reform was the increasing financial difficulties the present pension system faced, rendering it unsustainable. Beneficial side effects expected from the reform include a boost to domestic saving, the development of stable, long-term sources of financing, and a reduction of distortions in the labor market.

Of the many factors underlying the pension system's present difficulties, the most salient are the following three. First was a complete dissociation between contributions and benefits. In a pay-as-you-go system, one can expect that contributions will not have a rigid relationship to benefits, particularly in extreme cases, that is, those of the lowest-paid or the highest-paid workers. Such a system often has some redistributive aspects. In Mexico, however, the imbalance between contributions paid in and benefits received became excessive. For example, a worker might contribute for only 10 years and thereby obtain the minimum pension of minimum wage for his life plus the life of his

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dependents. This is equivalent to the Mexican government issuing internal debt at a *real* rate of return of more than 50 percent. No doubt this is an extreme example. Nevertheless, for the vast majority of cases, the participation of workers in the previous pension fund system was equivalent to their investing in government debt that paid a *multiple* of the market's real rate of interest.

A second major problem the pension system faced was that reserves that should have been accumulated under the pay-as-you-go system had been depleted to subsidize deficits in other programs in the social security system, such as health and maternity benefits. A third problem was the relatively high contribution rates required by the social security system, 31.5 percent of nominal salary, which generated incentives for massive under-invoicing and outright evasion. (This 31.5 percent accounted for disability, housing, and health insurance in addition to retirement insurance.) As a result, enrollment in the system was less than what was projected by pure demographics. This history of low enrollment, together with the aging of the Mexican population, implied a rapid deterioration of the elderly dependency ratio, compounding the system's financial difficulties.

In my view, these three factors alone justified the reform of Mexico's pension system. The actuarial deficit of the previous IMSS pension system was estimated to be more than 100 percent of GDP. Had the reform not been implemented, contributions would have had to increase by more than four times by the year 2020 to avoid a cash flow deficit. Clearly, such an enormous increase in contributions to the pension fund system would have generated unacceptable distortions in the labor market.

What then are the major features of our pension fund reform, which will begin operating in July 1997? The reform basically involves improving and strengthening the Sistema de Ahorro para el Retiro, the "SAR" system, a fully funded pension system that was initiated in 1992 as a complement to the IMSS system. The former 8.5 percent of salary contribution to the previous IMSS pension system (which included both disability and life insurance) is now divided into two parts: 4.5 percent to be accumulated in individual accounts and 4 percent to go directly to the IMSS for the provision of life, health, and disability insurance for retirees. In addition, contributions to individual accounts will include the 2 percent contributions to the SAR system along with a new "social contribution" by the government, which will be a fixed amount equivalent to 5.5 percent of the minimum wage as of January 1997, indexed to inflation. Therefore, for a worker earning minimum wage, total contributions to his individual account will amount to 12 percent of his salary. For a worker earning an average wage, total contributions will amount to 8.5 percent of salary. The new regulations also allow for voluntary contributions to the individual accounts.

To be eligible for a pension, a worker must be at least 65 years old. The tax-free benefits depend on the balance accumulated over an individual's working life, that is, the contributions paid in plus returns earned on his account. And the minimum number of contributing years to qualify for a minimum pension has been increased from 10 to 25 years.

The management of pension funds will be entrusted to private pension fund administrators called AFOREs, to be regulated and supervised by a special government agency. Participants may affiliate with the AFORE of their choice. As of this writing, more than 8 million workers already have affiliated. Workers will have the right to transfer their account to another AFORE once per year. Each AFORE will be allowed to operate several pension funds, so workers will be able to invest their resources in one or several of the pension funds managed by their AFORE.

AFOREs will be allowed to charge freely determined management fees as a percentage of the contribution flows or the outstanding individual account balance, or any combination thereof. IMSS will be responsible for the collection of contributions. This is one of the reasons why commissions in Mexico are currently the *lowest* in Latin America. One drawback in the current regulations on the operation of the AFOREs is the imposition of a maximum market share of 17 percent for any individual AFORE, starting in 1997 and continuing for the next four years. Until July 1997, this restriction had not been binding, however.

A crucial determinant of the pension reform's long-term success is the nature of the transition from a pay-as-you-go system to a fully funded capitalization scheme. This process will have important fiscal and income redistributive effects, with long-term implications. As a consequence of the reform, the government now faces the problem of paying the pensions of current retirees and of honoring the claims of workers who contributed to the previous pension system. This implies higher government expenditures in the future, which could be financed by more taxes, reductions in other government expenditures, or the issuance of new debt.

How these fiscal requirements are financed over the transition will crucially influence the net impact of the reform on national saving. Debt-financing implies that in the short run, national saving and the capital stock will be only marginally affected, and primarily by magnitudes that depend on the net efficiency gains of the financial system as well as on voluntary saving. On the other hand, if these future fiscal deficits are financed through taxation, this will essentially combine pension reform with tighter fiscal policy. This strategy would imply a transfer of resources from current to future generations, encouraging a higher rate of saving and, thus, capital stock formation. Mexico plans to follow a combination of both options, which in principle should allow the reform to have a positive impact on national saving.

The fiscal costs of the reform in net present value are estimated at roughly 80 percent of GDP. The incidence of this cost will be between 0.8 and 1.0 percent of GDP per year in the coming years, but it will increase through time, reaching a peak of about 3.0 percent of GDP in approximately 35 years. Several studies have analyzed the transition under the assumption that it will be partly debt-financed. The results obtained predict increases in net saving of between 2 to 3 percent of GDP in the near future, independent of the impact of voluntary saving. The latter could make a significant contribution to saving, given the fact that with the reform a large portion of the population will for the first time have access to saving services in the formal financial system, which should translate into more efficient intermediation of saving in the economy as a whole.

In addition, the pension reform will produce a significant long-term increase in the availability of financial resources to the economy. This should promote further financial specialization and the creation of new financial instruments, in particular, medium- and long-term securities. These are urgently needed in Mexico, given that most lending is now concentrated in loans tied to short-term interest rates, with maturities of less than a year in most cases. The pension fund reform should also promote the development of the stock market in Mexico.

Estimates indicate that within 25 years, the reform could double financial savings in Mexico. The availability of these resources will promote financial deepening and long-term investment, which should have a significant impact on growth. For the Mexican economy to grow at a minimum of 5 percent annually, it requires an investment rate of 25 percent of GDP. For this to be possible without excessive reliance on foreign saving, domestic saving will need to increase in the coming years by between 5 and 6 percent of GDP. The pension fund reform should provide half of that requirement, which is a very significant contribution indeed.

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Panel Discussion: The United Kingdom's Pension Program

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The United Kingdom, unlike many other industrialized countries, does not appear to have a financing crisis in social security provision. It has accomplished a substantial privatization of pension commitments without apparent political controversy, and major cutbacks in the value of social security without vociferous opposition. How has all this been achieved, and what have been the costs of the process? This paper provides a brief exposition of the United Kingdom's pension policy, future financial projections, and the impacts of pension provision on saving and on retirement behavior.

It is important first to note that there has been no "clean break" privatization of social security in the United Kingdom (UK), unlike, say, Chile. I have argued elsewhere (for example, Disney 1996; Disney and Johnson 1997) that the history of social security policy in the UK until the mid 1980s in fact involved a "creeping nationalization" of existing arrangements: for example, the conversion of early mutual social insurance organized by workers into Beveridge's public scheme of National Insurance and, much more recently, the incorporation of employer-provided pension plans through the "contracting-out" principle established in the 1975 Social Security Act. Indeed, the period from 1975 to 1986 saw an abortive experiment in comprehensive social security following the introduction of the State Earnings-Related Pension Scheme (SERPS), and it was not until the 1986 legislation that a decisive move from public to private pension provision was initiated.

A second preliminary point is that the reform process is probably not

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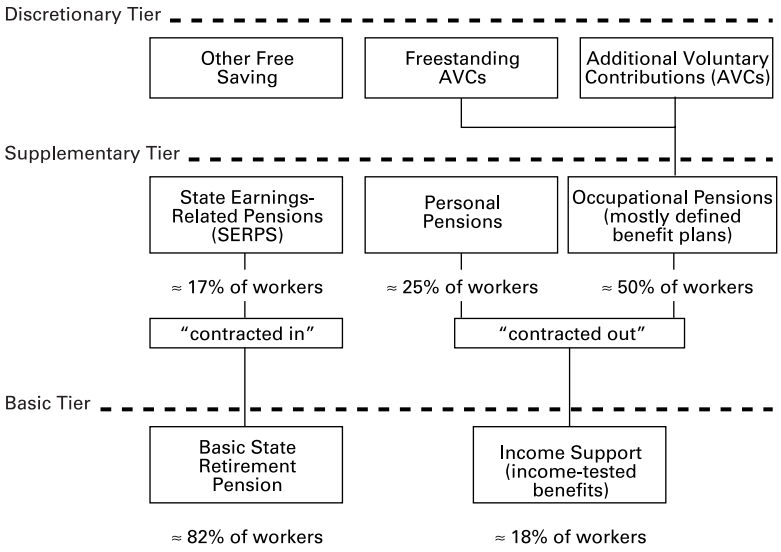
Figure 1
Structure of UK Pension Scheme



Source: Disney (1996).

yet complete in the UK. Major reforms have been enacted at the midpoint of every recent decade (in 1975, 1986, and 1995) and indeed further radical change was suggested by the Conservative government before their electoral defeat in May 1997. The program of pension provision, through both social security and private means, is now rather complex and a substantial simplification is probably the next issue on the agenda.

The Structure of the UK Pension Program

The scheme of pension provision in the UK has some parallels with the three-tier structure proposed by the World Bank (1994), comprising a basic flat tier of social security provision, a supplementary compulsory tier of mixed provision, and a third tier of discretionary contributions. (The program is presented in stylized form in Figure 1.)

The Basic Tier

The basic tier represents the oldest and most resilient part of the UK's social security program. The basic state retirement pension (BSP) is a

universal flat contributory benefit, financed on a pay-as-you-go basis by an earnings-related payroll tax levied on employers and employees known as the National Insurance contribution. The contribution rate structure is proportional to earnings but there are various anomalies including a floor (not an allowance) and a ceiling on employee contributions, but not on those of employers. A further complication arises because the floor and ceiling are indexed in line with inflation, along with the BSP in payment since 1982, whereas other components of the scheme, such as accrued SERPS entitlements (see below) are indexed in line with earnings. Unlike the United States, the UK has seen positive real earnings growth for the last two decades of around 1½ to 2 percent per annum, and the Government Actuary projects future real earnings growth at a similar rate. Consequently, the value of the BSP relative to earnings has now fallen back to its 1950 level (see Disney 1996, Figure 4.2) and is currently worth around US $110 per week for a single person—around 15 percent of the average weekly earnings for men.

State pensionable age is currently 65 for men and 60 for women. There is no scope for early retirement with reduced benefits through the social security program (although, *de facto*, disability benefits may have fulfilled that function). Deferral of receipt is uneconomic given that the earnings test on earnings after state pensionable age has been abolished. The age of receiving the state pension will be equalized at 65 over the second decade of the next century.

Since the BSP is contributory, some individuals fall through the net and they are entitled to welfare benefits, paid nationally out of general taxation. The key income-tested benefit, Income Support, is, by a historical quirk, paid at a slightly higher rate than the BSP and pensioners may also be entitled to help with their housing costs. Thus, almost 20 percent of pensioners receive either BSP plus Income Support or just Income Support. The take-up of the income-tested benefit is not 100 percent, and a few pensioners may actually be below the poverty line as defined by the Income Support level. Several proposals are now extant for somehow combining the BSP and Income Support into some form of Minimum Income Guarantee.

The Supplementary Tier

The second tier of the UK program is of some interest. Under existing arrangements, employees are statutorily required to choose one of three broad "routes" to a supplementary pension. They can switch between these routes, costlessly as between social security and private provision, but not always costlessly between the private routes.

The first option is to remain "contracted-in" to the social security program. Such an individual will pay the full rate of the National Insurance contribution (as will his or her employer) and will be entitled

to receive on retirement the State Earnings-Related Pension (SERPS). SERPS has been through a complex and checkered history. It was introduced in 1975 with accelerated accruals for early cohorts (retiring between 1998 and 2018) and generous provisions such as benefit calculation on the basis of 20 best years' revalued earnings. However, the 1986 legislation reduced the generosity of the scheme; in particular, benefits after 1986 have been calculated on an average lifetime basis. A further cutback was introduced in 1995, applying retrospectively. SERPS benefits are poorly understood and these reductions in benefit levels have had little impact on public perception.

The second route to a supplementary pension is through an employer-provided pension scheme. Until 1975, a variety of pension schemes were on offer, of both defined-benefit and defined-contribution type and covering just over half the work force. Under the 1975 legislation, which introduced SERPS, an "approved" employer-provided scheme, which had to be of the defined-benefit form, could obtain "contracted-out" status. In return for the employer and employee paying a lower rate of National Insurance contribution (the difference was known as the Contracted-Out Rebate), the employer's scheme would guarantee to pay a Guaranteed Minimum Pension approximately equal to the value of SERPS. In addition, employer-provided plans would receive various forms of tax relief: on contributions, on the value of the accumulated fund, and in that the whole fund need not be annuitized because a fixed fraction could be taken as a tax-free lump sum at retirement. Most existing plans reconstructed themselves as defined-benefit plans in order to obtain contracted-out status by the time the provisions of the 1975 Act were introduced in 1978.

A third route was introduced as a result of policy discussions in 1985. Worried about the future costs of the BSP plus SERPS programs during the demographic transition (Hemming and Kay 1982), the government tried to abolish SERPS and to introduce some form of mandatory defined-contribution private pension scheme. For various reasons this did not occur, but the 1986 Act nevertheless introduced a radical reform, including a sharp cutback in SERPS benefits. At the same time, the government relaxed the conditions governing contracting-out status, permitting defined-contribution plans to obtain contracted-out status so long as they guaranteed to invest a minimum level of contributions on behalf of the individual. It seems that the government anticipated that this would lead to an upsurge in contracted-out employer-provided plans. Instead, the combination of tax reliefs and relaxed approved status, coupled with the abolition of tax reliefs on life insurance in 1984, led to the insurance industry's offering of individual retirement savings accounts known as Personal Pensions. These proved very attractive and were intensively sold, so that almost 25 percent of the work force had purchased such plans by 1991–92, mostly opting out of SERPS but, in

some cases, choosing not to join, or even to leave, an employer-provided defined-benefit plan.

Individuals in an approved Personal Pension plan will have the contracted-out rebate (COR) invested on their behalf in their chosen account by the Department of Social Security, which acts as a clearing house. Initially the government also offered a 2 percent bonus contribution to Personal Pension optants in addition to the COR and the value of the tax relief on the COR plus bonus, as part of its investment in the individual's plan. This could total 8.46 percent of eligible earnings, compared to a 5.2 percent contribution into SERPS. With rates of return on SERPS plus BSP likely to be negative for young male cohorts (see Disney 1996, Table 4.5) and an excess yield on capital assets over real earnings growth of some 3 to 4 percent, this proved an incredibly attractive option, with 40 to 50 percent of individuals in their twenties buying a Personal Pension. Subsequently the government has cut back the level of the bonus and the COR, which since 1997 is to be positively related to age.

Individuals can choose to switch between various routes; for example, reverting to SERPS later in life when the relative returns to a Personal Pension became less attractive (see Disney and Whitehouse 1992). Thus, an individual entering the labor market in 1978 could well have accumulated 10 years of SERPS accruals at the more attractive initial rate, opted to buy a Personal Pension in 1988, and then reverted to SERPS at the lower accrual rate some years later, so retiring with a combination of SERPS and a Personal Pension. (This strategy of switching later in life would not, however, now be an attractive option under current rules.) This would require no additional contribution or "free saving" for retirement on his or her own behalf. Alternatively, an individual can defer joining an employer's defined-benefit plan, in this way incurring no employee's contribution but also receiving no employer's contribution into a Personal Pension; or, even more controversially, he or she can leave an employer's plan and invest the accumulated transfer value in a Personal Pension. This would typically involve double transactions costs (actuarially unfair transfer value plus start-up costs in the new Personal Pension) and has been the basis of much of the mis-selling controversy that has dogged the Personal Pension industry since the problem was identified in the mid 1990s.

The Discretionary Tier

Neither the basic nor the supplementary tier need require any free saving by the individual, although an employer-provided pension plan will typically require an additional employee's contribution to the plan. It is then open to the individual to invest additional amounts in either the social security program or a private pension scheme. Usually the former

takes the form of paying any additional National Insurance contributions needed in order to obtain a full contribution history. Individuals cannot raise their SERPS valuation of benefits by additional contributions. In a similar vein, individuals can pay additional voluntary contributions (AVCs) into their employer-provided pension plan in order to boost benefits. Since 1986, they can invest these additional contributions in any retirement savings account and receive further tax relief, so long as the ceiling on tax-relieved contributions is not exceeded (currently rising from 17.5 percent of earnings to 40 percent, according to age). These additional contributions are termed "freestanding" additional voluntary contributions (FSAVCs).

For those who have opted to contract out through an approved Personal Pension, additional contributions can give tax relief and are typically encouraged by the insurer. Around half of those who have purchased a Personal Pension choose to make additional contributions. The typical Personal Pension optant is young, and tentative evidence from panel data suggests that contributions to Personal Pensions are not very persistent (Disney 1998) and also gives some cause for concern about a high lapse rate among Personal Pension policies, with up to 25 percent of policies lapsing in the first two years after the contract (Disney and Johnson 1997), largely because of failure to make precommitted additional contributions.

Finally, it should be noted that a variety of other tax-relieved instruments for saving are also available in the UK economy, as well as retirement saving-linked insurance policies. (For a discussion, see Banks and Blundell 1994.)

Financial Projections of the UK Social Security System

Table 1 shows the consequences of these arrangements for the projected future costs of social security in the UK. The bottom line: The change in the contributor–pensioner ratio (the support ratio), is a key variable. It falls from 2.1 currently to just over 1.5 by the tax year 2050–51. Indeed, without the equalization of state pensionable age at 65, the ratio would have fallen to below 1.4 by that year. Nevertheless, it will be observed that the National Insurance contribution rate remains roughly constant during the demographic transition and is indeed projected to fall after year 2030–31.

The reasons for this decline in the cost of supporting the social security pension program have been implicit in the discussion of the previous section. They are as follows:

- the decline in the value of the Basic State Pension (BSP) relative to earnings,

Table 1
Future Trends in UK Social Security Expenditures, Contribution Rates, and Support Ratio

Tax Year	1994–95	2000–01	2010–11	2030–31	2050–51
£ Billions					
Basic Pension	26.9	29.8	33.6	41.9	42.3
SERPS	1.8	4.2	8.4	12.0	9.9
Incapacity Benefits	6.3	5.7	6.3	6.9	6.5
Other Benefits	2.5	2.6	2.4	3.0	2.9
Total Benefits	39.9	42.2	50.8	63.8	61.7
National Insurance Contribution Rate (percent)	18.3	17.9	17.5	17.4	14.1
Number of Pensioners (millions)	10.6	11.0	12.4	14.7	14.9
Number of Contributors (millions)	22.0	22.7	24.0	23.9	22.9
Support Ratio	2.06	2.06	1.94	1.63	1.54

Notes: All expenditures in 1994 prices.

"Other Benefits" include widows' benefits.

The contribution rate is the average joint contribution rate for contracted-in employees.

The assumed contracted-out rebate for the years 1997–98 to 2000–01 is 4.95 percent. In fact it has been subsequently set at 4.6 percent and will be age-related for defined-contribution schemes including Personal Pensions.

Source: HMSO (1994), Tables 1 and 3 and Appendix D.

- the equalization of state pensionable age at 65,
- increased contracting out of the State Earnings-Related Pension Scheme (SERPS), which raises current contribution rates and lowers future contribution rates, and
- the downgrading of the value of SERPS in the 1986 and 1995 legislation.

It is interesting to note that had the pre-1982 indexation arrangements for the BSP remained in place, total expenditure on the BSP in 2030–31 would have been around £80 billion, not £41.9 billion as estimated in Table 1. In addition, the original 1975 version of SERPS would have cost something between £45 billion and £50 billion by the same year. Thus, total spending on social security pensions in that year would have been closer to £140 billion, necessitating a payroll tax rate of around 35 percent. In addition, around £11 billion is currently spent out of general tax revenues on Income Support and housing benefits for the elderly. This figure is projected to decline as SERPS and employer-provided pension plans mature; however, given cutbacks in the BSP and SERPS, the cost of income-tested benefits may not decline as sharply as it would otherwise have done. On the offsetting side, pensioners would pay direct and indirect taxes that would counter these central tax expenditures.

Impact on Saving and on Retirement Behaviour

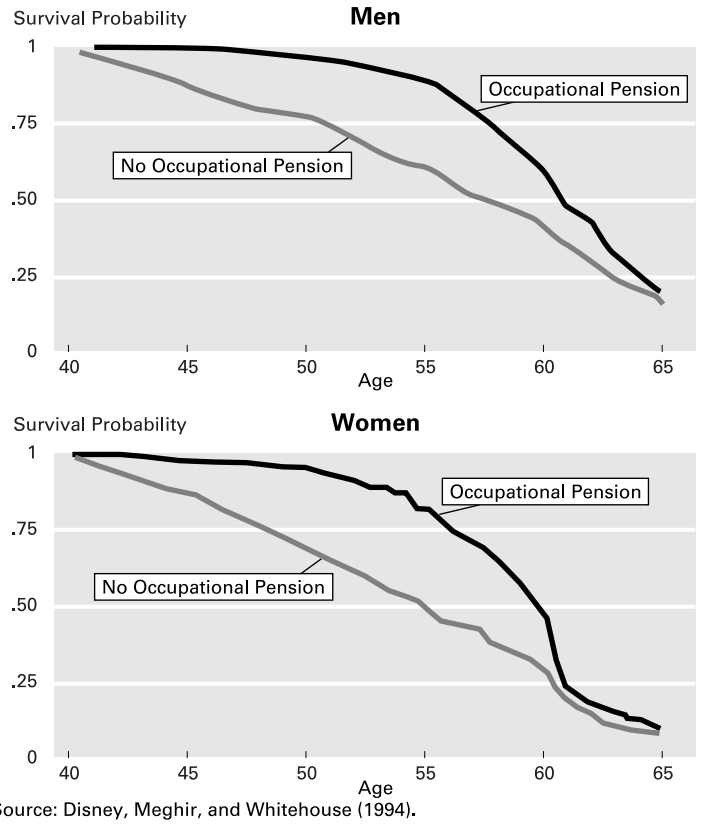
Private Savings

Total private savings in 1996 in the UK totaled £62 billion and the saving rate, as a percentage of disposable income, was 11.7 percent. Personal sector asset accruals totaled around £100 billion, of which £38 billion was financed by borrowing (largely for house purchases) offset by £35 billion in net fixed-asset acquisition (again, largely for house purchases). Thus, around £65 billion was saved in non-fixed assets.

Of this total, over half, or £34 billion, was invested in pensions and life insurance, two-thirds of which was in pensions. Saving through employer-provided pension plans totaled around £21 billion, whereas only £3.7 billion was invested by individuals in additional saving in Personal Pensions. Thus, unlike the United States, where saving in 401(k) plans and IRAs has tended to overtake saving in traditional employer-provided plans, pension saving in the UK is still made predominantly through employer-provided, largely defined-benefit, plans. Even if there were no substitution between Personal Pension saving and other forms of saving (which may not be an unreasonable assumption), Personal Pension saving accounts for less than 6 percent of net private saving.

Personal Pension "free" saving is low, for two reasons. First, the majority of contributors are young. Second, the bulk of saving is undertaken on behalf of individuals by the government. This takes two routes: tax reliefs on discretionary saving, which account for at least £1 billion of the £3.7 billion, and, more important, investment of the contracted-out rebate (COR) by the government on behalf of individuals into their approved Personal Pension plans, totaling £2.4 billion in 1996. Thus, of total savings in Personal Pensions of £6.1 billion, at least £3.4 billion is provided, directly or indirectly, by the government. It is unlikely that the positive effects on the capital stock of extra "free" saving in Personal Pensions outweigh the implicit higher tax liabilities arising from the high degree of fiscal transfers into such plans. On the other hand, the assets of employer-provided pension funds, which are predominantly invested in equities, may well have encouraged higher levels of capital formation. For personal pension saving to increase significantly, however, more thought will need to be given to persuading individuals to contribute more to their personalized retirement saving accounts, or to establish mandatory private saving. This is under active consideration by the present government, although the immediate effect of the June 1997 Budget was actually to reduce significantly the attractions of extra saving through Personal Pensions.

Figure 2
Retirement Survival Functions

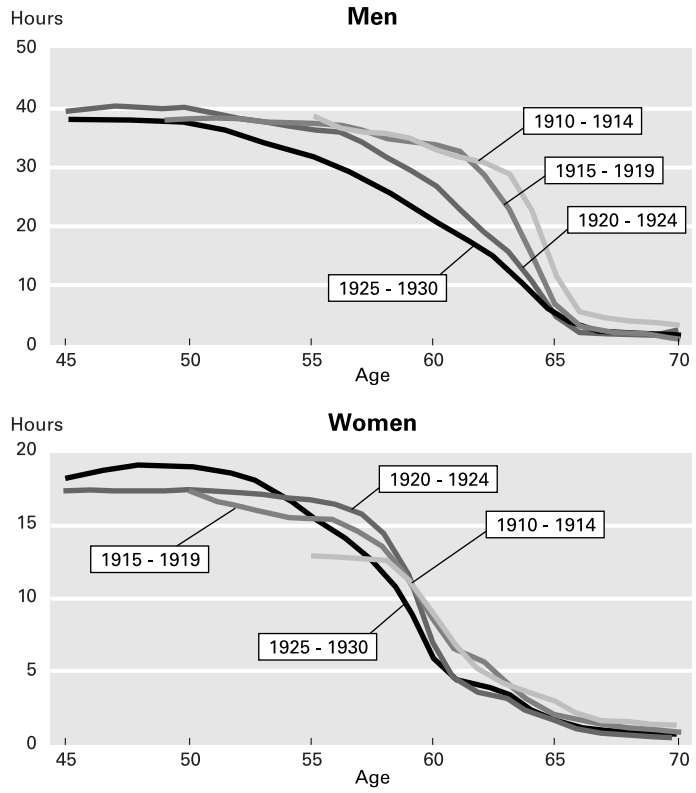


Source: Disney, Meghir, and Whitehouse (1994).

Retirement Behavior

Retirement behavior in the United Kingdom is affected by two key parameters: whether the individual belongs to an employer-provided pension plan (Occupational Pension Plan) and the date of the individual's birth cohort. These facets are illustrated in Figures 2 and 3, respectively. Figure 2 plots retirement survival functions by occupational pension status for men and women. These are nonparametric survival functions plotted from the recall history in the first (1988–89) wave of the Retirement Survey (for further details, see Disney, Meghir, and Whitehouse 1994). The function for individuals who do not belong to an employer-provided plan is almost linear, implying an approximately constant hazard of exit into inactivity prior to state pensionable age at 65 (for men) or 60 (for women). This flow into inactivity is governed by job

Figure 3
Weekly Hours of Work at Ages 45 to 70, by Birth Cohort, Great Britain



Source: Disney (1996).

loss, a shift into disability benefits, or other reasons for shifting to labor market inactivity. Those who belong to occupational pension schemes have a very different implied hazard, however. Labor market attrition is very slow initially, until early retirement incentives in employer-provided pension plans cause a much sharper drop out of economic activity, so that by age 65 the survival rates are identical for men. (It should be noted that the 1988 wave contains few women in the older age groups and that analysis of the second (1994) wave of the panel will give a better guide to actual retirement behavior of all age groups.)

The second main source of cohort variation is the cohort to which the individual belongs. Figure 3 (utilizing data from Disney (1996) Figure 7.2) shows a pattern similar to that in the United States for men, where each successive cohort reduces its hours of work from an earlier age. For women, the position is more complex. Each successive birth cohort has a

higher level of labor force participation coming into later working life, and thus tends to reduce hours earlier from a higher base level. Consequently each cohort crosses the previous cohort and the trend to earlier reductions in hours is less noticeable. More recent evidence suggests that these reductions in hours (largely in participation) may have stabilized after the significant reductions of the 1970s and early to mid 1980s, but the long-term policy issue remains, of maintaining labor force participation of older workers in the face of greater longevity and general population aging.

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Panel Discussion: Retirement Income Policy in Australia

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Australia provides an interesting case study in retirement income policy, being one of a small number of countries to adopt a system of mandatory contributions to private retirement funds. The system is aimed at eventually providing fully funded incomes for most retirees, in place of relying predominantly on unfunded government pension benefits. In the remarks that follow, I want to convey some of the distinctive features of the Australian experience and to outline briefly how the current policies came to be adopted. At the same time, I will highlight some policy issues that might have wider applicability to other countries.

The Australian System in Brief[1]

Australia has two main policy-supported sources of retirement incomes: the government age pension, traditionally relied upon by a large majority of retirees, and employer-sponsored superannuation. Prior to the mid 1980s, the provision of superannuation coverage by employers was voluntary. It was, and to a lesser extent remains, concessionally taxed. The thrust of the policies introduced since 1986 has been to expand the superannuation system by introducing mandatory coverage and by gradually raising the level of required contributions. The accumulation of these mandatory savings will eventually crowd out reliance on the government pension. We are still in the early stages of this transition, so the incomes of current retirees still largely reflect the structure of the preexisting system.

In international terms, the government age pension in Australia

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[1] For a detailed description and history of the Australian system, see Edey and Simon (1996), and Bateman and Piggott (1996).

Table 1
Superannuation Coverage

	Public Sector		Private Sector		All Employers	
Year	% Covered	% of Labor Costs	% Covered	% of Labor Costs	% Covered	% of Labor Costs
1985/86			32.3	3.3		
1986/87	63.4		31.8	3.4	41.6	
1987/88	68.0		34.1	3.5	44.0	
1988/89	90.4		40.7	3.2	54.8	
1989/90	91.7		56.9	3.8	66.9	
1990/91	93.9	6.0	67.5	3.9	75.3	4.6
1991/92	94.6	6.4	70.7	4.2	77.6	4.9
1993/94	97.0	6.9	89.4	4.9	91.5	5.6

Source: Edey and Simon (1996).

probably appears somewhere in between a safety net and a more comprehensive system of income support. The pension for an individual is set at a flat rate of 25 percent of average weekly earnings, while the combined rate for a couple is a little less than double the individual rate. Currently, about 80 percent of the population over 65 years of age receive the pension, either in full or part, with around 60 percent receiving the full pension. The pension is noncontributory and funded from general revenue, at a cost to the federal budget of around 3 percent of GDP.

Historically, the other form of systematic retirement provision in Australia has been employer-sponsored superannuation. Before the move to mandatory coverage began in 1986, superannuation plans covered about one-third of private sector employees, who were concentrated at the high end of the income distribution. These were mainly defined-benefit plans and were often structured as a form of loyalty incentive to reward long-term employment. Public sector schemes provided similarly structured benefits but were generally unfunded, and their coverage was higher.

In a series of steps beginning in 1986, the Australian government made it mandatory for employers to provide superannuation coverage for their employees (subject to some minor exceptions) and set a timetable for gradually raising the level of employer contributions to 9 percent of earnings by the year 2002. This schedule has been put into law and is backed up by tax penalties for noncompliance. The current rate of compulsory contributions is 6 percent. Since the introduction of the scheme, private sector coverage has risen from around 30 percent to nearly 90 percent of employees, while public sector coverage has reached 97 percent (Table 1). While many of the older defined-benefit plans remain in existence, most of the newer plans introduced in response to the government requirement are of the defined-contribution type.

Many of the features of the superannuation industry remain as they were when coverage was voluntary. Superannuation funds are privately

operated and managed. Subject to the normal trust laws and restrictions on self-investment, fund managers have wide discretion in the allocation of portfolios. Many of the rules concerning the form in which accumulated benefits can be accessed (for example, the availability of lump-sum benefits) also remain unchanged, raising some important policy issues that will be discussed below. Choice of fund typically has been with the employer, although the government has recently announced a move to allow greater employee choice.

In broad outline, the Australian system of government-mandated, but privately managed, retirement saving is similar to the Chilean system, with the important exception that Chile places the choice of fund with the individual. There is also some similarity to the U.K. strategy, which effectively sets a minimum saving requirement and allows that to be satisfied by private pension contributions under an opt-out provision. Unlike a number of countries undergoing reform in this area, the transitional issues in Australia are not complicated by the existence of a contributory public sector pension with an associated stock of unfunded liabilities. The transition to reduced reliance on the government pension in Australia will essentially be a consequence of the interaction between the existing means tests and compulsory private accumulation. As private savings accumulate, an increasing proportion of retirees are projected to become ineligible for the government pension.

Background to the Change

The historical background to the introduction of compulsory superannuation in Australia illustrates vividly the importance of institutional history. Although there were sound reasons for moving in the direction taken, the timing and nature of decisions taken along the way were partly accidental or related to other policy objectives.

The initial vehicle for widening superannuation coverage in the 1980s was the industrial relations system, which at that time was characterized by a series of centralized wage agreements ("the Accord") between the government and the peak trade union body. In the 1985–86 period, the main objective adopted by the Accord partners was to have a requirement for employer-provided superannuation accepted as a standard minimum employment condition. Glossing over some of the legal complexities of this process, the Accord partners were successful in having this accepted by the industrial relations court in 1986, with an initial minimum contribution rate set at 3 percent. This remained the basis of the mandatory saving policy until 1991, when the government legislated for higher contribution rates and established tax penalties for noncompliance.

The initial push for compulsory superannuation reflected several factors at work at the time, including a trade union desire for wider

Table 2
International Comparison of Aged Dependency Ratios

	1960	1990	2000	2010	2020	2030
Australia	13.9	16.0	16.7	18.6	25.1	33.0
Canada	13.0	16.7	18.2	20.4	28.4	39.1
France	18.8	20.8	23.6	24.6	32.3	39.1
Germany	16.0	21.7	23.8	30.3	35.4	49.2
Italy	13.3	21.6	26.5	31.2	37.5	48.3
Japan	9.5	17.1	24.3	33.0	43.0	44.5
United Kingdom	17.9	24.0	24.4	25.8	31.2	38.7
United States	15.4	19.1	19.0	20.4	27.6	36.8

Source: Edey and Simon (1996).

coverage, essentially on grounds of social equity, and a general macroeconomic goal of promoting saving. The 3 percent initial contribution rate corresponded to a centralized wage increase forgone, which would otherwise have been claimed by the unions as compensation for inflation.

As the system subsequently developed, broader strategic goals were more fully articulated, probably the most important of which was to raise national saving. Longer-term concerns about the impact of population aging were also relevant, but they did not feature prominently in the early debates. In this context, it is interesting to note that the projected population aging in Australia is less pronounced, and will occur later, than in most other industrial countries (Table 2).

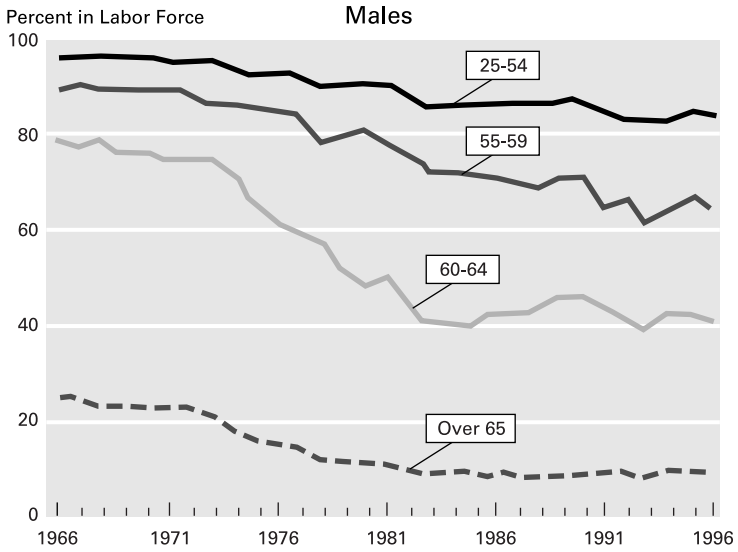
Some Policy Issues

The central issue to be dealt with in retirement incomes policy is to satisfy the social objective of minimizing poverty among retirees, while avoiding distortions to the incentive to save in the preretirement years. The solution adopted in Australia, as in many other countries, is a system of compulsory saving, backed up by a social safety net for those not in a position to save sufficient amounts. Within this structure, the distinctive features of the Australian system are a reasonably generous but means-tested safety net and the use of a privately managed mechanism for the compulsory saving element. The latter has the important advantage that it builds on an existing institutional structure and provides a natural environment for competition in the investment of funds.

While the basic logic of this system seems to be widely accepted in Australia, there has been considerable debate about some of its detailed features. I will briefly highlight three such issues that may be of relevance to other countries.

Perhaps the most widely debated problem with the Australian system arises from the interaction between the means-tested pension and

Figure 1
Labor Force Participation in Australia, by Age Group



Source: Edey and Simon (1996).

some less than fully effective aspects of compulsory saving. This problem is not inherent in the logic of the system, but reflects the historical structure of the superannuation and pension rules in Australia. Under current rules, accumulated superannuation contributions can be accessed from age 55 and can be taken either in lump-sum form or as an annuity, at the discretion of the member. For many low- and middle-income earners, who cannot expect to accumulate sufficient superannuation to generate an income much above the government pension, there is a strong incentive to avoid accumulating "too much": In the income brackets concerned, withdrawal of the government pension creates very high effective marginal tax rates on saved income. This incentive structure is argued to encourage early retirement, financed from lump-sum superannuation benefits, following which the retiree can obtain the government pension.

It is hard to quantify the importance of this type of behaviour. There is a long-term trend towards reduced labor force participation in the over-55 age group (Figure 1), which is likely to have been encouraged by the incentive structure described above, but it also probably reflects other long-term influences. Lump sums appear to be the predominant form of retirement benefit, but the extent to which these are consumed rather than reinvested is not known. Nonetheless, the incentive to retire early and to decumulate savings is widely regarded as a serious problem.

Various solutions to this problem have been suggested, including compulsory annuities, deeming of lump sums as annuity-equivalents for the purposes of the means test, raising the compulsory preservation age (the age before which the beneficiary does not have access to superannuation funds, now 55) and redesigning the government pension. Most of the suggested solutions are either highly expensive (for example, removing the means test) or highly unpopular because they involve withdrawal of entrenched benefits. A very recent initiative has been to offer cash incentives to delay taking the pension. An increase in the preservation age has also been announced, but with a very long time lag before it takes full effect. The difficulty of changing this type of system once it is in place points to the need to get these incentives right from the beginning.

The second issue I want to highlight is the system's complexity. Although the basic outlines of the system, as set out above, are relatively simple, the details are highly complex and understood by very few. This is particularly true with respect to taxation. The taxation of superannuation benefits depends upon the interaction of several factors, including the source of the original contributions (whether employer, employee, or self-employed), the form in which benefits are taken, when the contributions were made, the income of the contributor at the time contributions were made, and the individual's marginal tax rate when benefits are drawn. Complexity contributes to the administrative costs of the system and also makes it difficult to use the tax system to build in meaningful incentives, since the existence of those incentives is unlikely to be well-understood.

The general trend has been for the system to become increasingly complex over time. This seems to have been an inexorable result of continuing evolutionary change combined with a strong presumption that rule changes have to be grandfathered in to protect existing accrued rights. The general lesson here is that policy design needs to be forward-looking so that unnecessary incremental change can be avoided.

Finally, there is the issue of investor protection. With a system of compulsory saving, investors are likely to expect higher standards of regulatory supervision of fund managers than was the case when this form of saving was voluntary. It is not hard to envisage stronger pressure on governments to provide protection against fraud or mismanagement so that, even with privatized retirement benefits, governments will not be able to remain completely aloof. This issue seems likely to come increasingly to the fore in Australia as the system matures.

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Panel Discussion: Japan's Public Pension System: What Is Wrong with It and How to Fix It

Charles Yuji Horioka*

Japan's public pension system is essentially a pay-as-you-go system that is fraught with problems. For example, it has an adverse impact on the inter- and intra-generational allocation of resources, and it discourages private saving as well as the labor supply of the aged and of women. Moreover, many of its problems can be expected to become even more serious as the aging of the population proceeds at an accelerating pace. The United States, Germany, and many other developed countries not only have pay-as-you-go public pension systems that are very similar to Japan's but also face very similar demographic trends. Thus, the Japanese experience and the Japanese debate about pension reform are of great potential value to policymakers in these countries, especially since the problems with Japan's public pension system are in many ways more serious and the aging of its population is proceeding much faster than in these countries. I will discuss briefly the current structure of Japan's public pension system, the history of that system, and some of the problems with the current system and then conclude with a number of recommendations for reform.

The Current Structure of Japan's Public Pension System[1]

Japan's public pension system is currently a two-tiered system consisting of a universal pension—the National Pension (Kokumin Nen-

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[1] I focus primarily on old-age pensions even though disability, survivors', and welfare pensions are also available. See Kōsei Tōkei Kyōkai (1996) and Takayama (1996) for more details.

kin)—and five second-tier pension programs for salaried workers—the Employees' Pension (Kōsei Nenkin) and four types of Mutual Aid Pensions (Kyōsai Nenkin). Those other than salaried workers (the self-employed, farmers, those not working, and students) belong only to the National Pension System. Between the ages of 20 and 59 they pay a flat-rate monthly contribution (12,800 yen[2] during the April 1, 1997-March 31, 1998 fiscal year) and starting at age 65 receive a flat-rate monthly pension, the "basic pension" (kiso nenkin) (65,458 yen during the April 1, 1997-March 31, 1998 fiscal year for those contributing for the maximum period).[3,4] Note, however, that the spouses of salaried workers are exempt from paying monthly contributions if their annual income is below a certain level (currently 1,300,000 yen), as are certain other groups such as the handicapped and those with low incomes.

Salaried workers belong to both the National Pension System and one of the five second-tier pension systems: Most private-sector workers belong to the Employees' Pension System, while national government employees, local government employees, employees of private schools, and employees of agricultural, forestry, and fishery organizations belong to one of the four Mutual Aid Pension Systems. Those belonging to these systems pay pension contributions equal to a certain percentage (17.35 percent as of October 1996 in the case of the Employees' Pension) of their monthly salary until age 59 (with the burden being shared equally by employer and employee). Starting at age 60 (five years earlier than those other than salaried workers) they receive a two-tiered benefit—the basic pension plus an earnings-related component (30 percent of average monthly real earnings for those contributing for the maximum period in the case of the Employees' Pension).[5] According to Takayama (1996), the total benefits of a typical salaried worker with a nonworking spouse amount to about 68 percent (80 percent) of the average pre-tax (after-tax) monthly earnings of males who are currently working in the case of the Employees' Pension. Note, however, that salaried workers in Japan receive large lump-sum bonuses twice a year (three times a year in the case of government workers), that these bonuses amount to four to five times their monthly salary in the case of employees of large corporations, and that public pension benefits replace only about 51 percent (60

[2] The yen-dollar exchange rate was about 120 yen/dollar as of September 1997.

[3] Those aged 60 to 69 and Japanese nationals living abroad are also eligible to enroll in the National Pension System on a voluntary basis.

[4] Those other than salaried workers ordinarily do not receive any earnings-related benefits, but since 1991, they can pay additional contributions and receive additional benefits under the National Pension Fund (Kokumin Nenkin Kikin) System.

[5] Since 1966, large corporations can partially contract out of the earnings-related component of benefits by setting up a private fund called an Employees' Pension Fund (Kōsei Nenkin Kikin), but to do so, they must pay benefits that are at least 30 percent higher than in the case of the Employees' Pension.

percent) of pre-tax (after-tax) annual earnings inclusive of bonuses in the case of the Employees' Pension.

Japan's public pension system is essentially a pay-as-you-go system, with the benefits of current retirees being financed primarily by the contributions of current workers. Note, however, that one-third of basic pension benefits are financed by subsidies from the general accounts of the central government. The government also pays administrative expenses but does not provide any subsidies for the earnings-related component of benefits. Finally, with respect to the tax treatment of public pensions, employer and employee contributions are fully tax-deductible, and although benefits are in principle taxable, there is a generous public pension benefit deduction, as a result of which benefits remain largely untaxed.

The History of Japan's Public Pension System[6]

Japan's public pension system has a long history, but universal coverage was not achieved until 1961 and benefits were relatively modest until 1973. Noncontributory pension (onkyū) systems for retired army and navy servicemen and government officials were established in 1875 and 1884, respectively, and laws institutionalizing these pension systems were enacted in 1890. Moreover, noncontributory pension systems for schoolteachers and policemen were established during the middle to late Meiji period (1868 to 1912), and a contributory pension system for blue-collar government workers not covered by existing noncontributory pension systems was established in 1920. However, a comprehensive Mutual Aid Pension (Kyōsai Nenkin) System for national government employees was not established until 1949, and similar Mutual Aid Pension Systems for employees of private schools, employees of public enterprises, employees of agricultural, forestry, and fishery organizations, and local government employees were not established until 1953, 1956, 1958, and 1962, respectively.[7]

The first public pension system for private-sector workers (a pension system for seamen) was not established until 1939, and a comprehensive pension system for private-sector workers—the Employees' Pension (Rōdōsha Nenkin) System—was not established until 1941. Moreover, Japan's existing public pension system for private-sector workers broke down as a result of the chaos and hyperinflation of the early postwar period and had to be overhauled, a process that was not completed until

[6] For more details, see Niwata (1983) and Kōsei Tōkei Kyōkai (1996).

[7] The Mutual Aid Pension Systems for employees of formerly public enterprises (Japan Railways, Japan Tobacco, and Nippon Telephone and Telegraph) were absorbed by the Employees' Pension System in April 1997.

the establishment of the new Employees' Pension (Kōsei Nenkin) System in 1954. Workers at companies with fewer than five employees, the self-employed, and farmers were not covered until 1961, when the National Pension (Kokumin Nenkin) System was established.

Thus, universal coverage was finally achieved in 1961, and continuity of coverage for those switching from one public pension system to another was achieved at the same time, but benefits remained relatively modest despite upward adjustments in 1965–66, 1969, and 1971–72. It was not until 1973 that benefit levels were increased enough to make the replacement rate comparable to what it is in the major developed countries (roughly 60 percent), and it was not until the same year that automatic cost-of-living adjustments were introduced for the first time. Since then, benefits have been adjusted not only for consumer price inflation but also for increases in real wages.

A detailed discussion of why the benefit levels of public pensions were improved so dramatically in 1973 is beyond the scope of this paper (see Noguchi (1987) and Tajika, Kaneko, and Hayashi (1996) for more details), but the primary reasons can be summarized as follows: First, a consensus was growing that now that Japan had recovered from the devastation of the war and more or less caught up with other developed countries, she should shift her priorities from maximizing economic growth at all costs to improving the quality of life, one important component of which is better social welfare programs. In response to this shift in priorities, in 1973 the government made dramatic improvements not only in public pensions but also in health insurance, welfare programs for the poor, and the like. Second, Japan had enjoyed double-digit rates of economic growth since the mid 1950s, the Japanese government's fiscal position in 1973 was very favorable, and there was widespread optimism that these conditions would continue and that Japan could afford better social welfare programs. Few suspected at the time that the first oil crisis of 1973–74 would bring Japan's era of rapid economic growth to an abrupt end and require the government to run massive deficits.

Additional improvements in the benefit levels and other provisions of public pensions were made during the remainder of the 1970s and in the early 1980s, but by 1980 it had become clear that the imbalance between benefits and contributions and the rapid aging of the population would necessitate a fundamental reform of the system. A number of important changes were made as part of the major pension reform package that passed the Diet in 1985 and took effect in April 1986. For example, this reform package provided for a gradual reduction in benefit levels over a 20-year period, an increase in the contribution rate, and a partial unification of the various public pension systems into the current two-tiered system.

However, even this reform was insufficient, and in 1989 and 1994

additional reforms were implemented. Two important features of the 1994 reforms should be noted. First, it was decided that the age at which salaried workers could begin receiving the basic pension would be raised gradually from 60 to 65 over a 15-year period. (Note, however, that workers would be able to continue receiving the earnings-related component of their benefits starting at age 60.) Second, whereas the earnings-related component of the benefits of salaried workers had formerly been adjusted by the rate of increase in the pre-tax wages of current workers, it was decided that, starting in October 1994, the criterion would be the rate of increase in *after-tax* wages. Since the combined rate of income taxes and pension contributions is projected to increase steadily over time, the new adjustment method implies a slower rate of growth of benefits than under the old method.

Problems with Japan's Current Public Pension System

In this section, I discuss four problems with Japan's current public pension system: the adverse impact on intergenerational equity; the adverse impact on intra-generational equity; the adverse impact on the labor supply of the aged and of women; and the adverse impact on private saving.

The Adverse Impact on Intergenerational Equity

As Hatta and Oguchi (1997) have shown using a generational accounting framework in the spirit of Kotlikoff (1992), lifetime benefits greatly exceed lifetime contributions in the case of cohorts born before 1950, with the gap increasing with age, while lifetime benefits fall far short of lifetime contributions in the case of cohorts born after 1950, with the gap being larger the younger the cohort. (Takayama et al. (1990a), Asō (1995), and Tajika, Kaneko, and Hayashi (1996) do similar calculations and obtain similar findings but find that the birth year in which lifetime benefits first fall short of lifetime contributions is 1960 or later.) Thus, Japan's public pension system is redistributing resources from younger cohorts to older cohorts on a massive scale.

There are at least two reasons for this. First, benefits were made much too generous relative to contributions at the time of the 1973 pension reform, especially for those close to retirement in 1973, as a result of which the lifetime benefits of older cohorts far exceed their lifetime contributions. For one thing, even those who were too old in 1973 to contribute for the required number of years were made eligible to receive

fairly generous benefits as a transitional measure.[8] Moreover, the overly generous benefits of older cohorts have necessitated cuts in the benefits of younger cohorts as well as increases in their contribution rates, causing their lifetime benefits to fall far short of their lifetime contributions. Second, Japan's population is aging at the fastest rate in human history and, as a result, Japan will become the world's most aged society (the society with the highest retiree-to-worker ratio) by the year 2010. Given the pay-as-you-go structure of Japan's public pension system, population aging (increases in the retiree-to-worker ratio) has necessitated further increases in the contribution rates of younger cohorts and this, in turn, has caused the lifetime benefits of younger cohorts to fall even further short of their lifetime contributions. The aging of the population in Japan is partly a permanent phenomenon caused by increases in life expectancy and declines in the birth rate and partly a temporary phenomenon caused by the aging of the postwar baby boom generation born in 1947 to 1949. One reason why the lifetime benefits of younger cohorts will fall far short of their lifetime contributions is that they will have to pay large contributions to finance the benefits of the unusually large baby boom cohort.

The Adverse Impact on Intra-Generational Equity

The current public pension system also has an adverse impact on intra-generational equity. First, as Takayama et al. (1990a) and Asō (1992) have shown, in any given cohort, the net transfer from the government arising from the public pension system is larger, the higher is the individual's income (at least for cohorts born before 1945). Thus, Japan's public pension system has been a regressive one until recently, redistributing income from those with low incomes to high-income individuals.

Second, salaried workers' spouses who are not working or whose incomes are below a certain level are exempt from paying pension contributions, and yet they are paid supplementary spousal benefits between the time the primary beneficiary turns 60 and the time they themselves turn 65, the basic pension after they turn 65, and survivors' benefits (equal to three-fourths of the primary beneficiary's earnings-

[8] A detailed discussion of why a pay-as-you-go system was adopted and why benefit levels were set too high relative to contributions in 1973 is beyond the scope of this paper, but Tajika, Kaneko, and Hayashi (1996) give two reasons: First, there was a widespread consensus that resources should be redistributed from younger cohorts who were benefiting from Japan's current economic prosperity to older cohorts who had endured many hardships during the war years and the early postwar years and who had worked hard to make possible that prosperity. Second, it was politically easier to postpone the burden of financing benefits to future generations. Tajika, Kaneko, and Hayashi argue that the Ministry of Health and Welfare was well aware of the excessive burden that future generations would have to bear.

related benefits) after the primary beneficiary's death. This causes a redistribution of resources from single individuals, couples consisting of a salaried worker and a working spouse, and couples with a self-employed head to couples consisting of a salaried worker and a dependent spouse. (See Takayama et al. (1990a); Asō (1992); Hatta and Kimura (1993); Tajika, Kaneko, and Hayashi (1996); and Hatta (1997).)

Third, pension contributions were, until recently, levied only on one's monthly salary, even though a considerable portion (as much as one-quarter or more) of worker compensation is paid in the form of lump-sum bonuses two or three times a year and even though the relative magnitude of bonuses varies enormously across industries and over time. Exempting bonus income from pension contributions has led to a redistribution of resources from workers for whom bonuses are a relatively small proportion of their total compensation to workers for whom bonuses are a relatively large proportion of their total compensation. Moreover, a similar argument can be made for lump-sum retirement payments, which are also not subject to pension contributions even though they are quite large (amounting to three times annual income at retirement or more) and vary considerably among firms.

The Adverse Impact on the Labor Supply of the Aged and of Women

Because the pension benefits of former salaried workers are reduced or eliminated between the ages of 60 and 64 if they continue working and because recent retirees can "double-dip" (that is, collect pension benefits and unemployment compensation benefits concurrently), the public pension system discourages salaried workers from continuing to work after the mandatory retirement age of 60. Company employees often have the option of continuing to work for the same company, a subsidiary of the same company, or an unrelated company after mandatory retirement, but they must accept a substantial pay cut and, as a result, they can often earn more by retiring and collecting pension benefits and unemployment compensation benefits than by continuing to work. Similarly, because the spouses of salaried workers who are not working or whose incomes are below a certain level are exempt from paying pension contributions, the public pension system also discourages dependent spouses (usually wives) from working (that is, it encourages them to reduce their working hours so as to keep their incomes below the critical level). Tachibanaki and Shimono (1985), Takayama et al. (1990b), Seike (1992, 1993), and others have found strong confirmation of the former effect, while Higuchi (1995) finds that 11.5 percent of wives reduce their working hours to avoid having to pay public pension contributions.

The Adverse Impact on Private Saving

As pointed out by Feldstein (1974), the existence of a public pension system will reduce private saving assuming that the wealth replacement effect is larger than the induced retirement effect, and national saving will also be reduced if the pension system is a pay-as-you-go system. Empirical work on Japan has tended to find that public pensions have, in fact, reduced private saving (see, for example, Takayama et al. 1990b).

Proposals for Reforming Japan's Public Pension System

How can the problems inherent in Japan's current public pension system be alleviated or even eliminated?

First, the adverse impact of the public pension system on intergenerational equity could be eliminated by switching to an actuarially fair system in which the expected lifetime benefits of each cohort exactly equal its expected lifetime contributions, as recommended by Tajika, Kaneko, and Hayashi (1996) and Hatta (1997). This would require raising the contributions and/or lowering the benefits of older cohorts and lowering the contributions and/or raising the benefits of younger cohorts. The government has already taken some steps to contain the increase in the benefits of older cohorts and to increase their contributions. For example, it decided to reduce benefit levels gradually over a 20-year period as part of the 1985 reforms; it has begun indexing the earnings-related component of the benefits of salaried workers to after-tax wages rather than to pre-tax wages as a way of holding down increases; and it is gradually increasing the age at which salaried workers can begin receiving the basic pension from 60 to 65. Moreover, the government has recently begun placing more emphasis on achieving intergenerational equity and is considering a number of steps to achieve this end. For example, it is considering indexing the earnings-related component of the benefits of salaried workers to consumer prices rather than to after-tax wages as a way of holding down increases, and it is also considering accelerating the timetable for increases in contribution rates.[9]

Another way to alleviate the intergenerational inequities of the current system would be to expand the tax base for pension contributions to include bonuses, lump-sum retirement payments, and dependent spouses of salaried workers, as recommended by Hatta (1997). Doing so would increase pension contributions collected (without any increases in

[9] See, for example, the "Measures for Promoting Fiscal Structural Reform (Zaisei Kōzō Kaikaku no Suishin Hōsaku)," which the government's Fiscal Structural Reform Council (Zaisei Kōzō Kaikaku Kaigi) announced on June 3, 1997.

the contribution rate), mitigate the increases in the contribution rate that will become necessary in the future, and thereby alleviate the intergenerational inequities of the current system.

Note, moreover, that these same measures would simultaneously alleviate the *intra*-generational inequities of the current system as well as the adverse impact it has on the labor supply of women and, thus, three birds could be killed with one stone. However, these are largely piecemeal measures. I would favor more comprehensive measures and would also favor performing explicit calculations to ensure that the system is actuarially fair to all cohorts. In my opinion, the best way to achieve intergenerational equity would be to switch over immediately to an actuarially fair system and to service the government's net pension debt (the net transfers to past, current, and future beneficiaries which the government has already paid or to which the government has already committed itself) via a progressive income tax and/or the issuance of long-term government bonds. In either case, the burden of servicing the government's net pension debt should be spread out as evenly as possible over all future generations in order to preserve intergenerational equity. (See Tajika, Kaneko, and Hayashi (1996), Hatta (1997), and Hatta and Oguchi (1997) for more details.)

Second, the adverse impact of the public pension system on intragenerational equity could be alleviated or eliminated in the following ways. The adverse impact on equity among income classes could be alleviated by taxing pension benefits more heavily in the case of high-income individuals. This could be done by limiting or eliminating the pension benefit deduction for those with high incomes.[10] The adverse impact on equity among different types of households could be eliminated by requiring the dependent spouses of salaried workers to pay their fair share of pension contributions, as proposed by Hatta (1997).[11] The adverse impact on equity among workers receiving varying amounts of bonuses and lump-sum retirement payments could be eliminated by

[10] Takayama (1992) advocates eliminating the favorable tax treatment of pension benefits altogether, and his argument has considerable merit.

[11] The inequity between salaried workers with a dependent spouse and salaried workers with a working spouse was alleviated as part of the 1994 reforms. Until then, dependent spouses were eligible to receive a survivors' benefit equal to three-fourths of the primary beneficiary's earnings-related benefit after the primary beneficiary's death, while working spouses had to choose between receiving the same survivors' benefit as dependent spouses and receiving an earnings-related benefit based on their own earnings; they could not receive both. Since April 1995, however, working spouses have an additional choice—namely, to receive half the combined earnings-related benefits of husband and wife. This reduces the inequity between salaried workers with a dependent spouse and salaried workers with a working spouse but does not eliminate it. Moreover, it introduces an additional inequity: Not only salaried workers with dependent spouses but also salaried workers with working spouses are now favored vis-à-vis single individuals and couples with a self-employed head. Thus, my proposed solution appears to be more equitable.

ending the exemption of bonus income and lump-sum retirement payments from pension contributions, as proposed by Hatta (1997).[12] Beginning in April 1995, salaried workers are required to pay an additional pension contribution equal to 1 percent of their bonus income (with the burden being shared equally by employer and employee), but this contribution rate is far lower than the contribution rate applied to monthly salary (17.35 percent as of October 1996). Moreover, another problem with this reform is that contributions from bonus income are not taken into account when calculating benefits. The contribution rates on monthly salary, bonuses, and lump-sum retirement payments should be equalized immediately, and they should all be taken into account when calculating benefits.

Third, the adverse impact of the public pension system on the labor supply of the aged and of women could be alleviated or eliminated in the following ways. The adverse impact on the labor supply of the aged could be alleviated by relaxing the earnings test on the pensions of former salaried workers and/or prohibiting double-dipping (the simultaneous receipt of pension benefits and unemployment compensation benefits). The earnings test on the pensions of former salaried workers aged 60 to 64 has been relaxed several times (most substantially in April 1995), but there is room for further relaxation. As for double-dipping, it will be abolished in April 1998 and, moreover, a further step has been taken to encourage those aged 60 and older to continue working. Since April 1995, salaried workers who experience a sharp decline in their salary after mandatory retirement are regarded as being quasi-unemployed and are eligible for unemployment compensation benefits that amount to as much as 25 percent of their new salary. The pension benefits of such workers are reduced by an amount equal to 10 percent of their new salary, but even so, they are much better off than before and, more important, they are less likely to be able to earn more by retiring than by continuing to work. The adverse impact of the public pension system on the labor supply of women could be eliminated by requiring the dependent spouses of salaried workers to pay their fair share of pension contributions, a measure that would also alleviate the inter- and intragenerational inequities of the current system. If adopted, these measures would not only eliminate distortions caused by the public pension system but also alleviate the serious labor shortages that are forecast to emerge as the population ages.

Fourth, the adverse impact of the public pension system on saving could be alleviated by converting Japan's public pension system from what is essentially a pay-as-you-go system to a fully funded system, so

[12] Takayama (1992) also advocates ending the exemption of bonus income from pension contributions.

that increases in government saving would fully offset any pension-induced reductions in private saving. The problem, however, is that it would be virtually impossible to implement this measure any time soon given the massive unfunded liabilities of the current pension system (see Hatta and Oguchi 1997).

One last reform I recommend is to raise the mandatory retirement age from 60 to 65 and take other steps to enable and encourage those aged 60 and older to continue working. It is hard to believe, but Japan has traditionally had a mandatory retirement age of 55, despite having virtually the longest life expectancy in the world and despite the fact that the pensionable age for salaried workers is 60. A law raising the mandatory retirement age from 55 to 60 passed the Diet in 1986, but the adoption of a mandatory retirement age of 60 has been a very gradual process: Of companies imposing a uniform mandatory retirement age, the proportion that have adopted, or plan to adopt, a retirement age of 60 was only 71.4 percent in 1992 and 90 percent in 1996 (Maeda 1997). Now that it has been decided that the age at which salaried workers can begin receiving the basic pension will soon be raised to 65, it is imperative that the mandatory retirement age be raised further to 65 as soon as possible (at the latest, by the time the pensionable age is increased to 65) to ensure that salaried workers have an uninterrupted flow of income. Note, moreover, that raising the mandatory retirement age to 65 and taking other steps to enable and encourage those aged 60 and older to continue working would also alleviate the severe labor shortages that are projected to emerge early in the next century.

In short, what I recommend (not only for Japan but for all countries) is a public pension system that is actuarially fair to all cohorts and to all groups within each cohort and does not contain any perverse incentives regarding labor supply and saving decisions.[13] Note, moreover, that some of my recommendations would simultaneously ease future labor shortages.

[13] Tajika, Kaneko, and Hayashi (1996) also strongly advocate a public pension system that is actuarially fair to all cohorts and to all groups within each cohort.

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