

**A Global Perspective on Old Age Security Systems
by Estelle James**

forthcoming in Encyclopedia of Global Studies, ed. H. Anheier, V. Faessel, M. Juergensmeyer.
New York : Sage Publications, 2012

In pre-industrialized societies expected lifetimes were much shorter than they are today, and the elderly lived in multi-generational families with their children and grandchildren. There was no need for separate old age pension systems.

Family support and co-habitation are still very common in low and middle income countries. However, in the process of development, as urbanization occurs and children move away from the towns where they grew up, the extended family system has broken down and the elderly require a separate means of support. In principle they could save for their own old age but, unless they had a very long time perspective, they were unlikely to save enough to last their entire lifetime. As a result, when people became too old to work productively they were at risk of falling into poverty. The breakdown of the extended family combined with worker myopia and the potential social problem of poverty among the elderly led to the development by most governments of mandatory old age programs.

PAYGO systems and their problems

Initially most programs were pay-as-you-go (PAYGO)—workers were required to pay contributions that were used to finance benefits to current retirees. Then, when current worker retired, the contributions of future workers were used to pay them. There was no retirement saving or investment in the typical public old age program. Contributions took the form of a payroll tax, because pensions were supposed to replace wages, a payroll tax was relatively easy to collect from large employers, and it was hoped that workers would be willing to pay because they would regard this as a premium for valuable old age insurance. The required tax rate was very low at first because there were many young workers, few eligible retirees. Benefits took two alternative forms—a flat (uniform) benefit at the poverty floor, associated with Beveridge, or a defined benefit that rose with wages and years of contributions, associated with Bismark.

However, a number of problems have become apparent in these programs. The number of retirees has grown faster than workers, as the schemes have matured, birth rates have fallen and longevity has increased. As a result, the current contribution rate will be insufficient to cover

promised benefits. In the U.S. and many other countries, expenditures already exceed contributions.

In some cases, governments have bailed out their pension schemes but created general fiscal deficits as a result. In other cases, they have defaulted on their pension promises to the elderly or dramatically raised the payroll tax (sometime to 30% or more). The high payroll tax rate diminishes workers' incentive to work and contribute. Instead, they evade paying by underreporting wages, becoming self-employed (often the self-employed aren't covered) and working off the books in the "informal" sector that escapes taxes and regulations. This evasion exacerbates the fiscal problem.

Benefit formulae in many countries further discourage work—e.g. benefits rise little if at all with additional work or pension postponement, so workers start the pension and stop work as soon as they can. Early retirement, sometimes as early as age 50 or before, became common in Europe and most developing countries. This made the system more costly and reduced the country's labor resources. Empirical evidence indicates that people are less likely to save for their old age than they would be in the absence of such programs. This reduces national saving, which is essential for building capital resources for economic growth.

Many transfer payments to the elderly are inequitable. For example, high-earners get larger benefits while the poor often do not meet the eligibility conditions; benefits are sometimes based on the final year's wage, which some workers nearing retirement manage to inflate; high income people live longer, so their total lifetime benefits will be larger than those received by low income people.

The first generation to be covered in a PAYGO scheme gets a large transfer payment from future generations. They haven't paid much in payroll taxes, but they get (sometimes generous) benefits, implying a high rate of return. The next generation gets a lower rate of return, because its members have paid throughout their lifetimes. Payroll tax rates must go up for the third generation to cover benefits to a growing number of retirees who qualify, so their rate of return falls further. These redistributions may not be desired or considered equitable, but they are inevitable in a PAYGO scheme.

Often old age benefits have not been indexed to prices, so they fall in real value as the cost of living rises over the retirement period. The very old may therefore live in poverty,

because their pensions have a declining purchasing power. This has been a problem, in particular, in third world countries that sometimes suffer from hyper-inflation.

Many people aren't covered by the system, in countries that base eligibility on payment of contributions. Governments in low and middle income countries often do not have the capacity to collect contributions from small firms, self-employed, agricultural and informal sector workers. Thus, the problem that we started with—inadequate means of support for some elderly—remains in these countries.

These problems are particularly great for women, who often haven't worked or contributed much, yet live longer than men, outlive their husbands, and become poor in very old age. Widows are sometimes protected by survivors' benefits, but these introduce problems of their own—they typically penalize working women, imply subsidies from singles and dual career couples to married couples with single breadwinners and raise fiscal costs.

Reforms

In recent years countries have been modifying their systems to alleviate these problems. These changes fall into two categories: parametric and structural reforms. The latter includes both funded and notional defined contribution plans.

Parametric reforms

Parametric reforms keep the basic structure of the old system (PAYGO and defined benefit) but change some of its design features. For example, many countries have raised the retirement age at which benefits can start, tightened the conditions for early retirement, and modified the benefit formula to reduce work disincentives and inequities (e.g. basing benefits on lifetime wages, increasing pension amounts for workers who contribute for more years and start their pension later, setting a floor for low earners and linking benefit amounts to the price index). Attempts have been made to cover (collect payroll taxes from) more workers, but this is difficult in developing countries that lack this capacity. In some cases future benefits have been reduced or current contributions raised, to restore fiscal balance—but this runs the risk of inducing further evasion. A particularly important parametric reform ties key parameters, such as retirement age or pension amount, to future increases in longevity or decreases in fertility. As the expected lifetime of the elderly rises, retirement age will also rise or benefit amount fall

automatically, in countries such as Germany, Japan, Denmark and Finland. This will help to keep the system financially sustainable in the very long run, without the need for difficult political actions.

Structural reforms—Funded DC and multi-pillar systems

In addition to these parametric changes, some countries have instituted structural changes, moving their programs away from defined benefits (DB) to defined contributions (DC) and away from PAYGO to fully funded systems. In a funded DC scheme, a contribution rate is specified, it is saved instead of being immediately paid out, and the accumulation at the end determines the pension size. When the worker retires, his account balance is turned into an annuity, usually on actuarially fair terms—i.e. it takes into account his retirement age and his expected future lifetime. The object is to tie benefits to contributions (thereby encouraging longer work and discouraging evasion); reward pension postponement; increase national saving; eliminate inequities in DB formulae; and make the system more fiscally sustainable.

When funds are saved, someone must invest them, and a big controversy has developed about the advantages of public vs. private management of investments. Most countries in Latin America and Eastern and Central Europe have established privately managed DC or “individual account” schemes (e.g. Mexico, Poland, and Hungary, with Chile as the pioneer in 1981). In these systems, workers are required to save a specified amount (the “defined contribution”), they choose the fund managers who invest their money, and upon retirement the total accumulation is turned into a regular pension or annuity. Private managers are used, to avoid the political manipulation and low returns that often develop when governments invest the funds.

However, these individual account systems have also been criticized—mainly for having high administrative costs and for allowing uninformed workers to make investment choices and bear the risk. In several high-income countries (e.g. the Netherlands, Switzerland, Denmark), with a history of strong collective bargaining and benefits, these potential problems have been avoided by requiring employers to set up and choose the investment managers for funded pension plans. Employers may be in a better position to evaluate investment strategies and to exploit economies of scale to get low fees for the group. Fund managers needn’t spend money on marketing to numerous individuals, since all the workers at a firm or in an occupation are automatically enrolled in the same scheme. This may work well when the plans are DB, but once they are DC works are likely to demand some control over investment portfolios and expected

risk vs. return. Thus, control has been shifted from employers to workers in Australia's private pillar.

To address the criticism that DC plans subject those with low earnings or returns to low pensions, these private DC plans are usually accompanied by a “public pillar” that is managed and financed by the government—a downsized, redistributive version of the old PAYGO system. The public pillar sets a floor on retirement income—e.g. it pays a flat (uniform) benefit to all elderly in the Netherlands and New Zealand, a phased-out flat benefit in Australia and Chile, a small basic benefit with means-tested supplements in the UK, and a minimum pension guarantee in most Latin American and Eastern European countries. This creates a “multi-pillar system” with a private pillar for retirement saving and a public pillar to avoid poverty and redistribute to those with low incomes. Many high and middle-income countries have shifted from pure PAYGO DB systems to such multi-pillar systems over the past three decades. Some other high-income countries (e.g. the U.S. and Canada) retain public systems that are largely PAYGO with a progressive DB formula, supplemented by funded employer-sponsored or individual tax-advantaged retirement plans that are not mandatory but are very common. Most low-income countries retain a single-pillar public scheme, mainly covering government workers and large enterprises.

Structural reforms--Transition costs and notional DC systems

When a country shifts from PAYGO to a funded system it faces “transition costs”. Since (part of) the workers' contributions now go into their own accounts, some other financial source must be found to pay benefits to current retirees. In countries with many retirees and a large pension debt, this poses a major fiscal problem. To avoid this problem, another structural change has become popular—a partial shift to “notional” DC plans. In a notional DC plan, there is no DB formula and no funding. Instead, workers are credited with their contributions and a “notional” interest rate, which accumulate and, upon retirement, are converted into their pension. This tight link between contributions and benefits is supposed to induce workers to work longer and postpone retirement—i.e. this scheme has similar labor market and pension incentives as a funded DC.

However, since the system is not funded, there is no investment and the notional interest rate is set by the government, not the market. Contributions paid by workers are immediately used to pay benefits to current retirees. The advantage is that governments do not have to find

another financing source. And, if the notional interest rate is low, future fiscal obligations don't grow rapidly, thereby making the system sustainable. The offsetting disadvantages are that there is no increase in national saving, the notional rate of return is likely to be lower than it would be if funds were invested in financial markets, and future benefits are correspondingly lower. Therefore, countries with notional DC plans typically accompany this with a funded DC plan that presumably earns higher returns and a public DB plan that redistributes to low earners. Sweden developed the notional DC concept and helped spread it to Poland, Latvia and even Russia.

Risks and Incentives

Many risks are associated with old age—for example, longevity risk (life expectancy varies across individuals and increases systematically from one cohort to another); investment risk (if savings are invested, returns may go up and down and are even negative for some periods); fertility risk (if the plan is PAYGO); and credit risk (of the government in a public plan, the employer in an occupational plan). Who should bear these risks—the individual, his cohort, or a mixture of present and future cohorts? Each of the schemes described above answers this question in a different way. In a traditional PAYGO DB plan, there is no investment risk, future taxpayers as a group bear longevity and fertility risks, and current beneficiaries are largely protected, except for credit risk in the case of government default. At the opposite extreme, in individual account schemes each worker bears investment and longevity risk, although workers can pool that risk by purchasing annuities when they retire, and the public pillar sometimes sets a limit on that risk by providing an income floor. In funded employer-sponsored DB plans, the employer bears these risks, and if the outcome is unfavorable he can try to share it with future workers in the form of lower wages, consumers in the form of higher prices, or retirees, if he goes into bankruptcy. In notional DC plans again there is no investment risk, longevity risk is pooled within the cohort at the point of retirement, and a mixture of taxpaying cohorts share fertility risk and the risk of a mismatch between revenues and contributions for other reasons.

As we have seen, old age systems also create incentives or disincentives to work and save, which have important consequences for the labor and capital resources in the broader economy. Empirical studies have shown that worker respond to these incentives. Therefore it is

important to take these broader impacts into account in designing old age systems, because they influence the rate of economic growth, therefore the welfare of young and old.

While each country has its own system that comes out of its history and particular circumstances, a general consensus seems to be converging on the goals—to protect the elderly from poverty or from a sharp drop in standard of living, while avoiding features that hurt the economy, such as high payroll taxes, early retirement and incentives that discourage work and saving. There is also general agreement on the features that will achieve these goals: some degree of funding that is insulated from political manipulation, a component that ties benefits tightly to contributions, and another component that redistributes to low earners. Countries differ on how much redistribution, how large the public sector role, and who bears the risk when surprises happen—as they always do.

Further Readings

Edwards, Alejandra Cox and Estelle James. 2010. “Impact of Social Security Reform on Labor Force Participation Rates of Pensioners and Non-pensioners: Evidence from Chile.” *Journal of Human Capital*, 4(2).

Gruber, Jonathan and David A. Wise eds. 1999. *Social Security and Retirement Around the World*. Chicago: University of Chicago Press.

Gruber, Jonathan *and* David A. Wise eds. 2004. *Social Security Programs and Retirement Around the World: Micro-Estimation*. Chicago: University of Chicago Press.

Holzmann, Robert and Joseph Stiglitz, eds. 2001. *New Ideas About Old Age Security*. Washington DC: World Bank.

James, Estelle, Alejandra Cox Edwards and Rebeca Wong. 2008. *The Gender Impact of Social Security Reform*. Chicago: University of Chicago Press.

Kay, Stephen and Tapen Sinha, eds. 2007. *Lessons on Pension Reform in the Americas*. New York: Oxford University Press.

OECD. 2001. *Private Pensions Systems, Vol. 1 and 2*. Paris: OECD.

Shoven, John, ed. 2000. *Administrative Costs and Social Security Privatization*. Chicago: University of Chicago Press.

World Bank. 1994. *Averting the Old Age Crisis: Policies to Protect the Old and Promote Growth*. Washington DC: Oxford University Press and World Bank.