COVERAGE UNDER OLD AGE SECURITY PROGRAMS AND PROTECTION FOR THE UNINSURED — WHAT ARE THE ISSUES?

Estelle James

Revised version of "Old Age Protection for the Uninsured: What Are the Issues?" in Shielding the Poor, ed. Nora Lustig, Inter-American Development Bank and Brooking Institution Press, 2001.
Contact numbers: ejames@estellejames.com, fax 1-309-419-7133, tel 1-202-338-1451

ABSTRACT: COVERAGE UNDER OLD AGE SECURITY PROGRAMS AND PROTECTION FOR THE UNINSURED—WHAT ARE THE ISSUES?

The majority of old people in developing countries are uninsured by formal social security programs. This paper argues that economic growth is the key to increased coverage. Contributory old age insurance programs (or formal programs more generally) may not be desirable or feasible for large portions of the population in underdeveloped economies. The trade-offs between higher take-home pay and old age benefits, between maximizing coverage and minimizing evasion, and between increased coverage and greater competitiveness, need to be carefully evaluated before opting for expanded coverage, especially among low income groups. However, policies also matter. Keeping the contribution rate low, the rate of return high and enhancing the credibility of the system may encourage participation marginally while avoiding these costly trade-offs.

In recent years we observe a tighter link between benefits and contributions in contributory systems—most obviously in the shift toward multi-pillar systems with a large defined contribution component, usually accompanied by a modest redistributive public pillar. This augments the fiscal sustainability of social security systems and therefore may be considered a pre-condition for financially sound coverage expansion. At the same time, it runs the risk of increasing the number of old people, who have only contributed small amounts and therefore remain uninsured or underinsured by formal programs. These people will continue to rely primarily on informal insurance mechanisms, such as the family and community.

The uninsured fall into two groups: workers who have spent much of their lives in the informal sector (often self-employed or in small firms) in labor market jobs that are not covered by contributory programs; and women, who have worked in the household rather than the labor market, expecting to be supported by the family system, which may fail them in old age. The second group (dependent spouses) can be partially protected by requiring the purchase of survivors' insurance and joint annuities by workers in the contributory scheme—thereby institutionalizing the informal family system into the formal social security system. For the first group (informal sector workers), social assistance programs targeted toward the lowest earners outside of the formal system seems to be essential—creating the need to design such programs efficiently and take their costs into account in planning the reform. The challenge is how to maximize the proportion of money that reaches the targeted groups while minimizing leakages, disincentives and moral hazard problems.

COVERAGE UNDER OLD AGE SECURITY PROGRAMS AND PROTECTION FOR THE UNINSURED—WHAT ARE THE ISSUES?

The majority of workers and old people in developing countries are uninsured by formal social security programs. Coverage ranges from less than 10% in Sub-Saharan Africa and South Asia and less than 30% in most of East Asia, to 50-60% in the middle income countries of South America, 70-80% in the Eastern European transition economies and 90-100% in the small group of OECD countries (World Bank, 1994).

Economic development is the major determinant of coverage rates but policies chosen by governments also matter. The structure of industry, the limited taxing capacity of governments and the high discount rate and liquidity constraints faced by low earners limit the feasible scope of contributory schemes, or the formal labor sector more generally, in developing countries. We argue that they also limit the desirability of contributory schemes for low income workers in these countries. If the contribution rate is borne by workers, it may reduce their take-home pay at a point in the life cycle when they need more income rather than less; and if borne by employers it may reduce the number of jobs in the economy. A low contribution rate and a high rate of return can reduce these disincentives and distortions that inhibit optimal coverage.

The uninsured fall into two main groups: workers who have labor market jobs that are not covered by contributory programs (e.g. the self-employed, the informal sector), either because they cannot find covered jobs or because they (or their employers) prefer to operate in the informal sector where taxes and regulations are smaller; and women, who have worked in the household rather than the labor market for most of their lives, expecting to be supported by the family system, which may fail them in old age. The second group can be protected by requiring the purchase of survivors' insurance and joint annuities by workers in the contributory scheme—thereby institutionalizing the informal family system into the formal social security system. In a multi-pillar scheme, this cost would be borne by the married workers directly involved, rather than being passed on to others. For the first group of uninsured, social assistance programs targeted toward the

lowest earners outside of the formal system seems to be essential—creating the need to design such programs efficiently and take their costs into account in planning the reform. The challenge is how to maximize the proportion of money that reaches the targeted groups while minimizing leakages and moral hazard problems.

Part I discusses how contributory social security systems imply a class of uninsured. Part II argues that a high coverage level under mandatory contributory schemes is neither necessary nor desirable for low income countries. Part III examines voluntary programs and universal benefits as alternatives to mandatory contributory schemes. Part IV suggests institutionalizing the implicit family contract into formal pension systems, to protect women who have worked in the home rather than the formal labor market—requiring spouses to purchase survivors' insurance and joint annuities. Part V analyzes the use of social assistance for the lowest income groups who are left out of the formal system. Salient issues here include: trade-offs between social assistance and human capital creation, how to provide social assistance without diminishing the incentive to be in the contributory scheme (the moral hazard problem), how to target benefits while keeping official and unofficial transactions costs low, and how much priority to give to social assistance to the old versus young families with children. The design of means-tested programs that maximize money reaching targeted groups while minimizing moral hazard problems and leakages may lead to the use of categorical proxies for need, of self-selection techniques, and reliance on NGO's to deliver services rather than cash to the neediest who are not covered by a formal program. The Conclusion summarizes policy implications.

I. Why Contributory Social Security Implies a Class of Uninsured

Most countries, including almost all developing countries, finance old age security through earmarked taxes, called "contributions," rather than through general revenue finance. This emphasis on contributory systems with benefits contingent on contributions, is used to increase the public's willingness to pay and to decrease distortionary or evasionary techniques. Without a reliable contribution base, old age security programs would be non-viable in most countries. But this financing method has the side-effect of creating a class of uninsured or partially insured individuals who have

contributed little or nothing in their working years and may be left in poverty in old age.

Why are most social security schemes financed by earmarked payroll taxes or "contributions"?

Most mandatory pension schemes, including almost all those in developing countries, are financed by payments that people make specifically for this purpose, rather than through general revenue finance. The payments are mandatory and in this sense they are taxes, but they are earmarked for a specific service, and for this reason are usually called "contributions." The programs are for those who make contributions rather than being universal, and the benefits they pay depend on the level of contributions.

The basic idea is that when people perceive that they are getting a specific service in return for their payments, they are more willing to pay and less anxious to evade. Both political opposition and economic distortions are likely to be less for earmarked taxes than for general taxes. In this sense, the government's spending frontier is extended when earmarked taxes linked to size of benefits are used. For this reason, such arrangements are common for the financing of quasi-public services such as education, medical care and old age insurance, where exclusion and differentiation in type of service is feasible. People who do not contribute do not get access to these services.

The earmarked tax or contribution for social security is usually based on wages, subject to a ceiling and occasionally a floor. The returns to capital are not taxed to finance these programs, nor is property taxed. Benefits also depend on wages—sometimes lifetime wages and sometimes final year wages. The theory, again, is that this indirectly links benefits to contributions, thereby increasing peoples' willingness to pay the price.

But why use a payroll tax base? Why not base contributions on total income, or on some flat amount? One rationale for using a payroll base is that pensions in old age are designed to replace wages that people receive when they are able to work, hence benefits should be tied to wages. A close benefit-contribution linkage then requires that contributions also be based on wages. If benefits depended on wages but were financed by general revenues, capital as well as labor would be taxed, thereby making the programs more redistributive. Holders of capital would oppose this financing method, giving us a second, political economy, reason for its infrequent use. A third, more pragmatic

reason for payroll tax finance is that such deductions are the easiest way administratively to reach large segments of the population, who do not file income tax returns in many countries. A sales or value added tax would also be administratively feasible, but would make it more difficult to keep track of the taxes paid by each individual, hence to connect benefits and contributions. Payroll taxes, in contrast, can be collected from employers while records are maintained on each worker—administratively an easier job.

To some extent this theory is violated by reality. On the one hand, some groups have been able to extract benefits that far exceed their contributions, due to easy eligibility, lax disability and early retirement. These behaviors ultimately made the system non-sustainable in Latin America and led to a wave of multi-pillar reforms that tied benefits more closely to earmarked contributions.

On the other hand, the political economy of some countries (e.g. Australia, Denmark, Switzerland) has allowed them to use general revenue finance or to forego a ceiling on taxable wages, thereby delinking benefits from contributions and making the system more redistributive from rich to poor. But in recent years, fiscal pressures have caused these arrangements to be downsized and supplemented by contributory pillars. The vast majority of mandatory systems now include components that require wage-based taxes and return benefits that depend in some way on wages or contributions.

The consequence: groups without formal labor market experience are not covered

While possibly ameliorating the political and economic limits to taxation and government spending, contributory programs based on earmarked payroll taxes create a new problem—a distinction between covered and non-covered groups that depends on labor market experience. The uncovered group consists of two subsets:

- those who engage in home work, instead of market work (primarily women);
- those who engage in market work but whose jobs are not covered by contributory schemes (for example the self-employed and agricultural workers), either because they cannot find covered jobs or because they (or their employers) choose to operate in the informal sector in order to avoid multiple taxes and regulations.

Women presumably expect their monetary needs to be met through the family system, so they work in the household, without earning wages or pension rights. Their problem is that this expectation of their youth may not be realized when they grow old. Workers who engage in market work that is not covered earn wages to satisfy their monetary needs when young, but fail to accumulate pension rights that will provide an income when they grow old. Sometimes they contribute just enough to qualify for benefits, albeit modest, and evade thereafter, thereby making the system fiscally non-sustainable even though their pension remains modest.

In all these cases, the family system has been the traditional means of old age support, but if this system breaks down these groups are in trouble and if they are living at the edge of poverty their problem becomes a social problem. Indeed, mandatory old age system developed in part to gather the resources to avoid this social problem. What can be done about these groups who are outside the formal old age systems?

II. Is Increased Coverage by Contributory Schemes the Solution?

Should governments seek to increase coverage in the contributory scheme? While this is possible within limits, I argue that vastly increased coverage is neither feasible nor desirable in low income countries. Indeed, staying out of the social security scheme should be viewed as only one part of the choice between formalization and informality, in which informality is often the rational choice at early stages of development.

Figure 1 demonstrates the close relationship between per capita income and coverage of workers under formal social security programs. Per capita income alone explains 89% of the variance in coverage. We observe that in low income countries such as India and Sri Lanka, coverage of the adult population is as low as 10%, while in high income countries it is close to 100%. We also observe some (small) variance in coverage for any given level of income. This suggests that, while coverage can be influenced to a minor degree by country policies, structural factors tied to stage of development play the major role in determining coverage by contributory programs. These structural factors come from two sources—(1) the low tax-collecting capacities of governments at early stages of development combined with the prevalence of small enterprises and self-employment, which

make it non-feasible to extend coverage; and (2) the fact that it may not be in the best interest of low income workers to participate in contributory old age schemes (or, more generally, in the formal sector), which makes it non-desirable as well. It is very difficult to implement a mandatory program unless most workers perceive it as in their best interest.

The difficulties in collecting from small enterprises and the self-employed

The rationale for mandatory old age programs is that people may be myopic, may not make provisions themselves on a voluntary basis, and may hope to fall back on society's largesse, should the need arise. The government mandate is designed to overcome these problems of myopia and moral hazard. But it leaves the government with a large enforcement problem, as workers try to evade the mandatory payments which they would not have made on a voluntary basis. Governments in developing countries often lack the necessary enforcement capabilities. The structure of the economy makes it difficult for them to compel compliance. Thus they face a trade-off between maximizing nominal coverage and minimizing evasion. After some point the increase in evasion may exceed the increase in nominal coverage, so effective coverage may decline if the government tries to expand the system beyond its capacities—evasion is a contagious social disease.

It is relatively easy to collect from large companies but more difficult to collect from small enterprises or the self-employed or subsistence agriculture or transient workers. Small enterprises have a short life span; they may come and go before they are registered and taxed. The self-employed, who must pay both the worker's and employer's share, have a double incentive to evade and find it easy to under-report their earnings. Keeping track of transient workers who work irregularly for different employers is a daunting task. Self-employment, small enterprises, subsistence production and transient workers dominate in agriculture, the mainstay of most developing economies.

These problems exists in industrialized countries as well, but they are multiplied in developing countries where the "difficult" groups are disproportionately large and the government's capacity is weak. Many developing countries do not even try to cover these groups and those that try often fail. For example, the self-employed, who constitute about a third of the labor force, are not covered in Chile (World Bank 1994; Queisser 1998). They are covered in Argentina, which is considering

excluding them from the mandate because of high evasion. In many Asian countries employers with fewer than ten or twenty workers are not covered. In most African countries only employees of the government and large state or multi-national companies are covered. It may indeed be wise for developing countries to concentrate their limited enforcement capacities in those sectors where they are most likely to succeed—but this leaves the majority of workers uninsured.

Rational reasons for non-participation among the poor

Even if increased effective coverage were feasible, it might not be desirable. The costs of coverage must be paid either by workers or employers, depending on the elasticity of labor supply and demand. Many workers may be better off outside the formal retirement old age security system, with higher take-home pay, which would be reduced by social security contributions. And the economy may be better off with more jobs, coming from lower labor costs, if employers operate outside the social security system. Policy-makers thus face a trade-off between higher coverage and higher take-home pay for workers, hence greater current consumption; and between higher coverage and lower labor costs for employers, hence greater employment. While this trade-off may be decreased if a low target replacement rate and required contribution rate are chosen, some trade-off always remains.

Low income workers may have perfectly rational utility-maximizing reasons for preferring to stay out of the old age system and for evading contributions if they are nominally covered. Often they are living close to the poverty level. They have relatively short expected lifetimes, so it may make more sense for them to use their meager incomes to survive at present rather than saving for the distant future, when they may not be alive. This effect is accentuated if, at the annuities stage, they are merged with high income workers who have greater expected longevity, thereby depressing benefits and returns for the poor. This practice is common in mandatory social security systems, making it rational for low income workers to evade such systems.

Moreover, even when they save, the best rate of return for them may come from investing in land, homes, tools, or the education of their children, who will return the loan by supporting them in the future. In most low and middle income countries, older people live in multi-generational

households and their consumption level therefore depends on the earnings of their children more than their own pensions. Investing in the human capital of their children may be the best old age security program for them. Investing in a family business may be the next best alternative. Lacking access to well functioning credit markets and facing a high risk premium, farmers, the self-employed and low income groups generally are forced to pay exceedingly high borrowing rates or to use personal savings to finance these investments. They may, understandably, be reluctant to lock up their modest savings in a long term retirement program that will not be available to meet shorter term investment, educational, health or other emergency needs.

Consistent with this hypothesis, a study of contribution patterns in Peru showed that the self-employed, farmers and low income workers are less likely to contribute regularly (Queisser 1998). Empirical evidence from savings programs targeted to the poor in Mexico and Indonesia show that these groups will indeed save, but they place a high value on liquidity and therefore choose short rather than long term financial instruments. Moreover, such savings are invariably small, much less than needed for old age security (Aportela 1999). Experiments with informal systems show that workers are willing to save small amounts to meet short term contingencies, in contrast to old age security arrangements which require large long term illiquid payments (van Ginneken 1999). Extending coverage by requiring low income informal sector workers to contribute to old age security programs would not be in the best interests of these workers in such circumstances, even if the government had the capacity to enforce the mandate.

Usually employers are responsible for part of the contribution, giving them an incentive to operate out of the system if they see this as a way to reduce labor cost. While the market may eventually require a compensating wage increase for employers who are outside the formal old age system, employers may not perceive this in the short run, or even in the long run if they can attract workers who do not place a high value on social security benefits. Moreover, staying out of the old age security system may be part of an employer strategy to stay out of the formal sector more generally, because of the regulations and taxation which formalization imply. If employers can keep their labor costs low by staying out of the formal system, this increases their level of

employment—especially important in countries with high levels of unemployment or underemployment. Governments must weigh carefully the questions of who will bear the payroll tax if effective coverage is extended, and how high the tax can be to avoid negative consequences on employment.

Will a closer link between benefits and contributions encourage participation?

Multi-pillar social security reforms in recent years have featured a strengthening of the benefit-contribution link. A second, funded defined contribution pillar has been added, in which benefits ultimately depend exclusively on contributions plus investment income. In addition, these schemes usually include a public pillar which is redistributive and applies only to those who have contributed to the second pillar; it provides a safety net to the low earners among the contributors. In a sense, this can be regarded as an example of the risk category differentiation mentioned above. The hope is that this will increase the incentive of low earning workers and their employers to participate in the formal sector and thereby reduce the number of uninsured.

These reforms should enable revenues to cover obligations and hence make the system more sustainable for those who do participate. Since fiscal sustainability is a precondition for responsible coverage expansion, these reforms may set the stage for actions by the government to extend coverage. Moreover, they may encourage compliance among long term workers and their employers and enhance the welfare effects of participation, owing to the smaller tax element and the hope of a higher rate of return. However, if the benefits and costs of a formal old age scheme are only one part of the very complex formalization choice, these reforms may have relatively little impact on participation.

Morevoer, compliance may be discouraged among those who no longer receive windfall gains—some of whom were rich and some poor. And benefits are reduced substantially for those who contribute for only part of their working lives, hence may not be eligible for the redistributive first pillar. Thus, pension access among the old poor may actually decrease.

For example, Chile provides a minimum pension guarantee of 25% of the average wage to workers who have contributed at least 20 years to their individual accounts in the second pillar, and

many other countries have followed this example. Accumulations in the second pillar are supplemented by the government to bring the annual benefit to this level. This guarantee will protect low income covered workers, especially those who have contributed for only 20 years. For this reason, many low income workers may stay in the system for 20 years. But workers who do not anticipate 20 years of participation will have a continued incentive to stay out of the system. A guarantee that increased with years of contributions might have been more equitable and effective at constraining evasion.

The Brazilian social security system has long included an "age" pension which, at a specified age (65 and 60 for urban men and women, 60 and 55 for rural men and women, respectively), pays 70% of the wage base to workers who have contributed for at least 5 years. The typical pension was one minimum salary, about 30% of the average wage. The Brazilian system also included a much more generous pension based on length of service, that required thirty years of covered employment and paid 5-6 minimum salaries to the average beneficiary. The "length of service" pension went mainly to urban men who worked in the formal labor force for most of their lives. The age pension went mainly to women, especially rural women. For example, in 1997 out of 5.2 million recipients of the age pension, 75% were rural dwellers and 62% were women, while 83% of the 2.9 million recipients of the length of service pensions were urban men (Instituto Nacional do Seguro Social 1998).

Because of its low employment requirement, the age pension was a near-universal benefit, targeted toward rural areas and women. However (as a consequence of this and other features), Brazil faces severe fiscal and evasion problems as workers were increasingly tempted to escape to the informal sector, contribute for only 5 years, and collect the age pension. As part of the reform process that began in the mid 1990's and is on-going today, the contribution requirement for the age pension will gradually increase to fifteen years (World Bank 1998). This change will likely improve urban compliance and sustainability, but rural women and others who do not have a chance to participate in the formal labor market for fifteen years may become uninsured.

As another example, Uruguay previously had an age pension that required 10 years of

covered employment, but the required contributory period was raised to 15 years in Uruguay's recent pension reform (Queisser 1998; Law 16.713, Capitulo II, Article 68). Undoubtedly this will have the same beneficial effects on fiscal sustainability, but the fate of the uninsured is unclear.

Policy changes that might increase coverage at the margin

Figure 1 showed that per capita income strongly influences but does not completely determine coverage by formal programs. What kinds of policies might increase coverage, in an enforceable and welfare-enhancing way, at the margin?

1. Low contribution and target replacement rates. Many developing countries choose a relatively high replacement rate target of 60-70%, which requires a high contribution rate for sustainability. A lower target replacement rate and contribution rate would decrease the trade-offs with take-home pay and unemployment, thereby encouraging workers and employers to participate. Thailand recently instituted a scheme for private sector workers with a target replacement rate of 20%.

2. Paying a high rate of return on funded plans. One would expect that workers would be more likely to use retirement savings accounts if the rate of return is high and administrative costs low. However, since these funds are committed for the long term, workers would have to trust that high returns would continue for many years; it is not clear that such assurances could be given.

3. Increasing the credibility of the contributory scheme. The incentive to participate in the system will increase if workers believe it is financially sustainable and will survive to pay the promised benefits in the future when they retire. That is one object of multi-pillar systems—but it may take many years for their credibility to be established.

4. Permitting borrowing against retirement funds or lump sum withdrawals upon retirement. This would make retirement funds more liquid and therefore diminish resistance to participation—but these depleted accounts might never be replenished and lump sums might be quickly spent, defeating the original purpose of the old age program.

5. Offering better terms to low earners in view of their lower life expectancy and higher opportunity cost. This may take the form of lower contributions or higher promised benefits. Such

incentives are widely viewed as redistribution. They may alternatively be an implicit recognition of the fact that low earners belong in a different risk category from high earners, because they are likely to live shorter lives; hence if both groups face the same contribution-benefit ratio perverse redistribution from poor to rich goes on and it is quite rational for the poor to try to stay out of the system.

Differentiated risk categories have, in effect, been introduced in the multi-pillar systems of many countries: the Netherlands has a flat benefit formula in the first pillar, Mexico makes a flat contribution to each workers' individual account, Switzerland places a ceiling on first pillar benefits while having no ceiling on taxable wages; in Uruguay, low and middle income contributors to the new funded pillar receive an extra benefit (Queisser 1998). In Colombia a "solidarity tax" of 1% is imposed on salaries above a specified level and used to finance subsidies to low income contributors (Valdes-Prieto 1998).

These better annual pay-offs or lower charges may marginally encourage participation by low earners—although the high discount rate and liquidity demand of this group limits this effect. At the same time, if such measures are viewed as redistribution rather than risk categorization, they may encourage evasion by high earners and may simply be non-viable for political economy reasons. Moreover, if the differentiation is not justified on actuarial grounds, it may make the system financially non-sustainable. Thus, there are real limits to the ways in which policies can be shaped to make inclusion in a contributory program desirable for large groups of workers in low income countries.

In sum, until government's capacity to enforce tax collections increases, the structure of the economy changes to facilitate this, and the earning capacity of the bottom half of the labor force grows—all of which occurs with the process of economic development—it is difficult and not necessarily desirable to extend contributory old age security coverage to the entire population.

III. Solutions Outside the Contributory Scheme

Are voluntary contributions the answer to the coverage problem?

Some analysts have urged that voluntary contributions should be permitted to extend pension

insurance to those who don't have covered jobs. In Japan, men are encouraged to make flat contributions for their wives, in exchange for the promise of a flat benefit. Even before that, the postal savings option in Japan offered the possibility of safe savings instruments which some rural workers may have used to provide old age protection. In China, workers in township and village enterprises are subject to social pressure to contribute to their individual accounts, on a "voluntary" basis. Making coverage voluntary avoids the evasion and unemployment problems discussed above. In several countries community organizations such as NGO's have tried to set up small-scale self-help schemes for informal sector workers (van Ginneken 1999).

While the availability of voluntary retirement savings instruments is probably utility-improving, I believe we shouldn't expect them to accomplish very much. After all, a basic reason for the existence of mandatory programs is that many people, especially low income people, will not save voluntarily for their retirement and the basic reason for limited coverage is that, even when the program is mandatory, many workers and employers will try to avoid contributing because they believe that participation does not make them better off. In addition, the transactions costs of collecting many small voluntary contributions might be relatively high. Voluntarism and self-help schemes are more likely to succeed in programs when the costs are small and the benefits immediate (as for micro-finance or primary health care). It is likely to be only a small part of the solution to a large long term old age security problem.

In addition, I would offer at least three caveats to this approach: First, if annuities are promised in the voluntary program they should be actuarially fair, except for deliberate redistribution that is planned and funded from the start; otherwise, the voluntary program could explode into a large unfunded unexpected obligation. Second, in an individual account saving plan, workers should be given accurate information about the real rate of return they will receive and the replacement rate it will provide. In China, where some new enterprises have begun to cover workers on a "voluntary" basis, augmented by social pressure, workers have been led to expect a high nominal rate of return based on the assumption of a high rate of inflation. Workers may not realize that this nominal rate will fall if inflation falls so its real value is minuscule. Third, voluntary contributions

are likely to be small, at best. In China, the negative real rate of return combined with the small size of the voluntary contributions will not provided much security in old age.

Will universal benefits solve the problem of the uninsured?

Some countries do not have a problem of "uninsured old" because they have universal flat (uniform) or very broad means-tested old age security benefits. These include many OECD countries, such as the Netherlands, Denmark, Norway, Canada, New Zealand and Australia. In these countries, employment and contributions are not required for inclusion. Instead, the old age benefit is typically financed out of general revenues and all residents are eligible to receive it once they reach the specified age. When these countries adopt a multi-pillar system, this universal benefit in effect becomes their first pillar. This approach solves the problem of coverage since there are no uninsured and it eliminates poverty in old age so long as the benefit is above the poverty line.

However, it poses several other problems, chief among them being fiscal problems. Universal flat old age benefits are costly and will become more costly as populations age. A contributory program with earmarked taxes and with more narrowly targeted redistributions would cost less. To finance these large expenditures with aging populations requires either a large increase in tax rates, which may be distortionary, or a cut in other important social programs. This approach also poses political economy problems, stemming from the need to reach a collective agreement on the level of the uniform benefit and from the redistribution inherent in such programs.

Are universal uniform general-revenue-financed old age benefits a good option for developing countries? Recently Bolivia established such a first pillar in the form of the "bonosol," a universal benefit financed from the proceeds of a "collective capitalization fund" that contains the government's shares of state enterprises in the process of being privatized. The benefit initially was slated to be 11% of the average wage, 50-85% of the income of poor workers (Queisser 1998; von Gersdorff 1997). However, it was quickly cut and it is even less clear what will happen when the capitalization fund is exhausted. Probably for most developing countries, a universal flat old age benefit is a luxury they cannot afford, nor is it the best use for their limited public resources.

The great income inequality in developing countries also makes a universal uniform benefit

implausible, because it would be hard to reach a collective decision on its size and method of financing. When income is unequal, a uniform benefit that is reasonable from the point of a poor worker would be negligible for a rich worker who would therefore be uninterested in supporting it. But a benefit that is high enough for the rich worker would exceed the wage level of a poor worker, and would be very expensive for the economy as a whole. Relatedly, when incomes are very unequal, typically only a minority of people pay general taxes, and these people would oppose financing a universal benefit—making it infeasible from a political economy point of view. Bolivia, where incomes are very unequal, tried to avoid these problem by using proceeds associated with a privatization program, but it is not clear that the bonosol will last. Note that the OECD countries with universal benefits all have a high degree of income equality.

IV. How to Prevent Poverty Among Older Women: Formalizing the Informal Family System

What, then, will work? This paper proposes two solutions—one aimed at women who are married to covered men and the other aimed at members of both genders who did not have covered jobs when young and are close to the poverty line when old.

The majority of old are women and this is even more true of the very old. Among the old who are poor and uninsured, women are disproportionately represented. They often lack the labor force participation that would entitle them to contributory benefits, and even if covered, they are usually only "partially insured" because their level of education, wages and years of service were low. They are less likely than men to have inherited property, and in some cultures, assets acquired by women are taken over and owned by men. Their greater longevity means that they are dominant among the very old, who are most likely to be poor, having used up whatever savings they previously accumulated.

The absence of labor force participation and asset ownership among women was part of a traditional family system in which husbands participated in the formal markets and wives worked in the home. Women provided non-monetized services, especially when young, while their monetary needs were supposed to be covered by their spouses and eventually their children. But in many

cases this system fails, especially in old age, when women are at the receiving end of the lifetime contract. Marriages break up and the husband is the one with the formal income. Husbands die earlier than wives, with their retirement benefits used up, and often do not leave adequate resources to support the surviving spouse. (For evidence that families do not choose adequate survivors' insurance, even in countries where this is available, see Auerbach and Kotlikoff, 1991). Children move away or have income problems of their own. In these cases, the monetary support that the family was supposed to provide is not forthcoming and the low personal income of women becomes a social problem.

Social security systems could be designed to enable women to enforce the implicit family contract that was agreed to earlier in life. Eventually women are likely to participate more broadly in the labor market and to be covered on their own, but in the meantime public policies can ensure that the family support system they counted on when young continues into old age.

Some traditional defined benefit social security systems provide dependents' and survivors' benefits to wives of covered workers; the wives are covered by virtue of their husbands' coverage. But this means that society at large, rather than the individual husband, takes responsibility for dependent wives. The benefits to housewives are financed partially by taxes paid and benefits foregone by unmarried men and by wives who participate in the labor market—a high implicit tax that discourages female labor force participation and accentuates the problem. Men who marry much younger women late in life are heavily subsidized and women who are not married to covered men do not receive any benefit. This system may work well when almost all men and women are married, at socially determined ages, and few females work in the formal labor market. But it raises serious efficiency and equity problems when marital and labor force participation patterns change and become more discretionary.

In the context of these changing individualized patterns and multi-pillar systems which attempt to link the individual's benefits with his or her contributions, the following measures might be considered, to incorporate the informal family contract into the formal old age security system:

- The required purchase of adequate survivors' benefits to those inside the contributory system

and the availability of low cost survivors' benefits to those outside;

- The requirement that insured workers contribute toward the personal accounts of their non-working spouses or that mandatory retirement savings be considered the joint property of both spouses;
- Mandatory joint annuitization, with price indexation, so that the money accumulated in workers' accounts is not quickly used up and the lifetimes of both spouses are covered;
- The use of unisex mortality tables, so that women do not receive lower annual benefits than men because of their greater longevity; (this implies a redistribution from men to women that will be controversial and may be difficult to implement in a competitive annuities market);
- Splitting the accrued benefits and retirement accumulations between the spouses, a provision that becomes especially important in case of divorce.
- Increased emphasis on female education and labor market equality, to augment the earning power and pensions of women.
- Changing inheritance, property and divorce laws to give women equal rights.

Measures such as these would take care of the needs of the largest group that is not covered—spouses who have not participated in the labor market for much of their lives—and as such would go far toward eliminating poverty among the uninsured old.

V. Social Assistance and Means-Testing

For individuals who remain outside the formal old age system and are poor, we are driven to the need for means-tested social assistance which is universal and non-contributory. Indeed, most countries have some such social assistance program, aimed at the poorest groups. And these programs have been increasing in some countries to supplement new multi-pillar systems with a close benefit-contribution link.

In recent years several OECD countries have replaced their single pillar universal systems with multi-pillar systems, because of the growing fiscal strain. That is, the universal flat benefit, in reduced form, has become the first pillar while a second mandatory pillar that is contributory, funded and privately managed has been added. (In these countries, the second pillar generally

builds on pre-existing plans established by collective bargaining and now extended by government.) The existence of the second contributory pillar permits cutbacks in the size of benefits from the first universal pillar, but it also creates a new problem of the "partially uninsured." Commonly, this has been addressed by offering larger means-tested benefits for those who are not in or who receive only small benefits from the contributory second pillar.

For example, Denmark recently decided to raise contributions to funded occupational defined contribution plans (its second pillar) to 9-12% of wages, which should eventually provide a replacement rate of 40-45%, and decrease the size of the universal flat benefit (its first pillar) to 25% of the average wage. Of course, this means that those with limited employment experience (women, self-employed, farmers) will receive smaller benefits than others in their cohort and less than they would have previously. In this sense, they are only partially insured. To offset this, the government will offer a means-tested benefit to those without second pillar pensions. So, it is supplementing the first (public universal) pillar with a second (private contributory) pillar on the one hand and a means-tested "zero" pillar for the partially insured, on the other hand (Ploug 1993 and discussions with author, 1998). The UK has decreased the value of its flat basic pension relative to the average wage, and increased the role both of private defined contribution pensions and public means-tested supplements (Johnson 1998; Whitehouse 1998).

Key issues that must be dealt with in designing a well functioning social assistance program are: How large should the program be relative to other social programs? How does the availability of noncontributory assistance affect the fiscal sustainability of the contributory program and conversely, how does the structure of a contributory program affect the demands upon social assistance? How can moral hazard problems be avoided? How is eligibility for assistance determined? Should these criteria be different for the old and the young? And primarily, how can the program be structured to maximize the probability that assistance will reach the targeted groups, with a minimum of leakages to others?

Trade-offs between social assistance and human capital creation

In setting up their social assistance programs for the old, governments face a trade-off with

other public programs such as education and health services for the young, that may help people build human capital and diminish reliance on social assistance in the long run. How much to spend on social assistance for the old versus job creation for the young and other public goods? In the face of severe budget constraints in developing countries, there is no easy answer and no one right answer for all. But the question must be asked in all cases.

Interaction between contributory programs and social assistance: moral hazard

Social assistance is paid to mitigate hardships on the noninsured old but it also creates incentives to become noninsured—the moral hazard problem. Low income workers may fail to participate in the contributory scheme, which may eventually lead to its collapse, if they think that by doing so they will qualify for social assistance. Despite this disincentive, society may feel it must offer social assistance to the truly needy. The end result may be both inadequate social asssistance and nonsustainable social insurance.

Partly in response to this problem, many contributory programs include a redistributive component—e.g. the first pillar in multi-pillar systems provides a safety net for contributors. This arrangement recognizes that low earners really belong in a different risk category than high earners because of their lower life expectancy. It also encourages compliance by giving them better terms. Access to a safety net within the contributory scheme helps to overcome the moral hazard problem by making participation for low earners more attractive. The impact on evasion and fiscal sustainability depends on the generosity of the social assistance program relative to the redistributions in the contributory program. The latter should be greater than the former, to encourage contributions. So society faces a dilemma, due to the moral hazard problem: If social assistance benefits are generous they make the contributory program less sustainable; if they are miserly, they leave the uninsured in poverty, even those who had no opportunity to get a covered job.

This negative impact of social assistance on the contributory program is heightened if it is financed out of the social security budget, as in Brazil and Uruguay prior to their recent reforms, where the social security system was charged for beneficiaries who had only five or ten years of contributions. While reducing the benefits from contributing, this simultaneously increases the tax

burden on contributors, hence their incentive to participate in the contributory program is cut from both directions, and it ultimately becomes nonsustainable. General revenue finance, which has a broader base, is preferable, both on efficiency and equity grounds, for universal means-tested programs.

How to target benefits: keeping official and unofficial transactions costs low

The essence of means-tested social assistance is that it is targeted to low income groups. Depending on data availability and country standards, "means" may be defined in terms of income (commonly), assets (as in Australia) or the presence or absence of scarce consumer goods such as water, electricity, and motorcycles in the households (appropriate in developing countries). Chile offers a small social assistance benefit, about 12% of the average wage, to the poorest of the non-insured groups over age 65, using traditional mean-testing techniques. The size of the total social assistance budget is predetermined, as is the benefit level. This automatically constrains the number of beneficiaries—below the current number of eligible households. Thus, many localities have waiting lists from qualified individuals without access to benefits. Not surprisingly, most recipients are women, who did not have an opportunity to participate in the labor market for enough years to qualify for the contributory guaranteed benefit.

But targeting incurs transactions costs. In cases where beneficiaries are poor, this may lead to a large leakage of funds to the middle class bureaucrats who administer the system. Besides the official salaries that they receive, there is ample opportunity for unofficial side-payments to induce rapid and favorable treatment. For example, in several Indian states, old people complain about patronage and the side-payments they must make to get their applications processed (van Ginneken 1999 and field work of author).

Traditional means-testing may also lead to take-up problems as some people do not apply because of ignorance or stigma and criteria may not be applied uniformly. In Thailand, village elders identify the rural poor, mostly widows without children. This system may work well in some villages but one can imagine personal favoritism playing a role in others. (van Ginneken 1999). Finally, means and asset-testing creates a moral hazard problem: people may be discouraged from

saving for their own old age.

Realizing these disadvantages of traditional means-tested programs, countries have begun experimenting with non-traditional approaches and with proxies for need, that reduce these transactions costs. Such methods may not target precisely, but the savings from reduced leakage may more than compensate. For example, in the Progresa program in Mexico, a computerized model that aggregates several socio-economic variables is used to identify poor communities, especially those in rural villages, and their residents. The econometric model is structured to give heavy weight to families with children and to provide an incentive for these children to attend school. But old people also benefit—and the relative weights given to school-attending children versus the old becomes a political issue.

A categorical approach is also used to reduce transactions costs: very old age may be a proxy for need. The very old who are women are often among the poorest groups so this is an even narrower proxy for need. Argentina targets the "very old" in its social assistance program. All people whose age exceeds 70 and who have contributed for ten years, qualify. Presumably the transactions costs of this program are lower than in Chile. But given the correlation between income level and longevity, many poor people die before they ever collect while many of those who collect are well above the poverty line. Benefits in Argentina are 19% of the average wage (Ley de Seguridad 24.241; Vittas 1997). This contrasts with Brazil and Uruguay, where 15 years of contributions are required for the age-based social assistance pension but benefits are higher, and Chile, where benefits are lower but can be received at an earlier age and contributions are not required. In general, we observe a trade-off between tightness of eligibility criteria and size of benefits. (For a discussion of these trade-offs in the contributory program as well see James 1998).

Still another approach to means-testing involves self-selection: offer assistance in a form for which mainly low income people will apply. Self-selection can be achieved by requiring queues for receipt of small cash benefits, a cost which high income people are less likely to be willing to incur, or by offering in-kind benefits such as free lunches that only low income people would accept. NGO's may provide the service at lower cost and in a less bureaucratic way than the

government, particularly when small scale ventures are involved. In some countries the poorest old are accommodated by soup kitchens and/or dormitories, run by NGO's but financed by governments. The advantage of self-selection is that it avoids the transactions costs and possible mis-identification of an application process. The disadvantage is that the benefit and quality level may not be optimal, and many needy old people may end up not participating.

At this stage, we don't really know which of these methods entails higher transactions costs and other leakages, and which is more effective at targeting needy old people. This would be a high priority topic for further research.

Old versus young candidates for social assistance

Should different criteria apply to old versus young candidates for social assistance, and how much priority should be given to poor families with children versus the poor old? These two questions are interrelated.

On the one hand, some analysts argue that eligibility criteria should be more stringent for the young, since they can work, and should be encouraged to try to seek work, while the presumption is that the old cannot work, or have low productivity when they work. The old, therefore, can be offered social assistance without the labor disincentive effects that would be incurred by the young.

(Of course, the expectation of receiving assistance when old may discourage saving when young, a different type of disincentive problem. In effect, means-and asset-tested social assistance imposes a high marginal tax rate on savings. In Australia, the young who are unemployed and the old without adequate income and assets are guaranteed the same level of benefits, but with different eligibility criteria regarding efforts to find employment, since the presumption is that the young can work (hence work incentives should be retained) while the old can't. But the government in Australia feared that saving when young might be discouraged by its means and asset-tested age pension, so it recently established a contributory mandatory saving plan for workers. This will eventually reduce the moral hazard problem regarding saving, leaving different work requirements between the old and young).

On the other hand, one can argue that priority for social assistance should be given to young

families with children, who have their entire lives ahead of them. According to this line of thought, children should not be penalized for the failure of their parents to obtain a well-paying job. Helping the children may be a better long term investment for society. Of course, money given to families may not better the condition of the children—this depends on how the marginal income is spent. The Mexican Progresa program is interesting in this regard because it makes school attendance one of the criteria for aid, and the money is given directly to the mother, who has been shown more likely to spend it to enhance the welfare of the children.

The role of the extended family in social assistance programs

The family is the oldest form of social insurance system (see Kotlikoff and Spivak on risk-sharing through the family). If the old and young live together in multi-generational households, the trade-off between them in the allocation of social assistance is less critical. To illustrate: In South Africa a means-tested pension is paid to most older blacks who are living in rural areas. This pension originated in apartheid days and was intended for the small number of urban whites who had failed to accumulate their own private occupational pensions. A much smaller stipend was paid to blacks. But with the elimination of apartheid, the entire black population became eligible for the larger stipend, which has cut-off points and benefit amounts that are very high relative to rural black incomes. Often, family income goes up substantially when a member reaches the eligible age. Since old and young live together in multigenerational households, both groups benefit from the age stipend. But the trade-off is not completely eliminated. The program is very costly and other uses for the money may be more targeted toward the young and may have a greater social pay-off, such as increased spending on education. This is a controversial issue in South Africa today.

When the family support system is strong, it is necessary to determine whether the income and assets of the entire family should count in applying the means-test, or only that of the old person. In Western industrialized societies, the move toward individual responsibility has meant that the government replaces the family as the social safety net and only the individual's means are counted. In contrast, in several Asian societies, such as Hong Kong and Singapore, children have

a legal responsibility to take care of their parents, and old people can enforce this legally, albeit at great personal price. In Hong Kong, before the means-tested benefit is paid, children must testify that they are unable to support their parents. China is thinking of adopting a similar system. Indeed, in multi-generational households it is difficult to separate out the means of the parent and the child, since both share common living arrangements. But the share of total household consumption that accrues to different age groups is unknown to outsiders. Giving the older member a small stipend may increase his or her bargaining power to receive a pro-rata share, and in this sense may improve the welfare of the old beyond the stipend cost.

This leads to a broader question: how can governments offer social assistance while encouraging the continuation of family responsibility? How can penalties and incentives be structured to complement and crowd-in, rather than crowd-out, family care? Earlier work (Jimenez and Cox) has shown that every dollar of social security benefits partially displaces private family transfers. Incentives that governments have put in place to counteract this effects are: tax rebates for children who care for their parents in Malaysia; for children who expand their homes to accommodate parents in Japan, Sweden and Norway; and day care centers or respite care to give caregivers temporary relief in Hong Kong, Singapore, France, Germany and the U.K. (World Bank, 1994). But in developing countries, where family support is strong and inter-generational households are the norm, it seems likely that such public subsidies might have only a small marginal impact, mainly constituting a financial relief for families who would have provided the services anyway. I am not aware of any careful research evaluating the efficacy of these measures. Such research would be worth doing, to inform other countries that might be considering these policies.

VI. Conclusions

The growth of coverage in formal social insurance programs, including old age security, will accompany the process of economic development. Until that happens, a large proportion of the population will be uninsured or partially insured by formal programs and will rely instead on informal mechanisms. The recent pension reforms tying benefits more closely to contributions are a step in the right direction for the contributory systems and are a necessary pre-condition for

fiscally sound coverage expansion, but they cannot be expected to increase coverage in the short run and may even have the opposite effect. This paper has surveyed the issues that policy makers need to address as they consider how to provide old age protection for the uninsured. While economic growth is the key to higher coverage, good policies also help.

Coverage expansion to contributory programs may be marginally encouraged by policies such as: putting the social security system on a financially sustainable basis to enhance its credibility, choosing a modest target replacement rate that requires a relatively low contribution rate, allowing workers to receive a high (competitive) rate of return on their long term retirement savings, and offering low income workers access to safe savings instruments and partial benefits such as survivors' insurance (term life insurance), on a voluntary basis. These policies may reduce the number of "uninsured," but I would expect the impact to be small. Non-participation in formal old age security programs is a rational response among low income workers, given their short expected lifetimes, high discount rates and strong liquidity needs. For these reasons, forcing low earners to contribute to a formal program may not be optimal or feasible. But it leaves society with the problem of how to deal with the uninsured who survive to old age, are poor and unable to work.

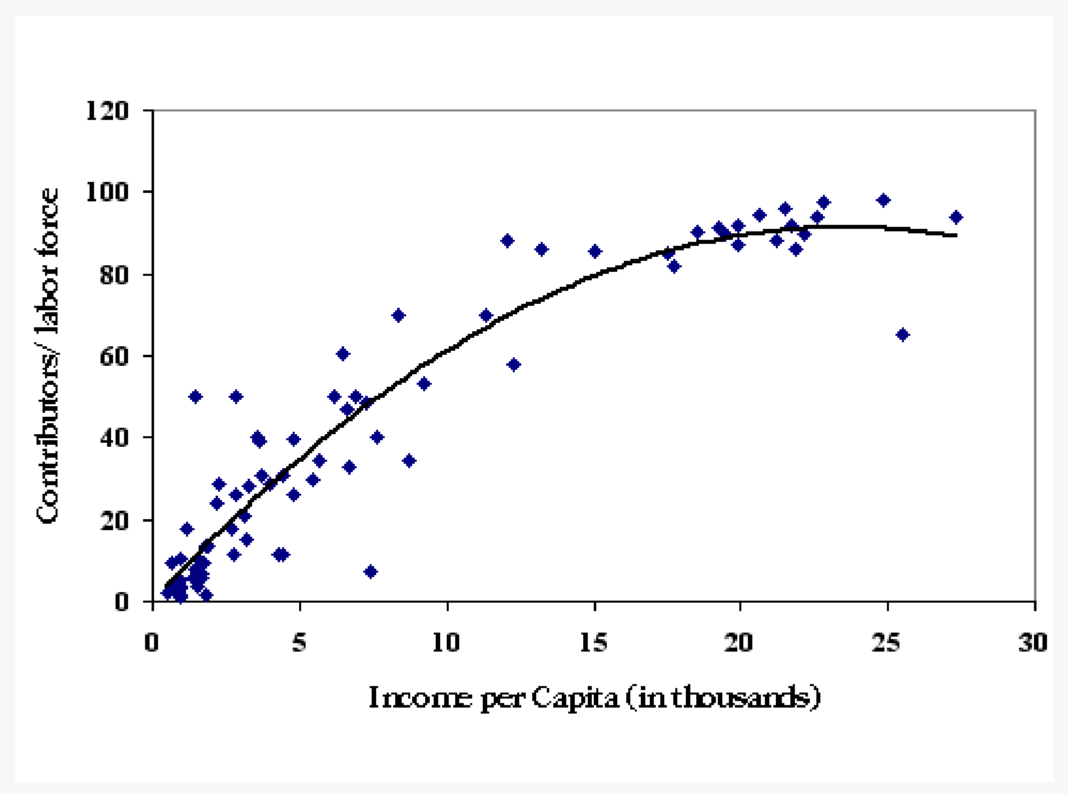
This paper has suggested two sub-groups and courses of action that respond to their needs in an affordable way. First, for spouses of covered employees who worked in the home rather than the market as part of the household division of labor, specific measures (such as the requirement to purchase survivors benefits and joint annuities) might ensure that the implicit family contract is institutionalized and continued into old age. Second, for workers who participated in the labor market at non-covered jobs, earning enough to support themselves when young but with no surplus to save for old age, social assistance is essential. Social assistance should be financed out of general revenues and should offer less than the redistribution given to the low income groups who have contributed, to reduce moral hazard problems.

Means-testing should be used to target social assistance, but this often entails high transactions costs and potential abuses. Computerized econometric models, use of proxies and categorical eligibility, self-selection mechanisms, and provision of in-kind benefits by NGO's (financed by

government) are worth serious consideration in lieu of traditional targeting mechanisms. The key challenge is how to minimize moral hazard and leakages while maximizing the proportion of expenditures that reach the targeted group.

FIGURE 1

Relationship Between Public Pension Coverage and Income Per Capita*



Source: Calculations by R. Palacios and M. Pallares, World Bank staff

* The following regression equation gives the fitted line:

$y = -0.17x^2 + 7.79x - 0.34$

y = contributors/labor force

x = income per capita (in 000's)

$R^2 = 0.89$

REFERENCES

Aportela, F. 1999. "Effects of Financial Access on Savings by Low-Income People." Massachusetts Institute of Technology. Processed.

Auerbach, A. and L. Kotlikoff. 1991. "Life Insurance Inadequacy—Evidence from a Sample of Older Widows." NBER Working paper # 3765. Cambridge, MA: National Bureau of Economic Research.

Bateman, Hazel and John Piggot. 1998. "Mandatory Occupational Pensions in Australia." *Annals of Public and Cooperative Economics*, 69:4.

Cox and Jimenez

Instituto Nacional do Seguro Social. 1998. *Anuario Estatistico Da Previdencia Social – AEPS 1997*. Ministerio da Previdencia e Assistencia Social. Brazil.

James, Estelle. 1998. "Pension Reform in Latin America: Is There An Efficiency-Equity Trade-Off?" in *Beyond Trade-offs: Market Reforms and Equitable Growth in Latin America*, ed. N. Birdsall, C. Graham and R. Sabot. IDB and Brookings Press, Washington DC.

Johnson, Paul. 1998. "Pension Reform in the United Kingdom." *Annals of Public and Cooperative Economics,* 69:4.

Kotlikoff, Larry and Avia Spivak. 1981. "The Family as an Incomplete Insurance Market." *Journal of Political Economy*, 89: 372-91.

Ploug, Niels. 1993. *Compulsory Complementary Pension Schemes*. The Danish National Institute of Social Research, Denmark.

Queisser, Monica. 1998. *The Second-Generation Pension Reforms in Latin America*. OECD, Paris.

Valdes-Prieto, Salvador. 1998. "Pension Reform in Latin America: Transition and Implementation Problems." *Annals of Public and Cooperative Economics.* 69:4.

Vittas, Dimitri. 1997. "The Argentine Pension Reform and Its Relevance for Eastern Europe." Policy Research Working Paper WPS 1819. World Bank, Washington, D.C.

Van Ginneken, Wouton. 1999. "Social security for the Informal Sector: A New Challenge for the Developing Countries." *ISSA Review*.

von Gersdorff, Hermann. 1997. "Pension Reform in Bolivia: Innovative Solutions to Common

Problems." Policy Research Working Paper 1832. World Bank, Financial Sector Development Department, Washington, D.C. Processed.

Whitehouse, Edward. 1998. "Pension Reform in Britain." Social Protection Group Discussion Paper 98-10. World Bank, Washington, D.C. Processed.

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

World Bank. 1998. *Informal Report on Social Security in Brazil.* Processed.