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World Development Report

Office of the Vice President
Development Economics
The World Bank
August 1988
WPS 36

Background Paper for the 1988 World Development Report

Social Security Finance in Developing Countries

Douglas J. Puffert

Social security systems in developing countries can provide a pool of investment capital to spur economic growth. But many systems now showing surpluses may become insolvent because of poor management.

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Social security systems usually cover less than 10 percent of the population of developing countries. Yet in a number of countries, these systems make up a large proportion of public sector revenues and expenditures.

Most social security systems in developing nations are running substantial surpluses. If the systems are to meet future obligations, reserve funds and surpluses should be invested in safe assets with real positive rates of return.

But many countries lack well-developed financial markets and good domestic opportunities for productive investment. The government usually controls social security systems — and often uses the surpluses to finance government deficits.

Economists are divided over how social security systems affect private saving and capital accumulation, which leads to long-term growth. They also disagree on the inefficiencies which social security systems introduce into labor markets.

It is clear, however, that investing social security funds in government securities increases the risk of the social security system's insolvency.

Governments facing fiscal difficulties find it tempting to expand the money supply and drive up inflation. This cuts government obligations to social security reserve funds by reducing the real value of the investments in government bonds.

There is also constant pressure for many governments to increase benefits without increasing contributions. Although such action is expedient, it often proves unsustainable. A government's ability to resist such pressure thus has a direct bearing on the long-term success of the system.

One system that stands out as sound, with wisely invested reserves, is the regulated private social security system in Chile.

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Social Security Finance in Developing Countries

by
Douglas J. Puffert

1. Introduction

Most developing countries have social security systems - publicly administered sets of programs which provide for people in the event of loss of income (due to retirement, disability, death of a breadwinner, illness, maternity, work-related injury, or unemployment) and often in the event of need for medical care or the expense of raising children. Usually - but not always - the programs are not as extensive as programs in industrial countries. They usually cover only a small part of the population (often well under ten percent) and benefits are typically less generous than those in the industrial countries.

Still, social security systems make up a large proportion of public sector revenues and expenditures in a number of developing countries. This fact may be hidden, for in most countries, systems are managed by autonomous public bodies whose financial flows are only partially reported in central government statistics. Social security systems have major implications for public finance for two further reasons. First, systems in most developing countries have growing reserve funds which finance much of their governments' deficits and also, sometimes, provide a pool of investment capital which furthers economic development. Second, social security systems pose special financial dangers for central governments. Unless systems are managed effectively with a view to covering future liabilities, they can become insolvent. Already a number of systems have come to require major allocations of central-government revenues.

This paper presents a survey of the financial nature of social security systems in developing countries and their implications for public-sector finance as a whole and for the process of economic development. It gives only brief consideration to the needs which give rise to social security systems and the adequacy of various countries' systems for meeting these needs,[1] It also passes over various issues in the administration of social security: for example, the great multiplicity of programs and occasional failure to collect taxes, keep proper records, or distribute earned benefits in some Latin American countries (Mesa-Lago, 1986).

The remainder of this chapter will discuss what social security is and in what various ways it is implemented in developing countries. Chapter 2 will consider in more detail the specific provisions and financing of social security programs in a sample of 41 developing countries. Chapter 3 will discuss the implications, including potential dangers, of social security systems for public-sector finance generally, and Chapter 4 will consider the effects of social security systems on capital and labor markets, and thus on the process of economic development. A final chapter will sum up the implications of this analysis for public policy in developing countries and for the research agenda of the World Bank.

Origin and Spread of Social Security

The need for social security is often seen to arise in the transition from a traditional social and economic order to a modern urban society and industrial economy. The loosening of family, kinship, and community ties and the rise of wage labor add new elements to the age-old problem of providing for those who lack an income or have medical needs. Central governments have assumed responsibility for making this provision. [2]

To be sure, government has long (if not generally) been involved in providing for the poor. Modern social security, however, dates from the late nineteenth century when Germany and Denmark instituted public pension schemes for the greater part of their working populations. As Table 1.1 suggests, most European countries, as well as some of the more industrialized countries of North and South America, adopted pension schemes and other social security programs in the early decades of this century. Most remaining countries (and most colonial administrations) instituted various programs in the twenty years following the Second World War. Most of the world's smaller countries (i.e., those with populations below one million), however, have adopted such programs only since 1965.

We note in Table 1.2 that countries with higher incomes now, which for the most part have had substantial modern economic sectors for a longer time, tend to have adopted social security programs earlier. Still, as of 1985 at least 24 out of 37 low-income economies have programs which at least cover work-related injury and provide pensions for those retired due to age or disability and, usually, for dependent survivors.

Types of Benefits

Tables 1.1 and 1.2 also show the typical progressive institution of programs for different types of benefits. Usually, work-injury benefits (earnings replacement and medical expense) are the first provision to be instituted. [3] After pensions for old age, disability, and death of a family's bread-winner, the most common benefits are replacement of earnings (cash benefits) in the event of sickness and maternity, and medical care (provided directly) or else (rarely) hospitalization insurance. [4] Family allowances - benefits for raising children - are quite common in the industrial countries, middle-income European countries, countries in Africa which have a French colonial heritage, and much of South (but not Central) America. Partial replacement of earnings during periods of involuntary unemployment is universal in the industrial market countries but not common in developing countries.

Principles of Benefits and Finance

Social security programs are intended to provide adequately for their beneficiaries, whether this adequacy is viewed as partial replacement of previous earnings or as providing a minimum or standard level of benefit to all. Usually a pragmatic balance is reached between a concept of social equity, which involves redistribution from those better off to those worse off, [5] and individual equity, which involves providing people with benefits equal in (expected, discounted) value to their contributions or taxes. In nearly all cases both workers and their employers are deemed responsible to c ribute to the funding of social security benefits through taxes on wage or salary earnings. Additional funding may come from general state revenues or ear-marked taxes.

Five alternative principles are commonly employed for determining levels of social security benefits and financing them. The panels in Table 2 show the application of these principles in countries with different levels of income per capita.

The principle most often applies is that of social insurance. Social insurance schemes are funded principally by the earnings-related contributions of workers and/or their employers. [6] Earnings-replacing benefits under social insurance vary positively with a covered worker's earnings.

Universal benefits are of uniform amount and apply to all residents who experience a given contingency. Some pension schemes (chiefly in the industrial countries) combine a uniform benefit with an earnings-related component. Medical care, hospitalization insurance, and family allowances are generally provided on a universal basis; Table 2 (and Table 3 below) reports these benefits as "social insurance," however, in cases where such schemes are financed from employer and worker contributions.

A third principle, social assistance or means-testing, directs benefits specifically to those in greatest apparent need. It is applied either alone or in conjunction with other principles, but it is now rarely used.

Employer liability, which is often applied in conjunction with mandatory private insurance, is used by some countries to accomplish the goals of social security without involving the public sector in its provision. Table 2 gives counts for these programs but does not include them in totals for social security programs. [7]

Finally, provident funds collect contributions from workers and employers into personal accounts from which workers (or their survivors) can draw in the events of old age, disability, death, and in some cases other contingencies. Benefits are paid as lump sums in the amount of accumulated contributions plus interest. They are, effectively, forced savings schemes. Some provident funds originated as regulated private schemes in British colonies which were nationalized and expanded after independence. Others were instituted as public schemes from the outset. In a few cases provident funds have been converted into social insurance schemes. Provident funds are sometimes favored for their administative simplicity and for their accumulation of sizeable reserves which may be applied to capital accumulation or the funding of government debt.

Reserve funds, generosity of benefits, and long-run financial solvency

Provident funds, by definition, maintain reserve funds equal in value to their liabilities for future benefit payments, and they return to their participants an amount equal in expected present value to their (and their employers') contributions. Early social-insurance pension schemes, both in Europe and in Latin America, also had these characteristics; thus they operated on the same principles as the private insurance which had often previously been offered by mutual-aid societies and similar institutions - except that coverage was made mandatory and extended to larger groups of workers.

Naturally, it was realized that by drawing down the reserve funds benefits can, for a time, be raised above levels that simply provide a fair return on contributions. Thus all the early social insurance pension schemes moved towards the principle of "pay-as-you-go" financing, under which current contributions pay for current benefits.[8 9] Some of these systems, both in Europe and in Latin America, have required special ear-marked taxes or special allocations from general revenues to remain solvent.

The younger social-security pension schemes in developing countries have had much less in the way of previous private systems to build upon. For the most part they never intended to maintain full-funding - today only Kuwait's scheme, Chile's new privatized system, and the various provident funds are fully-funded - but they do operate on the basis of partial-reserve financing, with a view to assuring solvency over a horizon of a few decades into the future. Many of them, in fact, are accumulating substantial surpluses (sometimes over half their revenues) into reserve funds. This accumulation is largely for the reason that the pension schemes have not yet "matured" - they do not yet have a full complement of pensioners eligible for full benefits.

Chapter 3 considers at greater length the financial difficulties of some Latin American schemes and the prospects for the continued financial solvency of the younger schemes in developing countries.

2. Benefits and Finance in a Sample of Countries

We now turn from these general considerations to an examination of the structure of social security in a sample of 41 developing countries drawn from every major region of the world. Our sample also considers three industrial market countries (not especially typical) in order to enable some comparison with them.

Types, Principles, and Level of Benefits

Table 3 presents the range of benefits provided by the social security systems in our sample, the principles by which these benefits are financed, and a partial account of how retirement pensions are determined. Within each regional section countries are ordered from the lowest per-capita income to the highest. As in Tables 1 and 2 above, we note that the fullest range of benefits are provided in Latin America and in Europe, the Middle East, and North Africa. Social insurance is the most common principle of provision, provident funds are common in Sub-saharan Africa and Asia (nearly always in former British colonies), and employer liability is occasionally invoked (especially in Africa) for cash sickness and maternity benefits, some medical care, unemployment (severance) benefits, and most often for work-injury insurance. China, notably, charges its collectives and other employers with responsibility for the full range of benefits provided [1] (Wallich 1986). Several countries have programs which operate under a combination of principles, adding social assistance, universal benefits, or employer liability to social insurance or provident funds.

Since 1981 Chile has largely privatized its social security system. Previously the country (like many Latin American nations still) had a number of social insurance systems covering different sets of workers. Those systems (now partially unified) are still in effect for retirees and the 40 percent of the active labor force who have not switched to the new system. Several private commpanies have been organized to operate under state supervision, providing pensions, on a fully-funded basis, as well as cash sickness and maternity benefits and medical insurance (Lacey 1987).

Under the heading "medical care" we note, by the letter "M", countries in which a public medical system operates separately from the social security system. Possibly not all such systems are noted, however.

Another substantial omission is that of the common, but non-legislated, provision of private pensions and private insurance, often through employers, in several countries. This practice is much more common, however, in the industrial market countries - most notably in the United States.

The last three columns of Table 3 present a very summary account of who is eligible for old-age pensions and how substantial are the benefits provided. The normal retirement age is the age at which covered workers (sometimes with exceptions for miners, other occupations, or the unemployed) are eligible for full benefits. In many cases reduced benefits are available at a lower age, and sometimes higher benefits are given to those who delay retirement until after the normal age. We see in the table that normal retirement ages are 60 to 65 for men, and usually lower for women, in most of the industrial market countries, Latin America, and Europe, the Middle East, and North Africa. In Sub-saharan Africa and Asia, which for the most part have lower life expectancies, normal retirement ages are usually 55 or 60 for men and sometimes lower for women. Most provident funds permit withdrawal from one's account at age 55, often without any requirement for actual retirement. Under social insurance programs rules for actual retirement vary widely.

Levels of benefits nearly always depend on both the number of years of contributions and the level on one's earnings (or of one's contributions) over either the last several years of one's working life or else all of one's covered working life. The rules which govern benefits are often quite complex, so that the figures in the last two columns of Table 3 are hardly complete in the information they convey. In most cases the specified number of years of required contributions makes one eligible for the minimum specified earnings replacement rate, while additional years of contributions makes one eligible for a higher replacement rate. Sometimes, however, higher replacement rates are for those with lower average earnings (i.e., the benefit formula is progressive). Often the legislated formulae for levels of benefits do not specify a replacement rate. In these cases a "C" in the table indicates that benefits vary with total contributions or covered earnings. "B" in this column designates that there is a "base" level of benefits to which are added benefits which vary with contributions or earnings. Provident funds, indicated by "P", pay a lump-sum benefit in the amount of accumulated contributions plus interest.

We see that, for the most part, pension benefits replace between one third and four fifths of one's pre-retirement earnings - with benefits closer to the higher figure for long periods of coverage. There is little general difference in replacement rates among regions, or for that matter between countries of different income levels within a region.

Extent of Coverage in the Population

In most of the developing world social security applies mainly to urban wage labor - usually a small part of the population. Only in the middle-income countries of Europe, in several countries in Latin America, and in a few other countries such as Israel, Mauritius, and Singapore is the majority of the labor force and population covered. In most other countries it seems likely, based on categories of covered workers, that less than ten percent of the population is covered. As Mesa-Lago (1986) notes for the Latin American countries, "In general the extension of risk coverage has been much faster than that of population coverage.... [O]ften a minority of the population is covered against all risks, but the majority is not protected against any risks at all." [2]

Table 4 presents the results of Mesa-Lago's (1986) study of social security coverage in Latin America. [3] For the most part extent of coverage varies directly with per-capita income, although the countries of northern South America and Central America have lower coverage than countries of comparable income further south. Several higher-income countries provide more extensive coverage for sickness and maternity benefits than for pensions. Among the lower-income countries sickness and maternity benefits are available less widely than pensions.

Unfortunately there are (apparently) no comparable studies for other developing countries. Brief, sometimes imprecise descriptions of the covered population are, however, provided in the United States Social Security Administration's biennial report Social Security Programs Throughout the World. These descriptions make it clear that there are substantial restrictions even on the extent of coverage of urban wage labor in (among our sample of developing countries) Ghana, Nigeria, India, Pakistan, Indonesia, Thailand, Korea, and Singapore. [4] In these cases only larger employers or a limited range of industries are covered. In many other of our sample countries, social security does not apply to domestic workers or casual workers. Family workers - usually a substantial portion of urban (as well as rural) workers - are seldom covered. The urban self-employed are covered in Egypt, Cyprus, Israel, Portugal, and Yugoslavia; they are also covered voluntarily or in a limited range of occupations in Mauritius, Hungary, China, Indonesia, the Philippines, and Singapore. It is often not clear in these descriptions to what extent rural employees or the rural self-employed are covered. There is certainly coverage for at least some rural workers in Zambia, Cameroon, Morocco, Israel, Hungary, Portugal, Yugoslavia, Sri Lanka, and China. [5]

Mesa-Lago (1986) points out that in Latin America, "coverage tends to be positively correlated with income, the degree of skill at work and the power of pressure groups." Similarly, in the rest of the developing world it is the urban elites who receive the most protection under social security while needier groups are not covered. [6] This becomes a matter of particular concern to the extent that social security is paid for out of general revenues or will later become a burden upon the central government. In these cases - arguably rare outside of Latin America - socal security systems may constitute a mechanism for a perverse redistribution from the worse- to the better-off.

The financial size of social security systems

While it is difficult to determine the extent of social security coverage in the population, information on financial flows is accessible for most countries. Tables 5 through 8 present information collected by the International Labour Office for its triennial survey, Cost of Social Security. [7] Table 5, in particular, presents the size of social security finances relative to the economy as a whole as measured by Gross Domestic

Product. [8]

The table presents information not only on social security programs for the public as a whole but also on programs which apply only to public employees and programs apart form social security which provide public health care and public (or social) assistance. These programs fall under the International Labour Office's definition of social security programs, and they may be categorized as social security in government financial statistics, but they are not considered in the present paper apart from this table. [9] We note that systems for public employees are sometimes larger than broader social security programs. Where no flows are reported for public-employee systems, it is either the case that public employees are covered only under the general system or that the finances for such systems are not reported to the I.L.O.

As we focus on the first four columns of Table 5 we see that social security systems involve the largest share of an economy's product in Chile, [10] the higher-income European and Middle-Eastern countries, Singapore, and the industrial market countries. Social security involves a very small portion of the economy - less than 0.2 percent - in Nigeria, Bangladesh, Burma, Pakistan, Indonesia, and Thailand. Other figures for receipts and expenditures vary widely, with some tendency for richer countries to distribute a larger portion of their product through the social security system.

We also see in Table 5 that only three countries in our sample - Peru, Mexico, and Portugal - have deficits, of about seven percent, four percent, and one percent of revenue respectively. A substantial number of countries, especially in Asia and Sub-saharan Africa, have high surpluses - often more than 50 percent of revenues. [11]

Sources of Revenue for Social Security Systems

Table 7 presents information on sources of revenue for social security systems. In the first two columns it lists the statutory contribution rates which are applied to workers' wage and salary earnings (or, from employers' point of view, to payroll). The remaining columns present the percentage of total revenues supplied by contributions, special taxes and general state revenues, income from investment of reserve funds, and miscellaneous sources.

In nearly half of the countries sampled, contribution rates for insured workers and their employers total between 10 and 20 percent. Most of the remaining countries have contribution rates between 20 and 30 percent. Argentina and Portugal have combined rates well in excess of 30 percent, while Singapore's rate is 50 percent - 25 percent each from insured workers and employers. [12] The lowest contribution rates, well below 10 percent, are found in Burma, Thailand, and the Republic of Korea, the only countries listed which do not have pension coverage.

Except in Chile and Yugoslavia employers are charged (taxed) a higher contribution rate than workers. [13] In part this is because the portions of the contribution which finance work-injury insurance and family allowances are nearly always charged entirely to the employer.

Special taxes and general revenues constitute no more than a small part of revenues in most developing countries, while their reserve funds provide a substantial investment income (at least in the nominal, i.e. non-inflation-adjusted, terms reported). [14] In industrial market countries, by contrast, the state often supplies a substantial part of revenues while reserve funds are too small to provide much revenue. State participation in Chile has become particularly high in the past several years in order to provide benefits for current beneficiaries while the youngest cohorts' contributions are directed into the private system. [15]

Relative size of benefit programs

Programs for old age, disability, and survivors' pensions receive the largest portion of revenue in most countries' social security systems but, due to the immaturity of most such programs in developing countries, they expend a somewhat smaller share of benefits than they receive as a share of revenues. The surpluses we examined above are almost solely for the purpose of providing for future increases in pension expenditures. Thus the relative shares of benefits which we now examine in Table 8 give an incomplete picture of the relative importance of different types of benefits.

Even so, the tables show that a number of countries - Peru, Colombia, Mexico, Bangladesh, Burma, and Pakistan - place greater weight on sickness and maternity insurance and on medical care than on pensions. These benefits are also relatively high throughout Latin America, in Europe (including Turkey), and in Israel, but they are low or zero in Sub-saharan Africa and much of East Asia. Family allowances make up large proportions of benefits in the African countries once colonized by France (the proportions are as high as they are, obviously, due to the immaturity of pension programs in these countries) and are also offered, as we noted above, in Europe and parts of South America. Work-injury coverage looms large in the finances of the Cote d'Ivoire, Cameroon, Indonesia (where coverage for work injury is much broader than that for the provident fund), and Thailand (where work-injury insurance is the only coverage provided). Countries with provident funds usually provide little in benefits for contingencies other than old age, disability, and death.

3. The Consequences of Social Security Systems for Public-Sector Finance

The institution of a social security system - and particularly of a pension scheme - obligates a government to pay increasing levels of benefits as the scheme matures (that is, as successive cohorts of new beneficiaries have been covered longer and are eligible for increased benefits) and as life expectancy improves. This growing financial obligation can prove quite burdensome to a government under some financial arrangements for social security systems.

We have seen that most social security systems in developing countries are not yet mature, are running substantial surpluses, and are financed without resort to substantial sums in special taxes or general state revenues. Some, indeed, reap substantial revenues from investment of their surpluses.

Usually these systems are managed by decentralized public agencies, and their surpluses are usually kept nominally separate from funds of the central government. The surpluses, however, are often used to purchase the central government's debt - that is, to finance its deficits. This raises a question, at least, as to how real are the reserve funds of social security systems, or how independent are these systems from the central government and its policies.

A government which grows accustomed to using the substantial surpluses of a social security system to finance its deficits may have sufficient difficulty funding its operations once the social security system matures and ceases to run surpluses that it will not be able to redeem the bonds held in the social security reserve fund. A more subtle, and more common, means by which a government escapes its obligation to its social security reserve fund is through high inflation, which erodes the value of nominally fixed assets such as government bonds. High inflation has periodically eroded the reserve funds of Latin American systems.

Administrators of social security systems are not always required to invest their assets in government bonds. High inflation can still greatly reduce the value of reserve funds eld in private assets - as it did in Turkey in the late 1970's and early 1980's. Moreover, due to a lack of developed local financial markets, however, (and in a desire to invest domestically rather than abroad) they may lack good opportunities for investment. Thus it is the considered opinion of staff workers in social security at the International Labour Office that while most social security systems of Africa, Asia, and the Caribbean are actuarially sound, they may yet experience financial difficulties due to the lack of good investment opportunities. [1]

The actuarial soundness of social security finance can be altered ty a variety of demographic, economic, and political factors. An unexpected rise in life expectancy, decline in the birth rate, or increase in emigration raises the "dependency ratio" - the number of pension beneficiaries per contributing worker - and thus worsens the financial picture. Economic growth increases the base upon which contributions are paid, and thus increases revenues, while prolonged stagnation reduces financial surpluses. Political pressures may lead to benefit increases which, though temporarily expedient, are unsustainable in the long run without increased revenues. It is difficult, politically, later to reduce benefits. If it is also politically difficult or economically harmful to raise contribution rates, special taxes or general revenues must be resorted to in order to pay for benefits.

Mesa-Lago (1986, pp. 143-4) confirms this analysis in his list of factors which threaten the financial stability of "the oldest and most highly developed systems" in Latin America. In addition to normal and foreseeable factors such as those relating to the maturation of systems, he mentions "quite liberal legislation on benefits,...an increasing number of pensioners who are living longer than was expected both in the original legislation and in older actuarial estimates, thus receiving their pensions and health benefits for longer periods" and the facts that "the contribution burden of social security is excessive and it is very difficult, politically and economically, to increase either social security contributions or taxes" and that "the yield on pension funds has turned out to be very low, and even negative in the high-inflation countries...." He also adds some factors other than those in the analysis above:

> [T]here is a high level of evasion and delay, particularly in the countries which have high and sustained inflation (where delaying payment means a reduction in one's real contribution);...the State - under pressure to meet multiple and demanding requirements - fails to comply with its financial obligations, thus leading to the accumulation of very large debts;...and...the transfers (or "loans") from the pension funds to cover the deficits of health programmes [the cost of which have escalated due to "a capital-intensive system of remedial medicine"] are difficult to reimburse in practice, which has contributed to the de-capitalisation of the funds, at a time it is necessary to use the accumulated technical reserves to meet the current pension payments.

Two additional factors which have had a notable effect on the financial solvency of social security in Uruguay are low retirement age (60 for men, 55 for women - but retirement at substantially younger ages for unemployed persons was permitted, and often accepted, until 1981), high life expectancy (72 at birth [2] but of course higher for those who survive until retirement age), and a high rate of emigration among the young. Together, these factors lead to a very high dependency ratio of .82 pensioners per contributor in 1983 (Mesa-Lago, 1985, cited in World Bank, 1986, pp. 80) and contributed to a deficit fully 60 percent as great as revenues in 1980 (Mesa-Lago 1986), requiring a subsidy from the central government of over four percent of GDP in 1983 (World Bank, 1986, p. 83). [3] [4]

It was partly Chile's experience with the need to use general revenues to maintain the solvency of its social security system that led it to institute its privatized system. A noteworthy feature of this system is that it maintains its actuarial soundness through full funding and the limitation (apart from a state-guaranteed minimum benefit linked to the minimum wage) of the expected value of one's benefits to one's contributions plus interest. The state is thus protected in the long run from any need to maintain the solvency of the system, although now in the absence of the contributions of those who switched to the privatized system it must make substantial contributions to pay benefits for current retirees. Thus far the average real rate of return on fund investments has been an astounding 16.8 percent and fund investments have risen to 50 percent of total term deposits in the financial system (Lacey 1987).

The financial difficulties of the older Latin American schemes may or may not be repeated in the younger schemes in Latin America or in the rest of the developing world. Whether it is depends on the abilities of governments to withstand political pressures either to raise benefits (and thus give substantial transfers to current beneficiaries and those soon to retire) without providing for their financing or else to maintain contribution rates or relatively low retirement ages in the face of the need to raise one or the other due to increasing life expectancy (see Mesa-Lago (1986), pp. 145-6). It also depends, as we have seen, on the ability of social security administrators to place their reserve funds in safe assets with a positive real rate of return.

4. The Consequences of Social Security Systems for Economic Growth

Due to the magnitudes of their financial flows, social security systems can have substantial impacts on the economy through both the capital market and the labor market. The nature and degree of some of these impacts are matters of significant dispute among economists. While studies have focused primarily on the industrial market countries, their insights or assertions can be applied to developing countries as well.

The impact of social security systems on capital market comprises both the direct effect arising through the accumulation of reserves and the behavioral response of covered individuals to the prospect of their future pension benefits. Reserves may be invested (domestically) either in government bonds or (either directly or through financial instruments) in capital goods. The effect of investment in government bonds may be either to enable increased government spending, to reduce taxes, to reduce foreign borrowing, or to free other savings for capital investment.

Unfortunately information is not readily available concerning how, or to what extent, reserves are used to finance capital accumulation. One very interesting use for which information is available is the use of Singapore's provident fund to finance housing (Wallich 1987). Not only are public housing projects financed this way, but individuals may borrow against their accounts to purchase homes. The provident fund holds mortgages and receives regular payments on these loans; any balances outstanding when covered workers receive their lump-sum benefits are deducted from these benefits. Nearly half the participants in provident funds have used them to finance purchases of homes.

People's behavioral response to their prospective pension benefits, or "social security wealth," is a matter of substantial dispute. The basic issue is this: to what extent do people reduce private saving because their expected pensions replace that which they need to save? If the reduction is of a substantial magnitude, as argued by Feldstein (1974, 1982), then, unless reserves are used to replace these savings in the generation of capital, a social security system will reduce a nation's total savings and capital stock. Barro (1974) has argued, to the contrary, that private inter-generational transfers offset the effects of public transfers even in a pay-as-you-go system, so that saving is unaffected. For a more extensive survey of the theoretical issues and empirical evidence see Wallich (1983), Shome and Squire (1983), or Munnell (1986).

A further argument is sometimes made about savings and capital accumulation in developing countries in particular. Many people in these countries have no prior experience with financial institutions. Social security programs give them such experience and therefore, it is said, encourage a "habit of saving." Thus they stimulate financial savings in addition to those generated through the programs' reserves.

Social security systems affect the labor market both by inducing earlier retirement and by introducing distortionary marginal taxes on wage payments. The first effect is important and undisputed.[1] The second effect hinges on two disputed questions: (1) what is the incidence of the payroll taxes, or contributions, of both insured workers and employers, and (2) does an insured worker view contributions as a tax or as deferred compensation. The answers to these questions determine the extent to which contributions function as taxes which raise employers' cost of labor above workers' wages, bringing inefficiencies[2] to the labor market while tending to reduce employment.[3]

Many economists hold, on the bases of a marginal-product theory of wage determination, that employers' contributions are effectively paid by workers. The International Labour Office (1984) argues virtually the opposite: that workers are able to bargain for wage increases to offset increases in their contributions. Some economists argue that part of the incidence of the tax is passes on in the price of products. See Brittain (1972) for an evaluation of these and related arguments.

Whether a worker views contributions (including those of the employer) as a tax or as deferred compensation depends on large part on the perceived marginal linkage between these contributions and expected benefits. Under a provident fund or a system, like the new privatized pension scheme in Chile, which operate on the basis of private insurance principles, expected benefits rise on a one-to-one basis with contributions, provided that one's credited rate of return matches one's personal discount rate.[4]

In many systems benefits are provided on a progressive basis, so that while one's total expected benefits may exceed one's contributions, the marginal linkage is often less than unity and workers can rightly view part of their contribution as a tax. Some countries use only the several last or highest-earnings years to determine the level of one's benefits; in such cases most of one's contributions have no marginal linkage to benefits. Of course, covered individuals may not be able to evaluate the implications of the more complicated formulae used to determine benefits. Still, they do develop attitudes about whether they will get a sufficient return for the contributions they make, and these attitudes affect their choices in the labor market.

5. Conclusion

In view of the substantial consequences of social security systems for the integrity of government finance, for economic efficiency and growth, and for equity, what guidelines should govern the structure and operation of such systems?

First, systems must be managed in a way that assures their long-term financial viability. Benefits must be limited to what is sustainable from revenues over a horizon of several decades. Systems must be made effectively -- not just formally -- autonomous from the central government, and they must be given both the right and the accountable responsibility to invest trust funds in a range of effective investments. If they are required to purchase government bonds (for a limited portion of their portfolios only), these bonds must be credibly indexed for inflation.

Second, it is highly important both that there be an explicit linkage between one's contributions and one's benefits and also that one's benefits be based on one's entire stream of contributions. This will not only enable households to plan their futures with some confidence, but will also increase efficiency in labor markets (and in other markets affected by labor markets). To these same ends it is important as well that participants be able to have confidence in the adequacy of record-keeping, in the prompt payment of earned benefits, and in the continuing financial viability of the system.

Third, reserve funds for pension programs should be used for the formation of capital. While it is unclear whether the existence of such programs reduces private saving for investment, public programs can further a country's development if invested well. This may prove difficult, however, in some countries.

Fourth, systems must be equitable. Care must be taken in this especially where it is impossible to extend effective coverage beyond an already privileged segment of the population. Privileged classes should not receive benefits greatly exceeding their contributions. Systems should be financed only from the contributions of those who will benefit -- not from general revenues (except, perhaps, for benefits which are universal). Because the burden of payroll taxes may be born partly by consumers who do not benefit from the system, the scale of the system should be kept relatively limited.

All of these considerations commend systems that are relatively straightforward in structure, simple to administer, and based on sound actuarial principles. Among such systems are the various provident funds and the regulated privatized system of Chile. These particular models need not be taken as normative, but system structures which depart far from the guidelines here can easily give rise to financial pitfalls, slower growth, or harm to many residents of countries that adopt them.

Notes to Chapter 1

1. For information on these matters the reader is directed to various publications of the International Labour Office, particularly Introduction to Social Security (third edition, 1984).

2. In developing countries particularly, financial markets are usually insufficiently developed to offer on a private basis the insurance and annuity coverage of social security systems.

3. This is usually done initially through provisions in the labor code which make employers liable to furnish or arrange private insurance for such benefits. Statistics are not readily available to indicate when public administration of such benefits began in various countries. Hence, Tables 1.1 and 1.2 count employer-liability programs for work-injury coverage, although they do not count employer-liability programs for other types of benefits.

4. In this chapter's tables, the figures for medical care include only those countries in which such care is provided through the social security system. Countries which provide free or low-cost medical care under other administrative arrangements are not counted here, although some of them are tallied below in Table 3.

5. In actual operation a social security system may perversely give a positive transfer to some who are well off. This is documented for the United States' Old Age and Survivors Insurance in Boskin, Kotlikoff, Puffert, and Shoven (1987).

6. Government may contribute also, out of general revenues or through ear-marked taxes.

7. See note 3 above concerning the inclusion of employer-liability work-injury programs in Table 1.

8. For an analysis of how this possibility became politically-expedient policy in Latin America see Mesa-Lago (1986), p. 143. Also, in several cases pay-as-you-go financing has resulted from the loss of reserve funds, either through their effective confiscation for other governmental expenditures or through high inflation and financial crisis. The latter happened, notably, to the original social-insurance pension scheme, that of Germany, in Germany's hyper-inflation of 1923 and in the financial crisis which, in the Federal Republic of Germany, followed World War II. The related experience of Latin American and other developing countries is discussed below in chapter 3.

9. If population and real wages grow fast enough, benefits can be raised above the value of contributions indefinitely without the maintainance of any reserve fund. If growth is slower,

beneficiaries (apart from the initial generation, which receives a windfall) receive less than the value of their contributions. These conditions are discussed by Wallich (1983) and Samuelson (1958). In fact, due to recent declines in both fertility and economic growth, younger generations in many countries can expect to receive less than a fair-insurance return on their (and their employers') contributions. This has been most extensively documented for the United States (see Boskin, Kotlikoff, Puffert, and Shoven (1987)) but is evident for most industrial countries and at least some middle-income countries. Apparently there has been little research on this matter for developing countries generally.

Notes to Chapter 2

1. These benefits are funded on a pay-as-you-go basis, which will prove particularly burdensome for collectives with an older than average work force.

2. Outside Latin America, we may note in several tables, few developing countries have protection against all risks.

3. See Mesa-Lago's study for a discussion of the inherent defects in making these sorts of estimates.

4. Still, 80 percent of Singapore's labor force is covered (Asher 1985).

5. These descriptions could be used together with data on the proportion of the labor force in various sectors of the economy to develop very rough estimates of the extent of coverage in the population. Alternatively, imprecise estimates could be derived from legislated contribution rates together with data on revenues of social security systems. Of more direct relevance for the present study, however, is the information presented below on the size of social security receipts, expenditures, and surpluses relative to the economy as a whole.

6. It is usually much easier to provide coverage to urban wage laborers than to others.

7. The most recent edition, the Twelfth International Inquiry, is forthcoming in 1988. The data as we have them are provisional. As of the writing of the present version of the present paper information is lacking for several countries in our sample. Space is left in Tables 5 through 8 to accomodate this information if and when it becomes available. Note that these tables delete those countries in Table 3 which have no public social security system.

8. It would also be worthwhile to view these financial flows as proportions of public-sector financial flows as a whole. This exercise awaits the development of the latter figures by the staff of the World Development Report - 1988.

9. Another category of benefits reported by the I.L.O. is that of benefits to war victims. In the present sample only Israel, Japan, Sweden, and the United States provide such benefits.

10. [Argentina and Uruguay should be added to this list if data becomes available for a later draft.]

11. [Here insert data on surpluses in Egypt if it becomes available from the I.L.O.]

12. Singapore's combined contribution rate is 40 percent of the employer's wage bill - for the wage bill including the employer's contribution is 125 percent of nominal wages.

13. But see the discussion in chapter 3 of the incidence of this tax.

14. See Chapter 3 concerning the real erosion of reserve funds due to inflation. Such erosion would not be reported in the figures here.

15. There is little explicit information to account for the other non-zero figures in the last three columns. One suspects that the high figure for "other" revenue for Indonesia largely reflects investment income, which is not reported as such.

Notes to Chapter 3

1. This point was made in a telephone conversation with an analyst at the I.L.O. The I.L.O. has worked with many of these systems to establish their actuarial soundness.

2. Source: World Development Indicators - 1987.

3. Uruguay is now undertaking a substantial reform of its social security system, with some assistance from the World Bank.

4. [Substitute information from I.L.O. to avoid citing unavailable source and to use 1983 as a common year.]

Notes to Chapter 4

1. The prospect of earlier retirement tends to raise rates of saving, tending to offset the reduction in saving which social security otherwise induces. See Munnell (1986).

2. These inefficiencies, or "dead-weight losses," vary roughly with the square of the total tax rate (including the rate for other income taxes) applied to payroll or to wage income.

3. The impact of payroll tax rates on the cost of labor as a factor of production, affecting the labor-intensity of production, has been of particular concern in the European market economies. In an effort to reduce unemployment, several of these countries have reduced the role of contributions based on labor earnings in financing social security.

4. The expected value of benefits is actually even greater when one considers the insurance value of "contingent assets" for risk-averse individuals.

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Table 1.1 Adoption of social security programs
(Number of economies with programs in selected years) 1/

Latin America and the Caribbean (21 of 21 reported some program as of 1985)

Type of benefit	1925	1945	1965	1985
Old age, disability, or death	2	11	19	21
Sickness or maternity	2	11	18	20
Work injury	12	18	21	21
Unemployment	0	2	3	3
Family Allowance	0	3	6	7

Middle-income Europe and South Africa (7 of 7 reported some program as of 1985)

Type of benefit	1925	1945	1965	1985
Old age, disability, or death	2	7	7	7
Sickness or maternity	5	7	7	7
Work injury	7	7	7	7
Unemployment	0	3	4	5
Family Allowance	0	3	7	7

Sub-Saharan Africa (33 of 35 reported some program as of 1985)

Type of benefit	1925	1945	1965	1985
Old age, disability, or death	0	0	19	27
Sickness or maternity	0	0	15	16
Work injury	1	21	30	32
Unemployment	0	0	0-1	3
Family Allowance	0	0	15	15

Asia (14 out of 19 reported some program as of 1985)

Type of benefit	1925	1945	1965	1985
Old age, disability, or death	0	0	7	10
Sickness or maternity	0	0	5	5
Work injury	3	8	14	14
Unemployment	0	0	0	1
Family Allowance	0	0	0	0

Middle East and North Africa (15 of 19 reported some program as of 1985 2/

Type of benefit	1925	1945	1965	1985
Old age, disability, or death	0	0	12	14
Sickness or maternity	0	1	10	10
Work injury	2	9	13	14
Unemployment	0	0	1	3
Family Allowance	0	4	6	6

Small-population economies (25 of 34 reported some program as of 1985) 3/

Type of benefit	1925	1945	1965	1985
Old age, disability, or death	2	4	8	25
Sickness or maternity	1	2	4	15
Work injury	4	10	16	20
Unemployment	1	1-2	3-4	5
Family Allowance	0	0	3	4

1/ Low-income economies, middle-income economies, and high-income oil exporters listed in World Development Indicators, plus small-population economies. Gabon has been moved out of the list of small-population economies because its population should exceed the threshold by 1988.

2/ Includes Turkey.

3/ U.N. and World Bank member countries with populations below one million. Includes Luxembourg, Iceland, and several high-income oil exporters.

Source: U.S. Social Security Administration (1986), Social Security Programs Throughout the [illegible]. Income categories: World Development Report 1987, World

Table 1.2 Adoption of social security programs
(Number of economies with programs in selected years)

Low-income economies (31 out of 37 reported some program as of 1985)

Type of benefit	1925	1945	1965	1985
Old age, disability, or death	0	0	17	24
Sickness or maternity	0	0	14	14
Work injury	4	17	30	31
Unemployment	0	0	0	1
Family Allowance	0	0	10	10

Lower middle-income economies (33 out of 36 reported some program as of 1985)

Type of benefit	1925	1945	1965	1985
Old age, disability, or death	1	5	25	30
Sickness or maternity	1	7	22	23
Work injury	8	25	30	32
Unemployment	0	1	3	6
Family Allowance	0	4	10	11

Upper middle-income economies (23 out of 24 reported some program as of 1985)

Type of benefits	1925	1945	1965	1985
Old age, disability, or death	3	13	20	22
Sickness or maternity	6	12	18	19
Work injury	13	21	23	23
Unemployment	0	4	5	8
Family Allowance	0	6	14	14

Industrial market economies (19 out of 19 reported some program as of 1985)

Type of benefits	1925	1945	1965	1985
Old age, disability, or death	13	17	19	19
Sickness or maternity	12	16	17	18
Work injury	18	19	19	19
Unemployment	12	18	19	19
Family Allowance	0	11	17	19

Note: Gabon has been added to the upper middle-income countries. See note 1 to Table 1.1.

Sources: Program information: U.S. Social Security Administration (1986), Social Security Programs Throughout the World 1985, Washington, D.C. Income categories: World Development Report 1987, World Development Indicators, Table 1, World Bank, Washington, D.C.

Table 2 Principles applied to provision of various social security benefits
(Numbers of economies in 1985)

Low-income economies

Type of benefit	Total 1/	Social insurance	Universal benefit or social assistance 2/	Provident Fund	Employer Liability
Old age, disability, or death	24	16	0	8	1
Sickness	5	4	0	1	11
Maternity	13	13	0	0	10
Medical care 3/	6	6	0	0	10
Work injury	19	19	0	0	12
Unemployment	1	0	0	1	2
Family allowance	10	10	0	0	1

Lower middle-income economies

Type of benefit	Total 1/	Social insurance	Universal benefit or social assistance 2/	Provident Fund	Employer Liability
Old age, disability, or death	30	27	(1)	3	0
Sickness	19	19	0	0	2
Maternity	23	23	0	0	4
Medical care 3/	19	18	1	0	2
Work injury	25	25	0	0	7
Unemployment	6	3	2	1	6
Family allowance	11	10	1	0	0

Upper middle-income economies

Type of benefit	Total 1/	Social insurance	Universal benefit or social assistance 2/	Provident Fund	Employer Liability
Old age, disability, or death	22	18	2	2	0
Sickness	18	18	(1)*	0	1
Maternity	19	19	0	0	2
Medical care 3/	21	17	3	1	0
Work injury	18	18	0	0	3
Unemployment	8	4	4	0	3
Family allowance	14	12	2	0	0

Industrial market economies

Type of benefit	Total 1/	Social insurance	Universal benefit or social assistance 2/	Provident Fund	Employer Liability
Old age, disability, or death	19	16	3(+5)	0	0
Sickness	18	16	2	0	0
Maternity	17	16	1	0	0
Medical care 3/	18	11	7	0	0
Work injury	15	15	(1)	0	4
Unemployment	19	17	2(+4)	0	0
Family allowance	19	5	13(+1)	0	0

1/ Total excludes employer-liability programs.
2/ Parentheses indicate numbers of programs for which the principle is applied in conjunction with other principles.
3/ Medical care includes hospitalization insurance.

Source: Program information: U.S. Social Security Administration (1986), Social Security Programs Throughout the World 1985, Washington, D.C. Income categories: World Development Report 1987, World Development Indicators, Table 1, World Bank, Washington, D.C.

Table 3 How benefits are provided under a sample of social security systems

Country 1/	Old age, disability and death	Sickness	Maternity	Medical Care	Work Injury	Unem-ployment	Family Allowance	Normal Retirement Age (Male/Female)	Years of Required Contribution (Male/Female)	Earnings replacement rate (%) or benefit level 3/
	Types of benefits and principles of finance 2/							Old age pensions		
Latin America & the Caribbean										
Haiti	I	-	-	-	I	-	-	55	20	33.3
Dominican Rep.	I	I	I	I	I	-	-	60	16	40+
Jamaica	I	-	I	M	I	-	-	65/60	3	B+C
Peru	I	I	I	I	I	-	-	60/55	15/13	50+
Colombia	I	I	I	I	I	E	I	60/55	10	45+
Chile										
Old system	I	I	I	I	I	I	I	65/60	16/10	50-70
New system	Pr	Pr	Pr	Pr	I	I	I	65/60	20	C
Brazil	I	I	I	I	I	Pr	I	65/60	5	70-95
Mexico	I	I	I	I	I	E	-	65	10	35-100
Argentina	I	I	I	I	E	E	I/A	60/55	15	70
Sub-Saharan Africa										
Malawi 4/	-	-	-	M	E	-	-	-	-	-
The Gambia	P	-	-	M	E	-	-	55	1	P
Kenya	P	E	E	I	E	-	-	60	1	P
Ghana	P	P	-	M	E	P	-	55/50	1	P
Zambia	P	E	E/P	M	E	-	-	50	1	P
Cote d'Ivoire	I	-	I	E	I	-	I	55	10	C
Nigeria	P	E	E	M	E	P	-	55	1	P
Cameroon	I	-	-	M	I	-	I	60	20	30-80
Botswana 4/	-	-	E	E	E	E	-	-	-	-
Mauritius	I/U	E	E	M	I	A	A	60	-	B+C
Congo	I	-	I	E	I	-	I	55	20	40-80
Europe, Middle East & North Africa										
Morocco	I	I	I	-	E	-	I	60	12-13	50-70
Egypt	I	I	I	I	I	I	-	60	10	22-80
Turkey	I	I	I	I	I	E	-	55/50	-	60
Tunisia	I	I	I	I	E	U/A	I	60	10	40-80
Hungary	I	I	I	U	I	A	I	60/55	10	33-75
Portugal	I	I	I	I	E	E/A	I	65/62	10	30-80
Yugoslavia	I	I	I	I	I	A	I	60/55	20	35-85
Cyprus	I	I	I	M	I	I	-	65	3	60+
Israel	I	E	I	I	I	I	U	65/60	5	B+C
Asia										
Bangladesh	P	-	I	-	I	-	-	-	-	-
Burma	I 5/	I	I	I	I	-	-	-	-	-
India	P	I	I	I	I	E	-	55	1	P
China 4/	E	E	E	E	E	-	-	60/55	10	60-90
Pakistan	I	I	I	I	I	-	-	55/50	15	C
Sri Lanka	P	-	E	M	E	-	-	55/50	1	P
Indonesia	P	I	I	I	E/I	-	-	55	1	P
Philippines	I	I	I	I	-	-	-	60	10	42+
Thailand	-	E	E	-	I	-	-	-	-	-
Malaysia	P 6/	-	E	M	I	-	-	55	1	P
Korea	-	-	-	I	E	-	-	-	-	-
Singapore	P	E	E	P	E	-	-	55	1	P
Industrial Market										
Japan	I	I	I	I	I	I	E/A	60/55	20	C
Sweden	I/U	I	I	I	I	I/A	U	65	25	B+60
United States	I	-	-	-	E/I	I	A	65	10	C

1/ Within each region, countries are listed in order of per capita income.

2/ Key to symbols for principles of finance:
- I - Social insurance
- U - Universal benefit
- A - Social assistance
- P - Provident fund
- E - Employer liability
- Pr - Mandatory private insurance
- M - Medical care provided under public program apart from social security.

3/ Key to symbols for benefit level:
Numbers are percentage replacement rates of earnings.
- B - Base level of benefit applied to all beneficiaries.
- C - Contribution-link to benefit level, too complex to specify here.
- P - Provident fund. Lump-sum benefit equal to contributions plus interest.

4/ Countries dropped from later tables due to lack of public social security system.

5/ Death benefits only.

6/ Invalidity pensions are provided on a social insurance basis.

Sources: U.S. Social Security Administration (1986), Social Security Programs Throughout the World-1985, Washington, D.C. For Bangladesh: International Labour Office, The Cost of Social Security: Twelfth International Inquiry, 1981-83: Basic Tables, Geneva, forthcoming.

Table 4 Coverage of population and active labor force in Latin America, 1980

Country	Population covered in sickness and maternity program (percent)	Active labor force covered in pension program (percent)
Low income		
Haiti	1	2
Lower middle-income		
Bolivia	25	18
Honduras	7	13
Nicaragua	9	19
Dominican Republic	8	14
El Salvador	6	12
Paraguay	18	14
Peru	17	37
Ecuador	8	23
Guatemala	14	33
Costa Rica	78	68
Colombia	12	22
Chile	67	62
Upper middle-income		
Brazil	96	96
Uruguay	69	81
Mexico	53	42
Panama	50	46
Argentina	79	69
Venezuela	45	50

Source: Carmelo Mesa-Lago (1986), "Comparative Study of the Development of Social Security in Latin America", International Social Security Review 39, 2: 127-152, Tables 1 and 3.

Table 5. Financial flows of social security and related programs (fiscal year ending during 1983).
(Percentage of GDP, except for Surplus/Receipts)

Country	Social Security System					Public Employees System			Other Programs	
	Receipts	Expenditures: Benefits	Total	Surplus	Surplus/ Receipts	Receipts	Expendi- tures	Surplus	Public Medical	Public Assistance
Latin America and the Caribbean										
Haiti										
Dominican Rep.										
Jamaica	2.22%	0.59%	0.76%	1.46%	65.9%	0.70%	0.59%	0.11%	0.62%	0.24%
Peru	2.15%	2.04%	2.30%	-0.14%	-6.7%	0.00%	0.00%	0.00%	0.00%	0.00%
Columbia	2.03%	1.52%	1.75%	0.28%	13.9%	0.52%	0.47%	0.04%	0.00%	0.00%
Chile	16.73%	13.01%	14.29%	2.44%	14.6%	0.00%	0.00%	0.00%	0.00%	0.00%
Brazil	5.52%	5.07%	5.46%	0.06%	1.1%	0.15%	0.15%	0.00%	0.00%	0.00%
Mexico	2.03%	1.52%	2.11%	-0.08%	-3.9%	1.04%	0.65%	0.40%	0.00%	0.00%
Argentina										
Sub-Saharan Africa										
The Gambia										
Kenya	0.77%	0.05%	0.07%	0.70%	90.8%	0.00%	0.00%	0.00%	0.00%	0.00%
Ghana										
Zambia	2.62%	0.86%	1.22%	1.40%	53.3%	0.00%	0.00%	0.00%	0.00%	0.00%
Cote d'Ivoire	1.17%	0.51%	0.65%	0.51%	43.9%	0.00%	0.00%	0.00%	0.00%	0.00%
Nigeria	0.17%	0.01%	0.02%	0.14%	85.6%	0.00%	0.00%	0.00%	0.00%	0.00%
Cameroon	1.42%	0.36%	0.36%	1.06%	74.5%	0.21%	0.21%	0.00%	0.00%	0.00%
Mauritius	3.54%	1.88%	1.98%	1.57%	44.2%	0.00%	0.00%	0.00%	0.00%	0.16%
Congo	1.91%	0.61%	0.91%	1.00%	52.5%	0.00%	0.00%	0.00%	0.00%	0.00%
Europe, Middle East, and North Africa										
Morocco	1.54%	0.81%	0.86%	0.67%	43.7%	0.00%	0.00%	0.00%	0.00%	0.00%
Egypt										
Turkey	3.38%	2.23%	2.36%	1.02%	30.3%	1.47%	1.41%	0.05%	0.31%	0.01%
Tunisia										
Hungary	15.44%	15.36%	15.44%	0.00%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
Portugal	7.86%	7.44%	7.95%	-0.09%	-1.1%	1.74%	1.78%	-0.04%	3.38%	0.40%
Yugoslavia	11.33%	10.33%	11.27%	0.06%	0.5%	0.00%	0.00%	0.00%	0.00%	0.00%
Cyprus	6.53%	3.44%	3.52%	3.01%	46.1%	1.55%	1.13%	0.41%	1.93%	0.38%
Israel	10.42%	7.92%	9.27%	1.15%	11.1%	0.80%	0.80%	0.00%	0.00%	0.72%
Asia										
Bangladesh	0.01%	0.00%	0.00%	0.01%	55.3%	0.00%	0.00%	0.00%	0.00%	0.00%
Burma	0.08%	0.04%	0.05%	0.02%	31.3%	0.00%	0.00%	0.00%	0.00%	0.00%
India	1.33%	0.48%	0.51%	0.82%	61.3%	1.44%	0.92%	0.52%	0.00%	0.04%
Pakistan	0.10%	0.03%	0.04%	0.06%	60.3%	0.37%	0.37%	0.00%	0.00%	0.21%
Sri Lanka	2.00%	0.32%	0.34%	1.66%	83.0%	0.47%	1.81%	-1.34%	0.00%	0.06%
Indonesia	0.08%	0.01%	0.02%	0.05%	71.8%	0.00%	0.00%	0.00%	0.00%	0.00%
Philippines	1.00%	0.31%	0.34%	0.67%	66.4%	0.75%	0.40%	0.35%	0.00%	0.00%
Thailand	0.04%	0.01%	0.01%	0.02%	63.7%	0.16%	0.16%	0.00%	0.00%	0.00%
Malaysia	5.32%	0.77%	0.83%	4.49%	84.4%	0.00%	0.00%	0.00%	0.00%	0.04%
Korea										
Singapore	14.70%	3.79%	6.43%	8.27%	56.3%	0.26%	0.26%	0.00%	0.93%	0.01%
Industrial Market Countries										
Japan	10.97%	7.44%	8.46%	2.51%	22.9%	2.11%	1.58%	0.53%	0.25%	1.25%
Sweden*	19.88%	16.93%	17.38%	2.51%	12.6%	2.37%	2.37%	0.00%	7.77%	5.46%
United States	8.97%	8.34%	8.62%	0.35%	3.9%	3.27%	1.71%	1.55%	1.12%	2.66%

Table 7. Sources of Revenue for Social Security Systems

Country	Statutory Contribution Rates: (percent of wages or payroll)		Percentage Distribution of Revenue---------				
			Contributions---		Other	Invest-	
	Insured		Insured		Taxes	ment	
	Person	Employer	Person	Employer	(State)	Income	Other
Latin America and the Caribbean							
Haiti	2 - 6%	4 - 12%					
Dominican Rep.	2.5	9.5					
Jamaica	2.5*	2.5*	24.3%	29.7%	7.4%	38.5%	0.1%
Peru	3	7 - 18.2	88.5% (both)		0.0%	10.2%	1.2%
Columbia	5.5	18 - 24	23.7%	55.8%	0.0%	9.0%	11.4%
Chile	24.6-26.5***	4.2 - 4.6	31.1%	2.1%	48.9%	15.9%	2.0%
Brazil	8.5 - 10	14.7-16.8	15.6%	74.0%	8.2%	0.0%	2.2%
Mexico	3.75	11.3**	19.7%	61.9%	12.3%	5.2%	0.8%
Argentina	14	24					
Sub-Saharan Africa							
The Gambia	5	10					
Kenya	5	5	25.3%	25.3%	49.3%	0.0%	0.0%
Ghana	5	12.5					
Zambia	5	5	38.5%	28.5%	0.0%	32.8%	0.2%
Cote d'Ivoire	1.2	9.3-12.3	61.9%	17.7%	0.0%	20.4%	0.0%
Nigeria	6	6	28.2%	20.2%	0.0%	51.4%	0.3%
Cameroon	2.8	13-16.2	12.8%	64.4%	0.0%	22.8%	0.0%
Mauritius	3	6	10.6%	21.2%	52.3%	14.3%	1.6%
Congo	2.6	15.88	12.1%	80.2%	0.0%	7.5%	0.2%
Europe, Middle East, and North Africa							
Morocco	1.9	13.8	8.4%	78.4%	0.0%	13.2%	0.0%
Egypt	11	24					
Turkey	14	20.5**	36.9%	39.9%	5.1%	17.6%	0.5%
Tunisia	6.25	18.5-26.5					
Hungary	3 - 15	10 - 24	14.9%	47.1%	38.0%	0.0%	0.0%
Portugal	11.5	25	28.1%	64.1%	7.8%	0.0%	0.0%
Yugoslavia	23.2+	Varies	66.7%	24.5%	7.3%	0.9%	0.6%
Cyprus	6	6	35.1%	35.3%	20.6%	8.2%	0.7%
Israel	3.6	8.2**	23.2%	38.3%	27.2%	10.6%	0.7%
Asia							
Bangladesh	(Not reported)		19.4%	43.4%	4.3%	32.9%	0.0%
Burma	1	3	19.9%	59.8%	17.8%	1.9%	0.5%
India	8.75-10.5	11.6-13.4	29.7%	33.7%	1.1%	32.7%	2.8%
Pakistan	0	12	0.0%	72.3%	0.1%	26.9%	0.5%
Sri Lanka	8	13-19.5	28.7%	29.9%	0.0%	41.4%	0.0%
Indonesia	3	7+	16.5%	48.4%	0.0%	0.0%	35.1%
Philippines	2.85-4.55	7.75-9.45	20.0%	31.4%	0.0%	48.1%	0.5%
Thailand	0	0.2 - 4.5	0.0%	64.0%	3.7%	32.3%	0.0%
Malaysia	9.5	12.75	62.8%	2.2%	0.0%	34.4%	0.6%
Korea	1.5 - 4	3.24					
Singapore	25	25	39.6%	42.0%	0.0%	17.9%	0.5%
Industrial Market Countries							
Japan****	10.05	10.9-23.3	31.8%	28.8%	21.6%	11.6%	6.3%
Sweden	0*	30.45	1.8%	64.9%	16.7%	16.7%	0.0%
United States	7.05	12**	34.9%	45.1%	17.6%	2.3%	0.1%

Table 8. Distribution of benefits among types of benefits.
(Percent of total benefits)

Country	Old age, disability & death	Sickness and Maternity	Work Injury	Other Medical Care	Unemploy-ment	Family Allow-ance	Other	(Total Medical Care)
Latin America and the Caribbean								
Haiti								
Dominican Rep.								
Jamaica	94.3%	0.1%	5.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Peru	34.1%	58.8%	7.1%	0.0%	0.0%	0.0%	0.0%	65.5%
Columbia	28.8%	62.9%	8.3%	0.0%	0.0%	0.0%	0.0%	58.9%
Chile	65.9%	14.9%	2.5%	0.0%	3.5%	9.6%	3.6%	12.7%
Brazil	62.1%	11.6%	0.6%	21.9%	0.0%	3.3%	0.4%	21.9%
Mexico	22.5%	63.8%	10.1%	1.8%	0.0%	0.4%	1.4%	36.7%
Argentina								
Sub-Saharan Africa								
The Gambia								
Kenya	99.0%	0.0%	0.0%	1.0%	0.0%	0.0%	0.0%	1.0%
Ghana								
Zambia	62.7%	0.9%	0.0%	0.0%	0.0%	0.0%	36.4%	0.0%
Cote d'Ivoire	32.9%	0.0%	24.1%	0.0%	0.0%	43.0%	0.0%	0.0%
Nigeria	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cameroon	10.0%	0.0%	14.9%	0.0%	0.0%	75.2%	0.0%	3.0%
Mauritius	92.2%	0.0%	*	0.0%	0.9%	7.4%	0.0%	0.0%
Congo	**	0.0%	**	0.0%	0.0%	**	0.0%	0.0%
Europe, Middle East, and North Africa								
Morocco	46.7%	2.5%	0.0%	0.0%	0.0%	50.9%	0.0%	0.0%
Egypt								
Turkey	61.9%	19.0%	3.2%	0.0%	0.0%	0.0%	15.9%	17.0%
Tunisia								
Hungary	54.1%	8.4%	0.4%	23.0%	0.0%	11.6%	2.5%	23.0%
Portugal	67.9%	9.6%	0.0%	0.0%	3.3%	10.0%	9.1%	0.0%
Yugoslavia	53.3%	7.9%	0.3%	33.9%	0.0%	4.6%	0.0%	33.9%
Cyprus	85.8%	4.8%	1.7%	0.0%	7.1%	0.0%	0.4%	0.1%
Israel	39.8%	3.3%	2.7%	32.8%	1.1%	19.1%	1.1%	34.2%
Asia								
Bangladesh	43.4%	46.3%	10.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Burma	1.5%	27.3%	8.5%	62.6%	0.0%	0.0%	0.0%	62.6%
India	75.1%	8.5%	3.9%	11.0%	0.0%	0.0%	1.5%	11.0%
Pakistan	*	100.0%	*	0.0%	0.0%	0.0%	0.0%	85.3%
Sri Lanka	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Indonesia	38.5%	0.0%	61.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Philippines	73.7%	*	4.2%	22.1%	0.0%	0.0%	0.0%	23.3%
Thailand	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	41.2%
Malaysia	95.9%	0.0%	4.1%	0.0%	0.0%	0.0%	0.0%	0.4%
Korea								
Singapore	97.7%	0.0%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Industrial Market Countries								
Japan	**	**	**	**	**	**	**	**
Sweden	61.3%	23.3%	1.4%	0.0%	5.1%	8.8%	0.0%	2.7%
United States	Figures for 1983 are not on hand as of this writing.							

Notes to Tables 5, 6, 7, and 8

Unfilled lines in these tables are for countries in our sample for which the International Labour Office has not received satisfactory information. In several cases information should be available in time for an updated version of this paper and these tables.

Table 5.

* Expenditure figures do not include some administrative expenses which apply to several programs.

All figures are for financial years ending in 1983.
Sources: Financial flows: International Labour Office (1988), The Cost of Social Security: Twelfth international inquiry, 1981-1983: Basic tables, Geneva (provisional figures from forthcoming publication). Gross Domestic Product: International Monetary Fund, International Financial Statistics Yearbook 1986 and Government Finance Statistics Yearbook 1986, Washington.

Table 6. Trends in financial flows: Table is forthcoming.

Financial flows are from earlier editions of I.L.O., Basic Tables. GDP is from I.M.F., op. cit.

Table 7.

*Plus additional universal contribution. **Average rate.
***Figures reflect old system. Under new system, the insured worker's contribution rate is 19.5%. Employer rate is unchanged.

Contribution rates are for 1985, revenue and GDP are for 1983.
Sources: Contribution rates: United States Social Security Administration (1986), Social Security Programs Throughout the World - 1985, Washington. Distribution of revenue: I.L.O., op. cit.

Table 8.

*Amounts are included in other tables.
**Division among types of benefits is not explicit.
[Jamaica-oad&d]: Includes 6.6% for which the nature of benefits is not explicit. [Mexico-other]: Day care for children.
[Turkey-other]: Funds which apparently provide multiple types of benefits. [Portugal-other]: Nature of benefits is not explicit.
Heading "Other Medical Care": Care not included under other benefits. Heading "Total Medical Care": Care included under various benefits.

Data are for 1983. Source: I.L.O., op. cit.

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