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The Current Status of Pensions Systems in Central America: An Assessment

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The Current Status of Pensions Systems
In Central America: An Assessment

Rodrigo Cifuentes and Felipe Larraín B.[*]

Abstract

This paper studies the current status and prospects of pensions systems in Central America. Pensions systems in the region differ widely on the date of their creation, ranging from 1941 (Costa Rica) to 1977 (Guatemala). Common characteristics of these systems are low fraction of population covered (with the exception of Costa Rica) and low rates of contribution charged, reflecting that most of them were created relatively recently. Most systems show small cash surpluses and while they still have some reserve funds, projections for all indicate that these reserves will not last for long. This paper reports that systems in the region also suffer from a series of other problems: 1) proliferation of parallel programs, which introduces multiple sources of demands on the government and situations of inequity; 2) inadequate provision of benefits, meaning that benefits are given to people that have not fulfilled the requirements; 3) poor investment performance of the reserve fund. The authors argue that, to a large extent, these problems result from the incentives embedded in pay-as-you-go (PAYG) systems, where property rights over contributions to the system are poorly defined. Prospects for PAYG systems are poor, given the projected increase in the ratio of the number of people over 65 years of age to the number of working age people.

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1**. The Problems of Traditional Pension Systems**

The reform of pension systems has been a major concern in recent years in Central America and throughout the world. A combination of demographic shifts and improper incentives in the design of the systems has caused many of the current problems in traditional pension programs, as is well documented in the academic literature.[1]

Demographic factors have been crucial. Aging populations due to reduced fertility rates and increased life expectancy have imposed financial difficulties for systems where liabilities are not funded and the financing of benefits comes mainly from taxing current workers. Under these circumstances, the relative size of workers to pensioners has diminished, thus implying heavier taxation on workers.

Many features common to the design of most pension systems throughout the world have proved harmful to the financial health of the systems and to the labor market in general. One major problem appears in the extensive use of programs *defined in benefits* (as opposed to *defined in contributions*), as in Central America. These schemes are of the *pay-as-you-go* (PAYG) kind, in which current workers make contributions to pay the benefits for those currently retired, and where a fund is –generally-- not built. In contrast, a *fully funded* system accumulates the proceeds from contributions in a fund (either individual or collective) and pays benefits to contributors by withdrawals from that specific fund. Fully funded systems are a small minority in the world, but have been expanding rapidly as their superior financial performance and other positive effects have become well established.

In traditional schemes, the benefit to a pensioner is defined by the *replacement rate,* a proportion of the wage in the last few years of work, sometimes adjusted by the number of years of contributions. This mechanism offers a weak link between the present value of a worker's contributions to the system and the benefit that she receives. Thus, it provides workers with an incentive to evade contributions that are not directly tied to benefits. As a result, workers may prefer informal jobs or underdeclare earnings in certain years to avoid high contributions, while overdeclaring earnings in the years that count to determine the level of benefits, usually one to three years before retirement. In contrast, in a system defined in contributions, benefits are determined in relation to the value of contributions made to the system. This implies lower distortions in the labor market.

A second important design problem is the lack of defined property rights over the contributions collected. Many governments succumb to the temptation of using the surplus

generated by the system, particularly when it begins operations, to expand current benefits to the population (in or out of the system). This can take the form of reducing requirements for the access to benefits by the current population, granting benefits to people who have not contributed to the system or financing of other projects unrelated with pensions. This increases future financial problems for the system by depleting its reserves and/or increasing its liabilities.

A third common problem of traditional schemes is the proliferation of parallel systems, particularly with those that have some redistribution implicit in their calculation of benefits. Well-off workers try to avoid this redistribution by creating their own system. In other instances, the financial support of the state differs in each program, and not necessarily by providing more support to the poorest workers but many times more to those with political power or influence. Apart from the unfairness, this restricts mobility in the labor market, as workers' past contributions workers are not recognized if they change to a new pension program.

Pensions systems in Central America have some similarities but also marked differences. Regional schemes are of the *pay-as-you-go* or *scaled premium* kind. As mentioned above, PAYG systems do not build a fund. A scaled premium, or *collective capitalization,* scheme sets the contribution rate at a level that generates a surplus that is accumulated over time. Later, as affiliated workers retire, the resulting increase in expenses (pension payments) is financed both through the tax on current workers and through withdrawals from the fund (resulting in a decrease of the fund). When necessary, the contribution rate is increased, so that revenues collected exceed expenses for a while and the fund grows again. In this scaled premiums system, the fund alternates between growth and decline, acting as a buffer stock. The fund is not designed to cover all future liabilities of the system. Many systems throughout the world began as scaled premiums, but through a combination of bad investments and political opportunism, did not accumulate of a fund, and have been effectively transformed into pay-as-you-go systems.

The creation date of universal pension systems differs widely across countries, ranging from Costa Rica in 1941 to Guatemala in 1977. Thus, the extent to which the systems have matured varies greatly. The national systems also differ markedly in their institutional organization, from a single institution in charge of pension provision, as in Nicaragua, to several parallel institutions, as in Guatemala. Systems also differ markedly in the population that they cover. Costa Rica's scheme provides coverage for more than 50 percent of the labor force, while, at the other extreme, Nicaragua covers only 13 percent.

This paper proceeds in Section 2 to study the demographic transition in Central America and shows that it is a phenomenon present in the region. Section 3 describes the situation of the

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[1] A good reference is *Averting the Old Age Crisis*, The World Bank, 1994.

pensions systems by country. Then, section 4 compares the systems by country and analyses the extent to which they present the problems referred to in this introduction. Section 5 draws some conclusions.

2. **Aging Populations in Central America**

Throughout the world, pensions systems based on the pay-as-you-go (PAYG) financing scheme have come under severe financial pressure as a result of demographic transition, that is, the reduction of both fertility and mortality rates that has raised the age of populations. This effect has been more acute in industrialized countries, where population aging started earlier.

In general, financial problems in PAYG schemes arise as these mature, and the ratio of pensioners to active workers in the system grows.[2] A mature PAYG system is one where the ratio of pensioners to active workers is close to the population *dependency ratio*, that is, the overall ratio of population of working age to population over 65 in the country.[3] When PAYG systems begin to operate, only a small fraction of the old age population is entitled to benefits. As the system ages, a larger proportion of the population becomes entitled to receive a pension, as those that contributed to the system reach retirement.

The rate of return on the contributions of active workers in PAYG systems is given by the growth of covered wages. In a mature system this growth rate is given by the growth of the population plus productivity growth. The demographic transition affects the return of mature systems by reducing the rate of growth of the active population and by increasing the number of years that retirees receive pensions. In other words, this transition increases the dependency ratio.

Before maturity, however, PAYG schemes can offer better returns than the growth of the active population plus productivity growth, because the number of retirees is still low. Thus, the demographic transition is not an immediate problem for an immature system, but it does reduce the return that the system will be able to pay when mature.

Central American pensions systems have different degrees of maturity. The maturity of a system depends not only on how long ago it was created, but also on how generous the system is

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[2] Financial problems may appear before for reasons other than maturity. Also, a system can mature without financial problems if it has been strict in never promising benefits that could not be financed in the mature state of the system.

[3] The dependency ratio can be defined differently by including younger cohorts of the population in the numerator, as in Leff (1969). Here we are interested at the relation between active workers and retirees, so we use the working-age population, whose definition is also subject to discussion, in the numerator. We are taking a conservative approach in the sense that by excluding the youngest cohorts of workers we delay the moment when changes in fertility affect the dependency ratio.

in granting benefits to the population. A PAYG system can mature instantly if it entitles all the old age population to receive full benefits regardless of the fact that they did not contribute when young. Despite the fact that some PAYG pension systems in Central America still show a surplus, this paper argues that given the current population projections for these countries, PAYG systems will lead to lower pensions and/or a financial crisis in the not too distant future. The main reason for this bleak perspective is the demographic transition.

Population Projections

The phenomena of aging populations appear in strength when both mortality and fertility rates decline. Demographers pay more attention to the second phenomena, because the decline in mortality rates seems to be common to most countries in the world. Countries with high fertility rates will experience higher rates of population growth for a while.

Demographers classify countries in three categories according to the behavior of fertility rates[4] in the period 1950-90. Countries that started significant declines in fertility prior to 1950, called *early-initialization* countries, had fertility rates below 5 in the period 1950-55. *Late-initialization* countries are those with a total fertility rate above 5 in 1950-55 but below 5 in 1985-90. *Pre-initialization* countries are those with a total fertility rate above 5 for the whole period 1950-90. These countries are expected to have the higher rates of population growth, and consequently, the most favorable population conditions that a PAYG system can expect.

Figure 1 shows total fertility rate for the period 1950-1995 for Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua. All countries show a persistent decline in fertility rates beginning in the 1960s. Although their behavior in this respect is similar during 1950-1965, Costa Rica and El Salvador begin to show a remarkably different pattern in the mid-1960s. Total fertility rates declined faster in these two countries, so that they qualify as late-initialization countries. Even though Guatemala, Honduras and Nicaragua are considered pre-initialization countries, the process of aging of their population has already started.

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[4] The fertility rate indicates the average number of live births to a woman in her life.

Table 1 and Figure 2 show the evolution of the dependency ratio, defined here as the proportion of the population aged 25 to 64 with respect to the population aged 65 and over. This ratio indicates the number of people of working age per person 65 and older. Note from Figure 2
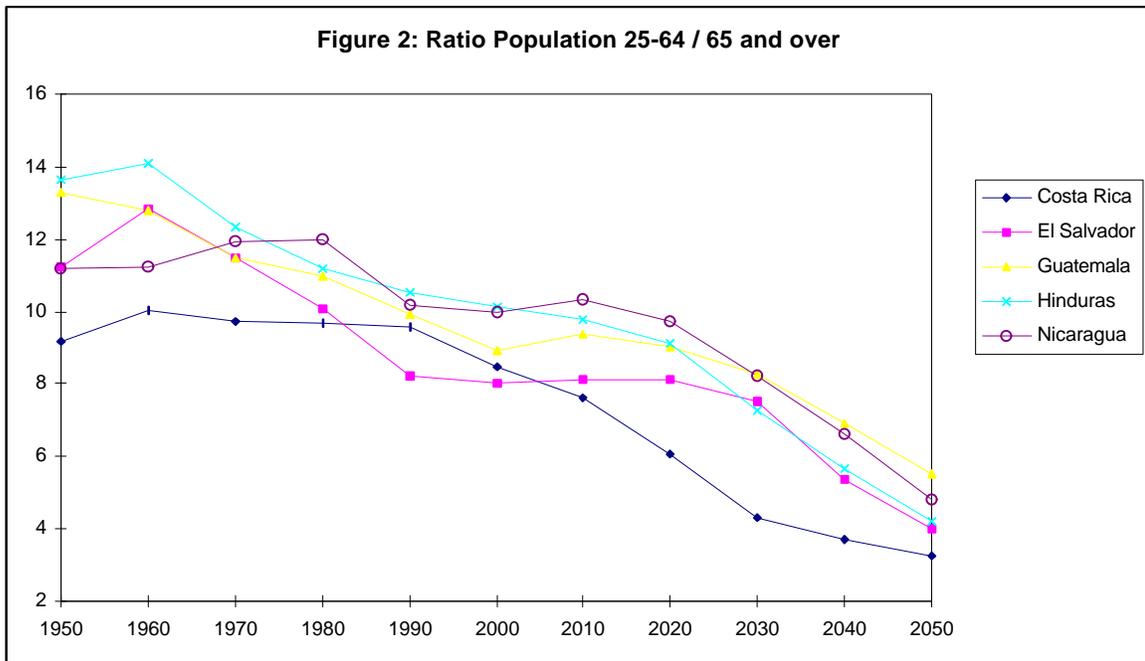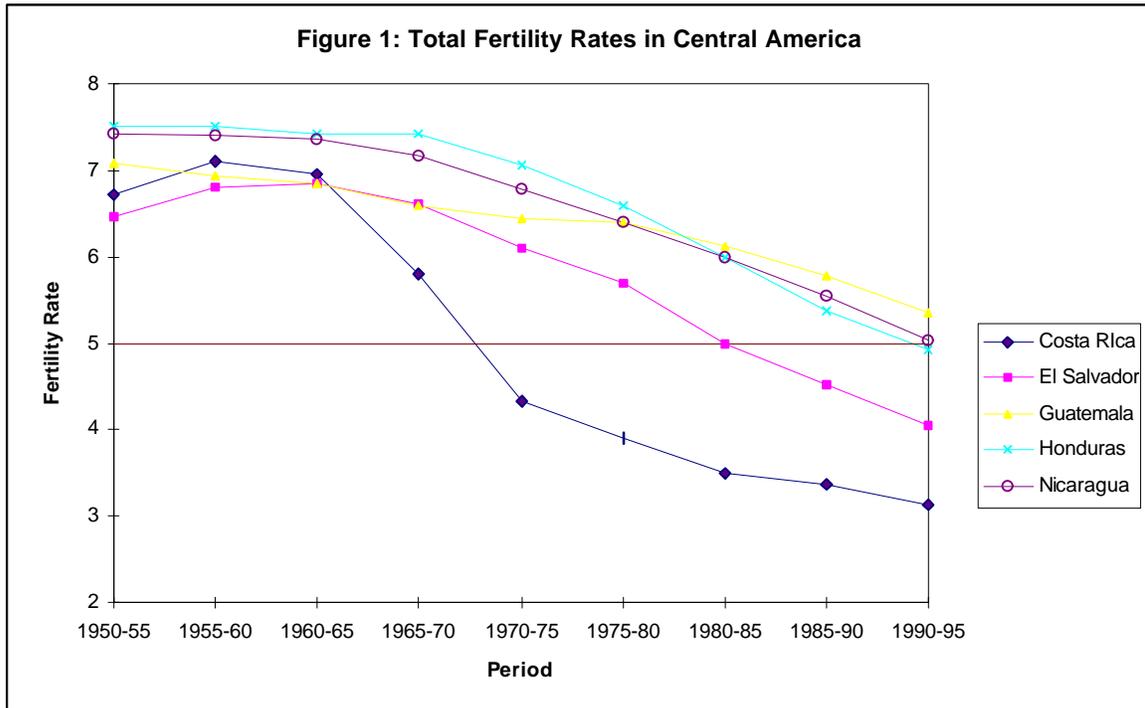
Figure 1: Total Fertility Rates in Central America

Figure 2: Ratio Population 25-64 / 65 and over

Table 1: CENTRAL AMERICA. Dependency Ratios: Populations ages 25 - 64 / Population ages 65 and over

	1950	1960	1970	1980	1990	2000	2010	2020	2030	2040	2050
Costa Rica	9.19	10.03	9.75	9.69	9.60	8.47	7.62	6.05	4.30	3.71	3.23
El Salvador	11.23	12.85	11.50	10.10	8.24	8.00	8.12	8.14	7.51	5.35	3.98
Guatemala	13.28	12.77	11.46	10.97	9.94	8.95	9.36	9.02	8.25	6.93	5.53
Hinduras	13.67	14.09	12.36	11.19	10.53	10.12	9.78	9.14	7.25	5.64	4.20
Nicaragua	11.17	11.21	11.96	12.00	10.17	10.00	10.31	9.70	8.22	6.60	4.83
Early-Initialization Countries					5.44		4.79		2.86		

Sources: United Nations, 1995; The World Bank,. 1994

the dramatic decline in this ratio in the medium to long term for all five countries. Different patterns, however, distinguish the countries. Costa Rica, which began a fertility decline earlier, experienced a sharp fall in this dependency ratio in the 1990s. By 2030, with current population projections, the dependency ratio will be less than half of what it was in 1990. This means that the contribution rates required to sustain a mature PAYG system will have to double by 2030 due to the population effect alone. Moreover, in 2040 Costa Rica will have a ratio similar to that of the early-initialization countries in 1990.

Other countries show a slower predicted decline (or even a modest rise) in the dependency ratio in the next 10 or 20 years. But after 2010 the decline becomes generalized, and even more pronounced after 2020. Guatemala's dependency ratio declines more smoothly than that of the other nations because, as shown in Figure 1, it was the country with highest fertility rates in Central America during the 1980s and 1990s. Note also from Figure 2 that El Salvador experienced a sharp decline in the dependency ratio in the period 1960-1990, a phenomenon heavily influenced by the important migration out of the country in the 1980s.

Figure 2 clearly shows that the population conditions up to the 1970s, when many PAYG systems were created and expanded, do not exist anymore and will not be present in the future. The fact that the dependency ratio looks stable in the short run for some countries may tempt them into expanding PAYG schemes. But dependency ratios will decline. Thus, expanding PAYG systems means increasing promises to the affiliates, which will have to be financed in the future with a declining dependency ratio. In other words, expanding PAYG schemes today is tantamount to incubating a crisis 20 or 30 years from now.

3. **Pension Programs: Current Status and Trends**

3.1 **Costa Rica**

This section presents a description of the current situation of the mandatory pensions systems in Costa Rica. A recent reform in 1992 grouped together 17 out of 19 pension programs in the public sector. It could not, however, absorb all of them. Teachers remained with their own program.

The pensions programs that exist today in Costa Rica are:

- Caja Costarricense de Seguro Social (CCSS).

- Programs run directly by the public sector, financed directly from the government (Ley Marco).

- Teachers (Sistema de Pensiones y Jubilaciones del Magisterio Nacional).

- Judicial Power, which was not intended to be grouped with the others.

Limitations on data availability allow for a detailed analysis only of the CCSS.

Caja Costarricense de Seguro Social (CCSS)

CCSS was created in 1941, although its big expansion in coverage came during the 1970s. Current contribution rates are 2.5% of earnings for workers, 4.75% for employers and 0.25% for the state. The state has not fulfilled its obligation, even though it has paid its contributions as an employer.

Coverage

Contributors to the IVM program (acronym for *invalidez, vejez y muerte,* "disability, old age and death" in Spanish) of the CCSS grew during the 1980s to 52% of the employed population in 1992, as shown in Table 2. After 1992 the ratio remained stable, then increased in 1996. To date, it is not possible to determine whether this is a permanent or a temporary increase.

Table 2 shows that coverage did not expand significantly in the 1990s. This may indicate that the system has already covered most of the formal labor market, and that future expansions of coverage will prove difficult. Castillo and Durán (1996) present evidence showing that the potential for expansion of coverage comes mainly from small employers in agriculture, manufacturing, and domestic service, and from independent workers. Because it is difficult to control evasion in these sectors, further increases in coverage seem hard.

Table 2: COSTA RICA. Coverage of CCSS.

	Labor Force	Percentage Urban	Employed	Active Contributors	Contributors / Employed
1987	977847	45.3%	923310	440220	47.7%
1988	1006137	45.8%	951190	459151	48.3%
1989	1025548	45.3%	986840	485465	49.2%
1990	1066662	45.2%	1017151	499242	49.1%
1991	1065701	45.6%	1006646	512978	51.0%
1992	1086988	45.0%	1042957	545108	52.3%
1993	1143324	45.4%	1096435	575411	52.5%
1994	1187005	46.4%	1137588	596611	52.4%
1995	1231572	46.5%	1168055	599323	51.3%
1996	1220914	46.0%	1145021	621975	54.3%

Source: Encuesta de Hogares de propósitos múltiples. Módulo de empleo. Julio 1994, 1996
Ministerio de Economía, Industria y Comercio; Ministerio de Trabajo y
Seguridad Social; Caja Costarricense de Seguro Social.
Anuario Estadistico 1995, CCSS, Depto. de Estadístics, 1996.
World Population Projections, The World Bank, 1994-95

Maturity of the system

One way to measure the maturity of a system based on scaled premium is to look at the relation between the number of contributors to the system and benefit recipients. The ratio of contributors to pensioners tends to go down in time, as the number of pensioners grows at a faster rate than the increase in the number of contributors to the system. In a mature system this ratio will be similar to the population dependency ratio. Table 3 shows this relationship for Costa Rica during the years 1982-96. It falls from 13.9 in 1982 to 6.6 in 1996, indicating that the number of contributors per pension recipient in 1996 was half of what it was 14 years before. To a large extent, the rapid increase in the number of old-age pensioners caused this decline in the ratio.

Income, expenditures and reserves

In order to measure the importance of the pensions system in the economy we look at its magnitude in relation to nominal GDP. The top part of Table 4 shows the evolution of social security revenues (contributions, revenue from investments and other) as a share of GDP. This ratio increased during the 1980s as a result of two elements. First, it reflects the increase in

Table 3: COSTA RICA. Contributors and Pensioners, CCSS
(June each year).

	Contributors	Pensioners				Contr./ Pensioners	
		Total	Disability	Old Age	Survivors	Total	Old Age
1982	383253	27487	9269	6393	11825	13.9	59.9
1983	391177	30572	10184	7399	12989	12.8	52.9
1984	412693	34445	11835	8735	13875	12.0	47.2
1985	408526	38377	13269	10201	14907	10.6	40.0
1986	421357	42549	14594	11767	16188	9.9	35.8
1987	439512	47202	16166	13810	17226	9.3	31.8
1988	459490	52578	18080	16004	18494	8.7	28.7
1989	484175	57690	20118	18028	19544	8.4	26.9
1990	499890	62601	21542	20367	20692	8.0	24.5
1991	511874	67185	22775	22645	21765	7.6	22.6
1992	544649	74456	24802	25583	24071	7.3	21.3
1993	575799	77370	26027	27266	24077	7.4	21.1
1994	596099	82773	27388	28926	26459	7.2	20.6
1995	603097	87054	28627	30306	28121	6.9	19.9
1996	617202	93189	30325	32308	30556	6.6	19.1

Source: Anuario Estadístico 1995. CCSS, Departamento de Estadística, 1996.

Table 4: COSTA RICA. Revenues and Expenses of IVM program at CCSS. [1]
(Selected years, % of GDP).

	1981	1986	1991	1992	1993	1994	1995	1996
REVENUES								
Total Income	2.0%	2.6%	3.1%	2.9%	2.9%	3.0%	3.2%	3.1%
Contributions	1.6%	1.8%	1.9%	1.9%	2.0%	2.1%	2.0%	2.2%
Income from Investment	0.4%	0.8%	1.1%	0.9%	0.9%	0.9%	1.1%	0.9%
Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
EXPENSES								
Total Expenses	0.90%	1.46%	1.93%	1.84%	1.93%	1.83%	1.81%	1.89%
Benefits in kind	0.07%	0.14%	0.18%	0.18%	0.18%	0.18%	0.17%	0.18%
Pensions	0.71%	1.23%	1.63%	1.56%	1.60%	1.55%	1.54%	1.61%
Disability	0.28%	0.43%	0.51%	0.49%	0.50%	0.48%	0.46%	0.48%
Old-Age	0.36%	0.54%	0.81%	0.79%	0.82%	0.78%	0.72%	0.74%
Survivors	0.07%	0.26%	0.31%	0.28%	0.28%	0.29%	0.36%	0.39%
Administrative Expenses	0.12%	0.09%	0.11%	0.11%	0.14%	0.10%	0.10%	0.10%
SURPLUS (as % of GDP)								
	1.2%	1.1%	1.2%	1.0%	1.0%	1.2%	1.4%	1.3%
RESERVES (as % of GDP)								
	7.3%	6.0%	6.6%	6.2%	6.4%	6.3%	6.9%	

IVM: Disability, Old-age and Death (Survivors).
Source: CCSS database.

coverage mentioned earlier. Contributions rose from close to 1.6% of GDP in the early 1980s to 2.1% of GDP in the mid-1990s[5]. Second the proportion of income received from investments has increased in the past decade. This is the result of better real returns in recent years compared to the 1980s, when large negative real returns were common.

Expenses of the IVM program are lower than total revenues. This means that with the current contribution rate the program is able to generate a surplus that increases reserves. This surplus, also shown in Table 4, has been above 1% of GDP for most years since the early 1980s with no signs of decline.

A closer look at the evolution of expenses, however, shows that they have been growing faster than income. In fact, the gap between total expenses and income from contributions has been closing. Up to now, increasing returns on the investments from the reserve have mitigated the growth of expenses, and maintained the surplus. The system, however, is close to the point where current contributions will not be enough to cover current expenses, and other resources will have to be drained to make pension payments. In the first few years, part of the proceeds from the investment of reserves will be enough. Later, the reserves themselves will have to be used for payments, unless other difficult and unpopular measures, such as increases in contribution rates or decreases in benefits, are taken.

Table 4 also shows the value of the reserves accumulated by the fund. In 1996 they amounted to 6.9% of GDP. Although this is a considerable amount, the size of the surpluses available each year for accumulation leads one to expect a significantly larger reserve. The reason for this relatively low reserve fund is the poor returns on investments made. Table 5 shows the composition of CCSS's investment portfolio, which is heavily biased towards short-term government bonds while investments in financial institutions do not surpass 20%. Performance improved in 1996, when the real return exceeded 5%, but this was still less than half of what could have been reasonably expected to obtain in the financial market. Table 5 compares the real return on investment in the 1990s with the passive real interest rate. Real returns on CCSS investments have not been negative in recent years, as was the common feature of the 1980s and early 1990s, but they are still below the real returns achievable in the financial market.

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[5] Contributions do not consider the 0.25% of taxable wages that has to be contributed by the government, because historically it has not fulfilled this obligation. the contribution as employer is always considered, even though the government has not always paid this obligation.

Table 5: COSTA RICA. Composition and Return of Investment of Reserve of IVM program at CCSS.

	1990	1991	1992	1993	1994	1995	1996
Composition of the Reserve Fund:							
Government Titles	39.2%	42.4%	42.0%	48.3%	54.0%	51.8%	44.8%
Short Term	28.4%	35.1%	39.7%	46.7%	42.6%	41.4%	7.1%
Long Term	10.8%	7.3%	2.3%	1.6%	11.4%	10.4%	37.7%
Financial Institutions	14.7%	15.2%	15.1%	3.3%	11.2%	9.5%	19.3%
Short Term	11.8%	12.8%	14.5%	2.0%	10.5%	8.9%	18.8%
Long Term	2.8%	2.4%	0.6%	1.3%	0.7%	0.5%	0.4%
Mortgages	25.7%	22.1%	18.2%	19.3%	12.8%	11.3%	11.0%
State Debt	4.1%	5.2%	6.5%	9.7%	8.2%	6.1%	11.5%
Others	16.3%	15.1%	18.2%	19.4%	13.9%	21.3%	13.4%
Real Return	-4.9%	-0.9%	5.1%	9.8%	0.6%	0.7%	5.2%
Real interest rates	6.7%	5.2%	2.0%	15.9%	7.9%	5.9%	12.2%

Source: CCSS database.

Benefits

Old-age pensions are calculated using the highest 48 monthly wages in the 5 years prior to retirement. Early retirement starts at 61 years and 11 months of age for men and 59 years and 11 months for women, with 39 years of contributions required. Above that age, contribution requirements decrease, reaching 20 years at age 65. The level of the pension is 60% of the base salary (the average of the highest 48 monthly wages), with an additional 0.0835% given for each month of contribution above 240 months. Cost of living adjustments have been granted every 6 months since 1986, calculated as the lower between the change in the Consumers Price Index (CPI) and the growth of taxable wages.

Table 6 shows the average monthly level of pensions from 1986 to 1995. It is apparent from the data that only survival pensions seem to keep a level close to constant in real terms, while disability and old-age pensions clearly decline. Higher inflation in the 1980s eroded the base salary over which pensions are calculated, reducing the real level of the new pensions granted each year. The surge in inflation also caused a higher fraction of pensioners to earn the minimum pension, which is not necessarily adjusted for changes in the cost of living in the same way as the other pensions.

Alternatively, it could be argued that the expansion in coverage of the system in the 1970s and early 1980s included more lower-wage workers who accordingly obtain lower pensions when they retire, thus pulling down the average. This is not confirmed, however, by the data for the average taxable wage, which shows an upward trend. Table 6 shows that real average

taxable wages in 1995 were 15% higher than in 1986. The table also shows that the average old age pension was 68% of the current average taxable wage in 1986, while in 1995 it was 48%[6].

Table 6: COSTA RICA. Real Level of Pensions and Taxable Wages (June of each year). Colones of June 1995, deflacted by CPI.

| | Real Pension | | | | Average Taxable Wage | Old Age pension / Average Taxable Wage |
	Disability	Old Age	Survivors	Average		
1986	23292.1	36683.4	12646.5	22945.3	54202.3	67.7%
1987	25431.8	39273.6	14527.1	25501.9	52960.3	74.2%
1988	21859.6	34065.0	13117.2	22499.7	52817.2	64.5%
1989	20371.4	31760.0	12421.1	21236.9	56577.3	56.1%
1990	20354.4	32611.5	12984.7	21906.2	56224.3	58.0%
1991	20246.3	32221.1	13005.9	21936.9	52528.7	61.3%
1992	19374.6	30214.8	11888.5	20679.1	51872.9	58.2%
1993	20448.3	32327.2	12549.9	22176.6	57835.6	55.9%
1994	20079.1	31278.6	12563.8	21590.6	63149.3	49.5%
1995	20310.8	30121.0	13128.0	21405.7	62522.9	48.2%

Source: Anuario Estadístico 1995. CCSS.

3.2 **El Salvador**

Pension programs in El Salvador are administered by three institutions. Since 1969, the Instituto Salvadoreño de Seguridad Social (ISSS, Salvadoran Institute for Social Security) runs an old-age, disability and survivors pension system for workers in the private sector. Public sector employees have the Instituto Nacional de Pensiones de los Empleados Públicos (INPEP, National Pension Institute for Public Employees), created in 1975 to administer programs created as early as 1930. The Instituto de Previsión Social de la Fuerza Armada (IPSFA, Social Security Institute of the Armed Forces) administers the pensions programs for the military.

In December 1996 the National Assembly approved a reform to the pension system. To date, the new system has not yet been implemented because specific rules for operation still need to be defined. According to the reform, the OADIS (old-age and disability) programs at ISSS and the INPEP will close to new entrants. New workers will instead have to contribute to a new system based on capitalization and individual accounts administered by private companies. Workers already contributing to the ISSS and INPEP will be affected according to their age: those under 35 will have to switch to the new system; those over 55 must remain in the ISSS or INPEP; and those between 35 and 55 may decide whether to change or to stay. A more detailed

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[6] Notice that this relation should not be taken as the replacement rate. The replacement rate is the relation between the pension obtained by an individual and her base salary. The relation shown in the table shows the average pension of all pensioners over the average taxable wage of those currently working (not the base salary of the pensioners).

analysis of the reform proposal is provided in Cifuentes and Larraín (1997). We assess the current status of the OADIS program at the ISSS immediately below.

<u>Instituto Salvadoreño de Seguridad Social.</u>

The ISSS began operations in 1969 and, thus, it is still a young system. Contribution rates to OADIS are relatively low: 3.5% of taxable wages, with 2% paid by employer, 1% by the worker and 0.5% by the state.[7] Before 1978, the state had a 1% contribution rate but did not comply with it. Even with the rate reduction to 0.5%, the state has not been regularly paying its obligations.

Coverage

Coverage was affected by the civil war, particularly during the 1980s. Table 7 shows that contributors to ISSS declined from 15.5% of the labor force in 1978 to 12.1% in 1989, when the absolute number of contributors was lower than that in 1978. From 1989 on, the remarkable economic recovery and the end of civil conflict has been reflected in an important increase in coverage, which reached 19.2% of the labor force in 1996. Including the workers under INPEP, the fraction of the labor force covered by both programs was 26.2% in 1996.

Maturity

Because the OADIS program was created in the late 1960s and significantly expanded its coverage in the 1990s, the relation between active workers and pensioners is still high. Table 8 shows the evolution of pensioners and contributors. While disability and survivors pensioners have grown 3 or 4 times between 1978 and 1996, old age pensioners have grown by a factor of 10. As in any system that matures, the ratio of active workers to pensioners fell during the 1980s, but the decline in contributing population additionally affected this case. Even considering this, the ratio of contributing workers to pensioners was at 11.6 in 1996, which can be considered high. This indicates that the OADIS program in El Salvador did not fall to the temptation that lures many young systems: relaxing the requirements to obtain benefits.

Since 1989, the increased coverage has not only stopped the ratio of contributing workers to pensioners from falling, but even increased it slightly. This is certainly a temporary phenomenon, but it shows that the system does not face immediate problems with respect to the age composition of the population [8].

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[7] Taxable wages have a maximum equal to the maximum wage paid in the public sector.
[8] It is possible that even with this structure of affiliates a system faces financial problems if contributing

Table 7: EL SALVADOR. Labor Force and Coverage by INSS and INPEP

	Labor Force	Contributors to ISSS	Contributors / Labor Force	Contributors to INPEP	Contributors / Labor Force	Total Contributors / Labor Force
1978	1420107	219753	15.5%			
1979	1463847	220993	15.1%			
1980	1516010	187126	12.3%			
1981	1535184	175402	11.4%			
1982	1549346	178980	11.6%	116400	7.5%	19.1%
1983	1562034	189862	12.2%	116312	7.4%	19.6%
1984	1576785	185216	11.7%	122321	7.8%	19.5%
1985	1597136	189154	11.8%	118534	7.4%	19.3%
1986	1623271	198183	12.2%	119127	7.3%	19.5%
1987	1661734	200242	12.1%	122977	7.4%	19.5%
1988	1697655	215590	12.7%	124165	7.3%	20.0%
1989	1736594	210417	12.1%	128579	7.4%	19.5%
1990	1778288	223555	12.6%	124916	7.0%	19.6%
1991	1823310	244567	13.4%	122000	6.7%	20.1%
1992	1770819	276595	15.6%			
1993	1804595	315925	17.5%			
1994	1838549	347616	18.9%			
1995	1936619	377267	19.5%			
1996	1980616	379569	19.2%			

Source: Boletín de Estadísticas del INSS 1988, 1993, 1996.
Uthoff and Szalachman (1994)

Table 8: EL SALVADOR. ISSS, Contributors and Pensioners

	Contributors	Pensioners				Dependency Ratio	
		Total	Disability	Old Age	Survivors	Contributors / Total Pensioners	Contributors / Old age Pens.
1978	219753	5780	312	2045	3423	38.0	107.5
1979	220993	6639	356	2297	3986	33.3	96.2
1980	187126	7817	421	2667	4729	23.9	70.2
1981	175402	9350	498	3100	5752	18.8	56.6
1982	178980	10583	528	3471	6584	16.9	51.6
1983	189862	11135	503	3740	6892	17.1	50.8
1984	185216	11738	516	4111	7111	15.8	45.1
1985	189154	12559	487	4757	7315	15.1	39.8
1986	198183	13380	418	5566	7396	14.8	35.6
1987	200242	14529	428	6526	7575	13.8	30.7
1988	215590	15889	472	7541	7876	13.6	28.6
1989	210417	17823	534	8932	8357	11.8	23.6
1990	223555	20078	585	10576	8917	11.1	21.1
1991	244567	22059	629	12084	9346	11.1	20.2
1992	276595	24005	672	13665	9668	11.5	20.2
1993	315925	26045	711	15303	10031	12.1	20.6
1994	347616	28015	731	16883	10401	12.4	20.6
1995	377267	30238	761	18717	10760	12.5	20.2
1996	379569	32855	824	20862	11169	11.6	18.2

Source: Boletín de Estadísticas del INSS 1988, 1993, 1996.

Income, Expenditures and Reserves

Table 9 shows income and expenses of ISSS as a percentage of nominal GDP. The low level of income reflects both low contributing rates and low coverage. Despite coverage in 1996

rates are too low and/or benefits too high. In this case the immediate reason for the financial problems is

being higher than in 1980, revenue from contributions (as a share of GDP) was lower than in 1980. The government has failed to comply with its 0.5% contribution most of the time.

Table 9: EL SALVADOR. ISSS, Revenue and Expenditures
(as % of GDP)

		1981	1986	1991	1992	1993	1994	1995	1996
REVENUES									
Total		0.72%	0.64%	0.50%	0.49%	0.52%	0.54%	0.53%	0.54%
Contributions		0.43%	0.32%	0.30%	0.30%	0.33%	0.36%	0.36%	0.38%
State		0.02%	0.00%	0.00%	0.00%	0.00%	0.01%	0.02%	0.00%
Investments		0.26%	0.32%	0.21%	0.19%	0.18%	0.17%	0.15%	0.16%
Others		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
EXPENDITURES									
Total		0.28%	0.35%	0.45%	0.46%	0.42%	0.43%	0.43%	0.43%
Pensions	Total	0.19%	0.28%	0.40%	0.40%	0.37%	0.38%	0.38%	0.41%
	Disability	0.02%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
	Old Age	0.09%	0.17%	0.28%	0.29%	0.28%	0.29%	0.29%	0.32%
Administrative		0.10%	0.07%	0.06%	0.05%	0.05%	0.05%	0.05%	0.03%
INCREASE IN THE TECHNICAL RESERVE									
		0.43%	0.06%	0.05%	0.04%	0.10%	0.11%	0.10%	0.10%

Source: Boletín de Estadísticas del ISSS 1988, 1993, 1996.

Investment income represented an important source of revenue, particularly in the early and mid-1980s, when it was of similar magnitude to the income from contributions. Even though reserves have since increased, revenues from investments have declined significantly due deteriorating performance of the investment portfolio in the 1990s.

At the same time, total expenses have increased from 0.13% of GDP in 1980 to 0.41% in 1996, because of rising expenses in old age pensions. Other expenses, disability and survivors pensions, and administrative costs, show a stable or declining trend (as percentage of GDP) during the period.

The narrowing gap between revenues and expenses translates into a declining accumulation of reserves. In the last 4 years reserves fell to 0.1% of GDP.

Benefits

Old-age pensions are calculated from the average of the last 36 months of contributions. Age requirement is 60 years for men and 55 for women and a minimum of 750 weeks (about 14.5 years) of contributions is needed. The basic benefit consists of 40% of average salary plus 1.25%

the level of contributing rates or benefits but not the age structure.

of base for each 50 weeks of contributions above 150 weeks (with a cap of 90%). This formula gives a replacement rate of roughly 62% to somebody retiring with 20 years of contributions. Cost of living adjustments are supposed to occur when the accumulated change in CPI exceeds 10%. Over the last 5 years these have been granted, but not always to the full degree of change in CPI.

Table 10 presents the level of pensions expressed between 1983 and 1996 expressed in 1995 colones, and shows that the real level of benefits falls sharply during most of the period. Benefits in 1996 were about 60% of their 1983 value. This is partly caused by the effects of higher levels of inflation that eroded the base of calculation. The sharp decline in the average taxable wage, caused by the poor economic conditions during the war that reduced incomes and increased incentives to underreport earnings. The reduction in real benefits, though, took place at a slower pace than the fall in real wages also contributed significantly to this fall. The last column in Table 10 shows the relation between benefits and contemporaneous taxable wages. In 1996 the average old-age pension was just over 50% of the taxable wage.

Table 10: EL SALVADOR. Real Level of Pensions and Taxable Wages (average of the year)
Colones of 1995, deflacted by CPI.

	Real Pension				Average Taxable Wage	Old Age pension / Average Taxable wage
	Disability	Survivors	Old age	Weighted Average		
1983	1754.2	716.0	1801.3	1127.4	4130.8	43.6%
1984	1989.4	823.6	1983.4	1281.1	4091.8	48.5%
1985	1700.7	745.8	1917.0	1226.4	3626.4	52.9%
1986	2013.7	726.2	1735.5	1186.3	3100.8	56.0%
1987	1888.8	677.2	1595.3	1125.3	2725.7	58.5%
1988	1797.1	680.6	1528.2	1116.1	2477.0	61.7%
1989	1761.3	726.2	1509.5	1149.8	2338.8	64.5%
1990	1415.1	594.4	1348.4	1015.5	2231.3	60.4%
1991	1386.6	564.6	1356.4	1021.8	2064.9	65.7%
1992	1217.8	576.9	1299.2	1006.0	2044.5	63.5%
1993	1092.3	465.2	1124.2	869.5	1998.0	56.3%
1994	1021.7	461.6	1111.2	867.7	2053.6	54.1%
1995	1106.8	462.5	1106.0	875.2	2072.9	53.4%
1996	1109.1	477.1	1074.8	872.5	2086.9	51.5%

Source: Boletín de Estadísticas del ISSS 1988, 1993, 1996.

3.3 **Guatemala**

The first program in Guatemala providing pensions for retirement was established in 1932 for employees in the public sector. The national Constitution of 1945 mandated the creation of a social security system to protect workers in the private sector as well, covering at least disability, old age, death, sickness, maternity and work injury. The laws to implement this mandate, however, appeared slowly. Finally, in 1971 a program providing OADIS insurance began to operate for the employees under the Instituto Guatemalteco de Seguridad Social (IGSS, Guatemalan Social Security Institute). Coverage by OADIS insurance expanded to private workers in 1977 and was mandatory to all workers in companies with more than three employees in Guatemala City, or more than five in the rest of the country.

Protection for workers in the public sector (Clases Pasivas del Estado, CPE) was legally created in 1932, and reformed in 1970 and 1988. The CPE system provides public sector workers with OADIS pension insurance only; sickness and maternity are provided by the IGSS. With respect to the military, the government created the Instituto de Prevision Militar (IPM) in 1966 to provide health and OADIS insurance to the armed forces.

At the same time, certain groups of workers have complementary programs that provide them with OADIS benefits. These programs are offered by decentralized public institutions like universities, the Central Bank, banks owned by the public sector, municipalities and some public companies. Workers in these institutions are also affiliated to the IGSS. In 1995, 12 such complementary programs existed.

Table 11 compares the relative sizes of these programs in 1995. Conditions for retirement differ considerably among them. In general, the IGSS has the least favorable requirements in terms of age and minimum number of years of contribution to obtain benefits. At the same time it shows the lowest contribution rates. While contribution rates are 1.5% of salary for workers and 3% for employers in the IGSS, in the complementary programs these rates can be as high as 4.5% for workers and 17.5% for employers, as in the central bank (Banco de Guatemala) program. Generally, the bulk of the contribution in complementary programs comes from the employer. Because the employer is the state, these programs are a mechanism to redistribute income in favor of certain groups.

Contributors to pension programs in Guatemala (IGSS, CPE and IPM) represented 28.9% of the labor force in 1995. Of these, 1.6% were also affiliated to complementary programs, where the ratio of workers to pensioners is lower and benefits tend to be more generous. Additionally, the average contributing wage and the average pension are higher in the complementary

programs, indicating that the population that they cover has higher income the average worker covered by the IGSS.

Table 11: GUATEMALA. Descriptive statistics of main programs, 1995.

	IGSS	CPE	IPM	Complementary Programs
Contributors	742448	162624	10641	51022
Pensioners	96376	35715	3787	12513
Contributors/ Pensioners	7.7	4.6	2.8	4.1
Contributing rates				
Worker	1.5%	9 - 15%	8%	
Employer	3%	10%	20 - 25%	
Average Taxable wage	1241.5	845.0	1624.0	1829.8
Average Pension	177.6	751.4	1084.1	733.3
Pension / Taxable wage	14.3%	88.9%	66.8%	40.1%
Revenues/ GDP	0.59%	0.37%	0.07%	0.15%
Pension Expenditure/ GDP	0.26%	0.37%	0.06%	0.11%

IGSS: Instituto Guatemalteco de Seguridad Social, CPE: Clases Pasivas del Estado, IPM: Instituto de Previsión Militar
Complementary Programs: 12 programs for certain employees in the public sector

Source: González (1997)

Instituto Guatemalteco de Seguridad Social (IGSS)

Coverage

Affiliation to the OADIS program of the IGSS is mandatory for dependent workers if the number of dependent workers is larger than three in Guatemala City and five in the rest of the country. It is not mandatory to contribute for independent workers.

Table 12 shows the evolution of population covered by the IGSS. In 1995, the number of active contributors to the OADIS program was 742,448 while the total number of contributors to IGSS was 855,596. For the previous years we only have data on the total contributors to the IGSS (column 3). To obtain the number of contributors to OADIS we apply the same ratio as in 1995, obtaining column 4. Thus, during most of the 1980s, coverage has been between 20 and 25% of

the labor force. Exceptions are 1980 and the period 1987 to 1990 when it temporarily reached higher levels. In 1995, coverage was 23.4% of the labor force.

Table 12: GUATEMALA. Population, Labor Force and Contributors to IGS

	Total Population	Labor Force	Active Contributors		OADIS / Labor Force
			Total IGSS	OADIS	
1980	6916831	2135835	755342	655452	30.7%
1981	7201940	2217785	591019	512860	23.1%
1982	7403339	2168364	511046	443463	20.5%
1983	7610372	2135468	576708	500441	23.4%
1984	7823193	2213359	548285	475777	21.5%
1985	7963347	2209633	631654	548121	24.8%
1986	8195000	2216638	660444	573104	25.9%
1987	8434194	2345288	678995	589202	25.1%
1988	8680957	2483346	779560	676467	27.2%
1989	8935285	2626941	788367	684110	26.0%
1990	9197351	2691184	785753	681841	25.3%
1991	9467028	2767042	786903	682839	24.7%
1992	9744627	2865477	795708	690480	24.1%
1993	10029714	2954266	823239	714370	24.2%
1994	10321975	3065931	830324	720518	23.5%
1995	10619900	3172502	855596	742448	23.4%

Source: IGSS

System Maturity

Pension benefits in the OADIS program began to be paid in 1980. Table 13 shows the relation of contributors to pensioners in the program. This ratio has declined, as expected, and

Table 13 : GUATEMALA. Contributors and Pensioners

	Contributors	Pensioners				Total	Old Age
		Total	Disability	Old Age	Survivors		
1980	655452	9334				70.2	
1981	512860	15823				32.4	
1982	443463	23831				18.6	
1983	500441	32611				15.3	
1984	475777	39297				12.1	
1985	548121	44251				12.4	
1986	573104	49963				11.5	
1987	589202	55301				10.7	
1988	676467	59568				11.4	
1989	684110	65087				10.5	
1990	681841	70746	7228	20044	43474	9.6	34.0
1991	682839	77940	7898	24707	45335	8.8	27.6
1992	690480	81700	8151	26843	46706	8.5	25.7
1993	714370	87320	8576	30190	48563	8.2	23.7
1994	720518	92608				7.8	
1995	742448	96376	9717	33933	52726	7.7	21.9

Source: Informe de Labores, IGSS, 1990 - 1995.

reached levels similar to much older systems in a brief fifteen years. The fast decline in the ratio seems to have been caused by the considerable number of survivors' pensions.

Finances: Revenues, Expenses and Reserves

Contributions to the OADIS program are 3% of the taxable wage for employers, and 1.5% for workers. Additionally, the state is supposed to contribute 25% of total pension expenses each year. It has never done that, however, and only sometimes has fulfilled its obligation as employer.

Table 14: GUATEMALA. Revenues, Expenses and Reserves. IGSS.
(% of GDP)

	1987	1988	1989	1990	1991	1992	1993	1994	1995
REVENUES	0.52%	0.56%	0.58%	0.49%	0.47%	0.52%	0.49%	0.63%	0.65%
Contributions	0.35%	0.38%	0.39%	0.33%	0.31%	0.35%	0.37%	0.37%	0.40%
Employers	0.22%	0.25%	0.26%	0.22%	0.20%	0.23%	0.24%	0.25%	0.27%
Workers	0.12%	0.13%	0.13%	0.11%	0.10%	0.12%	0.13%	0.12%	0.13%
State	0.00%	0.01%	-	-	0.00%	0.00%	-	-	-
Return to Investment	0.17%	0.18%	0.18%	0.15%	0.17%	0.17%	0.12%	0.26%	0.24%
EXPENSES	0.24%	0.27%	0.33%	0.28%	0.25%	0.28%	0.28%	0.31%	0.33%
Benefits Paid	0.18%	0.20%	0.25%	0.23%	0.19%	0.21%	0.22%	0.24%	0.26%
Disability	0.04%	0.03%	0.03%	0.03%	0.02%	0.02%	0.02%	0.03%	0.03%
Old age	0.08%	0.10%	0.14%	0.13%	0.11%	0.13%	0.14%	0.15%	0.16%
Survivors	0.06%	0.06%	0.08%	0.07%	0.06%	0.06%	0.06%	0.07%	0.08%
Administrative	0.06%	0.07%	0.08%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%
SURPLUS	0.28%	0.29%	0.25%	0.21%	0.22%	0.25%	0.21%	0.33%	0.32%
RESERVE	1.96%	1.97%	1.96%	1.56%	1.36%	1.43%	1.41%	1.55%	1.68%

Source: Informe de Labores, IGSS. 1991, 1995.

Table 14 shows the evolution of revenues and expenses (expressed as a percentage of GDP) of the OADIS program for the period 1987-1995. Revenue ranges between 0.47% and 0.65% of GDP. Revenue from contributions are about 0.3 and 0.4% of GDP, whereas investment income fluctuates between 0.12% and 0.26% of GDP. The return on investments is, then, an important component of total revenues and significantly affects their fluctuation . Investment return has varied considerably as a consequence of an inflationary process in which investments were not protected. The low level of income of the system reflects both the low coverage of the IGSS, the low level of the contribution rates and poor investment returns.

On the side of the expenses, benefits paid increased from 0.18% of GDP in 1987 to 0.26% in 1995. This matches the expected tendency of an aging system, and is driven particularly by the expenditure on old age pensions. Administrative expenses have been stable at around 0.6% percent of GDP.

Combined, revenues and expenses determine an OADIS surplus of about 0.2 - 0.3% of GDP each year. The presence of a surplus that does not show signs of decline means that the system is still young, in its phase of accumulation. Despite the fact that expenses are increasing, the surplus does not decrease, mainly because the return to investment has increased as a fraction of GDP during these early years. Another clear indication of the youth of the system is that the surplus has been larger than the total benefits paid in almost every year.

Despite these high surpluses, the amount of reserves has not increased accordingly. The size of the reserve with respect to GDP can be seen in Table 14. By the end of 1995 it was 1.7% of GDP. It should be noted that almost all of the IGSS reserve (80%) is invested in public instruments. The return to investment has been negative in many years, particularly the 1980s when high inflation rates severely affected the real value of the reserve. The real return to investment was -18%, -14% and -31% in 1985, 1986 and 1990 respectively. Surplus not withstanding, the real value of the reserve fund fell 13%, 9% and 28%, respectively, in these years. Additionally, there is substantial debt from unpaid contributions by the state and employers. Conditions on this debt are such that recent inflation has decreased its real value.

Benefits

Old age pensions are given with a minimum of 60 years of age and 15 years of contributions as minimum. Retirement is mandatory, and the benefit is 50% of average monthly earnings during the last 5 years before retirement, plus 0.5% of earnings for every 6 months beyond ten years of contributions. The calculations of the base salary does not consider changes in the cost of living, nor are pensions levels so adjusted.

Table 15 shows the level of pensions paid by the IGSS between 1981 and 1995. The recent level is lower than that of the first half of the 1980s. Demonstrating its vulnerability to inflation, real pensions fall more in the years of higher inflation, 1986, 1990 and 1991.

Table 15: GUATEMALA. Average monthly pension
(Includes Old age, Disability and Survivors Pensions)
Quetzales of 1995

	Average Pension
1981	239.9
1982	227.9
1983	247.6
1984	256.0
1985	219.2
1986	183.7
1987	174.2
1988	189.8
1989	219.8
1990	184.4
1991	154.3
1992	165.7
1993	172.0
1994	183.7
1995	196.0

Source: Informe de Labores, IGSS

3.4 **Honduras**

The social security system in Honduras is highly fragmented. The largest program is that of the Instituto Hondureño de Seguridad Social (IHSS) which covers both private sector workers and public sector employees of decentralized entities. Workers in the executive, legislative and judicial branches have a separate system, called Injupemp. Similarly, teachers are covered by Inprema, the armed forces by IPM and journalists by the IPSP. Other groups of workers have complementary programs to the IHSS, such as PAS for employees of the Central Bank and Inpreunah for Universidad Nacional Autónoma de Honduras.

Since the disability, old-age and survivors (IVM) program of IHSS began in 1972, coverage has expanded slowly, but is still unavailable in some regions of Honduras. The maximum taxable wage, set when the Health and Maternity program began in 1962, was fixed at the equivalent of 10 minimum wages in nominal terms, and has not been changed since. As a result, in 1997 the maximum taxable wage was two-thirds of the minimum wage. Thus, contributions to pensions systems, and consequently benefits, are very low. Moreover, this situation has created inequality inside the IHSS, since the regions where the program began to operate later obtained a higher taxable wage and, therefore, higher benefits.

The poor benefits provided by the IHSS has motivated groups to form their own pension programs, such as the IPSP and Inpreunah (created in 1985 and 1989, respectively). These two and other programs already existing outside the IHSS have gained support from the government in terms of regular contributions.

Available data limits this section to greater discussion only of IHSS, Injupemp and Injuprema, which nonetheless account for about 98% of the total population covered by pension programs. Even for these programs, however, recent data is scarce.

Contributions

Contribution rates to the pensions program in the IHSS are 1% for the worker and 2% for the employer. The government's contribution of 1% was eliminated in 1993. In contrast, workers in the Injupemp and Inprema programs contribute 7%, while employers (normally the state) contribute 11% in the former and 12% in the latter.

Coverage

An estimated 27.1% of the labor force was contributing to an IVM program in 1994. Of this, 21.9% of workers contributed to the IHSS, while the other 5.3% was almost equally divided between Injupemp and Inprema. Table 16 shows that the fraction of the labor force covered by the IHSS increased during the early 1990s, while coverage of Injupemp and Injuprema remained around 5%.

Maturity

These three pensions programs are relatively young. The IVM program at the IHSS began in 1972, but only in the two major cities of Honduras, Tegucigalpa and San Pedro Sula. As Table 16 indicates, coverage has expanded slowly. Table 17 shows the ratio of contributors to pensioners. When only old-age pensioners are considered, the ratio does not show the expected decline of an aging pension system. Rather, the ratio in 1994 was similar to that of 1987, indicating that affiliates are still growing at a similar pace than pensioners. A similar tendency is seen when total pensioners are considered. Note also that the level of the ratios are consistent with those of a young system. Usually it takes eighteen months after application for a benefit to be obtained. Combined with the low level of benefits, this large time lag may discourage better-off workers from applying to the system, and thus help explain the slow increase in the number of pensioners.

Table 16: HONDURAS. Contributors and Labor Force.

	Labor Force	IHSS	INJUPEMP	INPREMA	Total
1990	1463300	249160	38231	32997	320388
1991	1523300	277535	37082	34119	348736
1992	1586400	308599	41247	34641	384487
1993	1652800	346133	41684	37163	424980
1994	1722700	376517	43137	46492	466146
		IHSS	INJUPEMP	INPREMA	Total
1990		17.0%	2.6%	2.3%	21.9%
1991		18.2%	2.4%	2.2%	22.9%
1992		19.5%	2.6%	2.2%	24.2%
1993		20.9%	2.5%	2.2%	25.7%
1994		21.9%	2.5%	2.7%	27.1%

Sources: Statistical Yearbook IHSS 1990. Affiliates to IVM program in IHSS are projected from total contributors for 1991-94 with basis on this relation for years 1987-90. Injupemp and Inprema come from information collected in Honduras.

Table 17 : HONDURAS.Contributors and Pensioners, IVM at IHSS

	Contributors	Pensioners				Contr./Old age	Contr./Total
		Disability	Survivors	Old Age	Total		
1987	169796	595	2709	2455	5759	69.2	29.5
1988	183336	674	2943	2691	6308	68.1	29.1
1989	209617	751	3208	3007	6966	69.7	30.1
1990	249160	861	3515	3272	7648	76.1	32.6
1991	277535	n.a	n.a	3894	n.a	71.3	n.a
1992	308599	n.a	n.a	4800	n.a	64.3	n.a
1993	346133	n.a	n.a	5208	n.a	66.5	n.a
1994	376517	n.a	n.a	5453	n.a	69.0	n.a

Source: IHSS Statistical Yearbook 1987-1990.
n.a.: Non available

Congress approved the law creating Injupemp in 1971, but the system only began operations in 1976. Inprema, in turn, was created in 1970 and began to operate in 1971. In both programs, the ratio of contributors to pensioners has decreased faster than in the IHSS. In 1994, the ratio was estimated at 13.8 for Injupemp and 8.1 for Inprema. These ratios suggest that benefits are granted more easily in these two programs than in the IHSS.

Benefits

Old age pensions at IHSS are obtained at age 65 for men and 60 for women, with fifteen years of contributions required. Benefits are calculated over the average of the last 3 or 5 years of

 taxable wages (whichever is higher). The replacement rate is 40% plus 1% per every year over 5 years, with a minimum rate of 50% and a maximum of 80%. A worker retiring with 25 years of contributions obtains a replacement ratio of 60%.

Because the maximum taxable wage has been fixed for such a long time, pension benefits have decreased significantly in real terms. The average pension has declined from 1.3 times the minimum wage in 1984 to 60% of it in 1996, while the minimum wage remained stable in real terms. Despite benefits being low in absolute terms, they are generous considering contributions to the program.

Requirements to obtain a pension are less stringent at Injupemp and Inprema. At Injupemp, 10 years of contributions are needed and an old-age pension can be obtained as early as age 58, while retirement becomes mandatory at 65. Benefits are calculated on the basis of the average taxable wage over the last three years prior to retirement. The replacement rate is 2.75% per year of contributions, with a maximum of 90%. A rate of 71.5% is obtained after 26 years of contributions.

At Inprema an old age pension can be obtained at age 50, while retirement is mandatory at 70. Ten years of contributions are required and the basis for calculation of the benefits is also the taxable wage over the last 3 years of contributions. The replacement rate is 3% per year of contribution. Here, 25 years of contributions allow for retirement with a 75% replacement rate.

Income, Expenses and Reserves

Table 18 shows the evolution of revenues and expenses of old-age programs as a fraction of GDP. Revenues are higher than expenses at IHSS, with no signs of decline. The basic increase of revenues from contributions is consistent with the expansion of population covered in the early 1990s, as shown in Table 16. Income from investments, similar in magnitude to income from contributions, was eroded by inflation, particularly in the early 1990s.

The IHSS system still carries a significant surplus, which is larger than total revenues from contributions and shows no downward trend. Despite this, the reserve fund has declined in recent years, from 3.14% of GDP in 1990 to 2.17% in 1994. This has been the consequence of very low, and often negative, real returns on investment.

Injupemp and Inprema also show a significant operational surplus, but Injupemp's surplus does demonstrate a downward trend. This comes from declines in the income from contributions and investments, not from increasing expenses, as often expected in an aging system. The reserve funds maintained by both institutions are considerable, but the real return on investments is often negative. In both institutions, more than half of the portfolio is invested in

personal loans and housing projects at below-market rates for affiliates. This explains the decline of the reserve fund as a fraction of GDP despite high yearly surpluses.

Table 18: HONDURAS. Revenue, Expenses and Reserves of IVM programs

	1990	1991	1992	1993	1994
IHSS					
Total Income	0.50%	0.44%	0.72%	0.60%	0.45%
Contributions	0.25%	0.26%	0.35%	0.32%	0.21%
Investment	0.25%	0.18%	0.37%	0.28%	0.24%
Expenses	0.13%	0.12%	0.21%	0.18%	0.14%
Excedent	0.37%	0.32%	0.50%	0.42%	0.31%
Reserve Fund	3.14%				2.17%
INJUPEMP					
Total Income		2.17%	1.66%	1.24%	0.88%
Contributions		0.91%	0.79%	0.63%	0.50%
Investment			0.87%	0.61%	0.38%
Expenses		0.32%	0.37%	0.31%	0.21%
Excedent		1.86%	1.30%	0.93%	0.67%
Reserve Fund		4.65%			4.51%
IMPREMA					
Total Income		0.84%	1.19%	0.96%	0.70%
Contributions		0.54%	0.79%	0.69%	0.52%
Investment		0.19%	0.41%	0.27%	0.10%
Expenses		0.29%	0.45%	0.41%	0.26%
Excedent		0.55%	0.74%	0.55%	0.37%
Reserve Fund		3.99%			3.44%

What is more striking about Table 18 is the fact that Injupemp and Inprema, with approximately 2.5% of the labor force each, have a reserve fund larger than that of IHSS, which covers more than 20% of the labor force. This speaks for the remarkably low effective coverage that the IHSS provides, as measured by the fraction of wages that are protected. This fact is also important in light of equity considerations. The State provides about 60% of the total contributions to these programs. Assuming that these contributions were paid, this means that the State made an average contribution of 0.8% of GDP each year between 1990 and 1994 to the financing of programs that cover only 5% of the labor force, an inequitable allocation. Notice also

that reserves held by the three programs represented 10.1% of GDP in 1994, a large amount considering the low fraction of population covered.

3.5 **Nicaragua**

Pension programs in Nicaragua are administered by only one institution, the Instituto Nicaraguense de Seguridad Social (INSS), which began operations in 1957 along with separate health and maternity insurance programs. Although a proliferation of parallel pension programs and institutions has not occurred, as in other countries of the region, political intervention has extended benefits to certain groups of the population that have not contributed to the system. This occurred particularly during the Sandinista government in the 1980s. Additionally, in this era the system went from scaled premiums to a pure pay-as-you-go scheme with no reserves. The increased liabilities and change in system type led to the program's weak financial situation by 1990. In the last seven years, the pension program has been able to rebuild its reserve fund. A reform project in its early stages plans to revert the special programs created in the 1980s to the full responsibility of the central government.

Coverage

The number of contributors to the INSS programs expanded greatly in the early 1980s, at the beginning of the Sandinista government. Conditions of eligibility, eased in 1982, allow for the inclusion of any worker (not just dependent workers). Special programs were also created in 1984 to provide coverage for temporary and permanent rural workers. These programs were responsible for an additional coverage of 2% of the labor force. In total, coverage increased from 17.6% of the labor force in 1981 to a peak of 26.6% in 1987, as shown in Table 19. Beginning in 1988, the economic crisis caused a continuous large fall in coverage. GDP growth has been mostly negative since 1984 and suffered its largest drop (12.4%) in 1988, accompanied by a hyperinflation. High inflation and economic decline continued until 1991. As a result, unemployment, labor informality and a severe contraction in real wages produced an almost complete disappearance in pension coverage by rural programs and a decline in total contributors to 13.6% of the labor force, a smaller percent than was covered in 1981. A timid recovery in the absolute number of contributors was experienced in 1995 and 1996.

Table 19: NICARAGUA. Coverage, Active Contributors and Labor Force

	Labor Force	Contributors	Contributors/ Labor Force	Contributors To Non-Rural Programs[1]	Ratio to Labor Force	Contributors Rural Programs	Ratio to Labor Force
1981	982236	172478	17.6%	172478	17.6%		
1982	1011519	195351	19.3%	195351	19.3%		
1983	1041676	242625	23.3%	242625	23.3%		
1984	1072731	277965	25.9%	260631	24.3%	17334	1.6%
1985	1104712	289779	26.2%	268500	24.3%	21279	1.9%
1986	1137646	303029	26.6%	279683	24.6%	23346	2.1%
1987	1171563	311925	26.6%	287917	24.6%	24008	2.0%
1988	1206490	296316	24.6%	271360	22.5%	24956	2.1%
1989	1242459	261209	21.0%	238761	19.2%	22448	1.8%
1990	1279500	261439	20.4%	241806	18.9%	19633	1.5%
1991	1331513	228930	17.2%	216078	16.2%	12852	1.0%
1992	1385640	214675	15.5%	203415	14.7%	11260	0.8%
1993	1441967	207490	14.4%	197095	13.7%	10395	0.7%
1994	1500584	203439	13.6%	196108	13.1%	7331	0.5%
1995	1561583	208152	13.3%	203183	13.0%	4969	0.3%
1996	1625063	220600	13.6%	215823	13.3%	4777	0.3%

1: Since 1984 coverage was expanded to permanent and temporary rural workers through separate programs.
Source: Labor Force, World Bank.

System Maturity

As Table 20 shows, the number of pensions paid by ISSN grew by a factor of 5 between 1981 and 1996. Several factors lie behind this. The most obvious is the creation of special regimes that give benefits to groups in the population that had not contributed to the system. The war victims program pays benefits to civil war veterans and their families; 1.5% of wages was set as an earmarked contribution to this program. Special pension schemes were established for Nicaraguans who participated in government programs like alphabetization campaigns. These are non-contributory programs whose financing come from the overall surplus of the system. Their broad eligibility definition, however, enabled them to be used to give benefits for political reasons. By 1985, pensions paid under these special regimes surpassed in number those of the regular programs.

The reduction of requirements to obtain pensions in the regular programs also contributed to the ISSN's rapid expansion in pension coverage. For example, in 1982 the government reduced the number of years of contributions required for a pension. Disability pensions grew abnormally quickly, signaling that they may have been used at discretion for political purposes.

Table 21 shows the ratio of active workers to pension recipients. Considering only pensions in the regular program, the ratio of contributors to pensioners dropped from 15.5 in 1981 to 4.8 in 1996. The latter figure, by itself, indicates an advanced state of maturity in the system. The second column in the table shows that most of the system's aging is due to old-age pensions: the ratio of contributors to old-age pensioners falls from 44.6 to 10.2 in the same period. Finally,

considering all pensions under various programs, the ratio falls from 9.2 to 2.4, making the ISSN system very mature.

Table 20: NICARAGUA. Pensions paid each year.

	Active Contributors	Regular OADIS Program				Special Programs [1]			Total
		Total	Old age	Disability	Survivors	Total	War Victims	Special Pensions	
1981	172478	11113	3868	1075	6170	7608		7608	18721
1982	195351	13595	4992	1620	6983	9281		9281	22876
1983	242625	15317	5747	1872	7698	11986		11986	27303
1984	277965	17390	6540	2330	8520	14937	2278	12659	32327
1985	289779	20070	7597	2894	9579	27255	13909	13346	47325
1986	303029	22619	8657	3455	10507	29496	15401	14095	52115
1987	311925	25493	9771	4159	11563	32151	17826	14325	57644
1988	296316	27362	10627	4716	12019	35913	21168	14745	63275
1989	261209	29415	11886	5301	12228	36492	21611	14881	65907
1990	261439	31249	13153	5743	12353	42008	26806	15202	73257
1991	228930	35235	15337	6712	13186	43849	30782	13067	79084
1992	214675	35313	15980	6613	12720	45795	33771	12024	81108
1993	207490	39532	17820	7706	14006	48433	36838	11595	87965
1994	203439	42211	19301	8273	14637	49270	38439	10831	91481
1995	208152	44334	20526	8707	15101	48480	38251	10229	92814
1996	220600	46179	21691	9064	15424	47080	37264	9816	93259

1: Include Old Age, Disability and Survivors pensions. In 1996 in War Victims Disability pensions were 8246 (22% of the total), while 29018 (78%) were pensions for survivors. Special pensions had 948 (10%) disability pensions, 4840 (49%) survivors and 4028 (41%) were Old Age pensions.

Source: Anuario Estadístico 1996. Instituto Nicaragüense de Seguridad Social.

Benefits

The minimum age to obtain an old-age pension is 60 years for both men and women. Required contributions are 750 weeks (14.5 years approximately). Female teachers and miners can obtain pensions at 55 years old with the same contribution requirement. Male teachers, however, are required to contribute 1500 weeks to retire at age 55. The replacement rate is 40% of average earnings during the last 5, 4, or 3 years, depending on whether contributions were for 15, 20 or 25 years, respectively, plus 1.365% for each 50 weeks of contributions. With this formula, a retiring worker with 15 years of contributions gets a replacement rate of 60.5%, which rises to 82.3% with 30 years of contributions. Replacement rates are higher if average earnings are less than twice the minimum wage. Supplements also exist for dependents. The maximum pension is 80% of earnings, or 100% if there are dependents. The minimum pension is two-thirds of the minimum wage in the worker's employment group. There is no automatic adjustment for inflation.

Table 22 shows average pensions and taxable wages for the last two decades, expressed in 1996 cordobas. The reduction in benefits and wages is striking: the average pension in 1996 was a mere 14% of what it was in 1976, while the average taxable wage was just 12% of the 1976 level. The main reason for this is the sharp decline in GDP per capita in Nicaragua during the

1980s and early 1990s. GDP per capita declined by 60% between 1975 and 1995. Another factor is the increase in the population covered by the system during the 1980s, as described in the previous section. The extended coverage towards rural and independent workers decreased the average taxable wage and the average benefit paid. Finally, the economic crisis and inflation increased the incentives to underreport earnings.

Table 21: NICARAGUA. Ratios of Contributors to Pensioners

	Active Contr./ Total Regular Pensions	Active Contr./ Regular Old Age Pensions	Active Contr./ Total Pensions
1981	15.5	44.6	9.2
1982	14.4	39.1	8.5
1983	15.8	42.2	8.9
1984	16.0	42.5	8.6
1985	14.4	38.1	6.1
1986	13.4	35.0	5.8
1987	12.2	31.9	5.4
1988	10.8	27.9	4.7
1989	8.9	22.0	4.0
1990	8.4	19.9	3.6
1991	6.5	14.9	2.9
1992	6.1	13.4	2.6
1993	5.2	11.6	2.4
1994	4.8	10.5	2.2
1995	4.7	10.1	2.2
1996	4.8	10.2	2.4

Source: Anuario Estadístico 1996, INSS.

The last column in table 22 shows the relation of the old-age pension to the average taxable wage. This figure fluctuates between 20% and 60%, but is generally around 40%. Most of this variation is due to the episodes of high inflation because benefits are not indexed and cost of living adjustments are only at the discretion of the government. Thus, inflation has caused severe losses to pensioners.

Annual averages also hide a significant inequality in pensions received by retirees of different ages. Pensions of the older groups have been exposed longer to the effects of inflation and have thus suffered higher losses in value. Table 23 shows the level of old-age pensions by 5-year age groups paid in December of 1996. As is clear from the data, pensions are significantly smaller for older groups. In 1996, the average pension for those aged 80-84 was 40% of that received by those aged 60-64. Another way to illustrate the effect of inflation on the level of pensions is to compare the level of new pensions given in a year with the average of all the

pensions paid that year. In 1996 new pensions for disability were 61% higher than the average pension. Additionally, survivors pensions were 51% percent higher and old-age pensions were 112% higher.

Table 22: NICARAGUA. Average pensions paid and taxable wage
Córdobas of 1996

	Disability	Survivors	Old Age	Weighted Average	Average Taxable Wage	Old Age pension / Average taxable Wage
1976	3849.1	1130.4	5421.2	3139.4	12928.7	41.9%
1977	3654.8	1124.5	5069.6	3050.5	12040.7	42.1%
1978	3647.2	1125.0	5037.1	3086.2	12154.9	41.4%
1979	2386.4	716.2	3154.1	1925.7	10230.0	30.8%
1980	4885.3	1009.0	4238.5	2759.4	9992.0	42.4%
1981	3796.3	750.3	3318.3	2220.6	9442.3	35.1%
1982	4004.1	792.8	3475.4	2448.1	7736.8	44.9%
1983	2943.9	589.7	2812.9	1941.2	6476.6	43.4%
1984	3047.1	617.9	2592.0	1899.8	6098.5	42.5%
1985	3235.3	613.1	2790.5	2045.3	4674.8	59.7%
1986	771.5	130.9	641.3	477.6	2190.5	29.3%
1987	248.2	51.2	211.0	161.3	1061.1	19.9%
1988	n.a.	n.a.	n.a.	n.a.	523.6	n.a.
1989	n.a.	n.a.	n.a.	n.a.	844.4	n.a.
1990	n.a.	n.a.	n.a.	n.a.	6790.1	n.a.
1991	376.4	120.9	385.0	284.5	1406.4	27.4%
1992	n.a.	n.a.	n.a.	n.a.	1711.0	n.a.
1993	n.a.	n.a.	n.a.	n.a.	1629.6	n.a.
1994	n.a.	n.a.	n.a.	n.a.	1596.8	n.a.
1995	n.a.	n.a.	n.a.	n.a.	1573.9	n.a.
1996	514.2	185.1	618.8	453.4	1509.7	41.0%

Source: Anuario Estadístico 1985, 1987, 1991, 1996.
Instituto Nicaragüense de Seguridad Social.

Finances: Revenue, Expenditures and Reserves.

Table 24 shows financial flows of the INSS. Despite the fact that the population covered as a fraction of the labor force is low, flows of funds involved in the Social Security system are significant with respect to the economy. In 1996, revenues of the INSS represented 4.3% of GDP. The main sources of revenue are contributions and income from investment. Contributions by employers and workers amounted to 3% of GDP in 1996, more than double its size in 1989. Government contributions as employer and as state were 0.6% of GDP, while investment income grew during the first part of the 1990s to 0.5% of GDP.

Table 23: NICARAGUA. Number and average
Old-age Pension by age group. 1996

Age Group	Number Pensions	Average Pension
55-59	139	830.5
60-64	3800	975.3
65-69	6319	654.0
70-74	5238	541.0
75-79	3453	458.3
80-84	1805	406.8
85- +	937	339.5
Total	21691	618.8

Source: Anuario Estadístico 1996. INSS

Table 24: NICARAGUA. Income and Expenditure of the INSS.

	1989	1990	1991	1992	1993	1994	1995	1996
Total Revenue	3.1%	3.0%	3.4%	4.2%	3.6%	4.4%	4.3%	4.3%
Contributions	1.7%	2.0%	2.9%	3.5%	3.0%	3.5%	3.8%	3.6%
Workers and Employers	1.4%	1.4%	2.2%	2.6%	2.2%	2.7%	3.1%	3.0%
Government	0.3%	0.6%	0.7%	0.9%	0.8%	0.8%	0.7%	0.6%
Transfers from Central Gov.	0.4%	0.7%	0.3%	0.3%	0.1%	0.0%	0.0%	0.0%
Investment income	1.0%	0.2%	0.0%	0.2%	0.2%	0.6%	0.5%	0.5%
Other Income and Transfers	0.1%	0.0%	0.1%	0.3%	0.4%	0.2%	0.0%	0.2%
Total Expenditure	1.8%	2.6%	2.5%	3.1%	3.2%	3.8%	4.1%	4.3%
Benefits	0.9%	1.4%	1.3%	2.0%	2.2%	2.5%	2.4%	2.5%
Administrative Expenses	0.8%	1.0%	0.9%	0.8%	0.8%	0.8%	0.4%	0.5%
Other Expenses	0.0%	0.2%	0.3%	0.2%	0.2%	0.5%	1.3%	1.4%
Global Surplus	1.4%	0.4%	0.9%	1.1%	0.4%	0.7%	0.2%	0.0%

Source: Informe Anual. Banco Central de Nicaragua 1991, 1993, 1995, 1996.

Expenses grew quickly from 1.8% of GDP in 1989 to 4.3% in 1996, due mainly by the rise in pensions benefits from 0.9% to 2.5% during those years. Of this, 1.1% of GDP were payments for old age pensions, 0.4% for disability, 0.3% for survivors, 0.5% for work injury and 0.5% for war victims and special pensions. Administration is also a significant part of total expenses. Most years it represents 0.8% of GDP --very high considering the low coverage of the system.

The other source of increase in expenses is under the title of "other", including the medical expenses that correspond to insurance for sickness and maternity offered by the INSS. These benefits were not given by the INSS during the 1980s because the government decided to

centralize the provision of health care in the Ministry of Health. This implies that the INSS gave away its assets in the health area (hospitals) without compensation, and the funds collected for contributions to the health program were transferred directly to the Ministry of Health. Until 1990, the health program under this scheme provided services for all population, without any differentiation for those that paid contributions to the INSS. In 1990, the flow of contributions for the health program --but not its assets-- was given back to the INSS. Under a new system begun in full in 1995, the INSS pays for health services given by private providers to INSS contributors. The new system began operations in full scale in 1995. Before 1995 the INSS used most of the income from health contributions to build a reserve for future pension benefits.

The evolution of revenues and expenses has tended to decrease any surplus available for the accumulation of a fund. The high real interest rate available in Nicaragua in recent years, however, has helped rebuild a reserve fund that in December of 1996 represented 3.2% of GDP. This reserve is expected to cover the deficits that already appeared in the OADIS program for some years. Given projected flows, it is expected to deplete around the year 2003.

4. **Pension Systems in Central America: an Overall Assessment**

4.1 **Comparative Analysis of Current Pension Systems**

Table 25 summarizes part of the information provided in the previous section and compares it across countries. Looking at the fraction of the labor force covered, there are clear differences between Costa Rica and the rest of the countries. In its main pension program (the CCSS) Costa Rica has steadily covered around 50% of the labor force in recent years. In the other countries coverage does not exceed 30% of the labor force. El Salvador, Guatemala and Honduras all cover 26 to 29% of the labor force, and all have separate program for public sector employees that provides protection to 5 - 7% of the labor force. Nicaragua has the least protected labor force, with only a 13.6% covered.

With respect to contribution rates, programs for private workers generally have remarkably low rates in comparison to international standards. The explanation for this is that most of these systems are young. Systems with the highest contribution rates are the oldest; Costa Rica, created in 1941, has a rate of 7.5%, and Nicaragua, created in 1957, has a rate of 5.5%. In the other countries, systems created between 1969 and 1977 show contributing rates of 4.5% in the case of Guatemala, 3.5% in El Salvador and 3% in Honduras. In countries with

 systems specific to the public sector, contribution rates are generally higher because the public employees' pension systems are older than those for the general population.

The next rows in Table 25 look at the composition of the beneficiaries. Here, one would expect to see a higher number of old-age pensioners with respect to contributors in the oldest systems. This is only partially true. Nicaragua presents the highest value for this ratio. In one part this is a sign of lax procedures in granting an old-age pension. But this number is also affected by the fact that coverage has fallen enormously in Nicaragua in the last ten years (see Table 19), increasing this ratio. Guatemala and El Salvador show a level similar to that of Costa Rica in this ratio (roughly 5%), but with much younger systems than in Costa Rica. This indicates a faster pace in the granting of old age pensions in the former countries. At the other extreme, Honduras shows a remarkably low number of pensioners in relation to contributors.

A striking fact regarding the composition of beneficiaries is the large number of disability pensioners in Costa Rica. In number they are close to the pensioners from other causes. This is a large number, especially evident when comparing with other countries. The only case where the relation is similar is in Nicaragua, where the number is affected by the fall in contributors in the same way as the previous ratio. The case of Costa Rica clearly points to lax rules in granting of this type of pensions.

Table 25 also shows the ratio of contributors to total pensioners, defined as the number of active workers per beneficiary. The lower it is, the tighter the financial situation of the system. This number is high in a young system and generally decreases as the system ages. Nicaragua presents the lowest ratio, affected greatly by the sharp reduction in contributing workers. Next lowest is the CCSS in Costa Rica, consistent with the fact that it is the oldest system in the region. The highest ratio is in Honduras, where the system is young and has granted few benefits.

The final part of Table 25 compares the financial flows in each of the systems. In terms of magnitudes, Costa Rica and Nicaragua present flows that are much larger in terms of GDP than in the other countries. This is not difficult to explain in the case of Costa Rica, where the system covers a large fraction of the labor force. The case of Nicaragua is harder to explain given the low fraction of population covered. Even though contribution rates are the second largest in the region, this alone does not explain such a large magnitude in flows as a share of GDP. In the other countries, revenues and expenditures flows are rarely more than half of one percentage point of GDP. The system with the lowest flows is the IHSS in Honduras, consistent with its low contribution rates and low maximum taxable wage. Most systems, with the exception of that of Nicaragua, have cash surplus. This means that they are still in the phase of accumulation. Despite the surpluses, a common feature of the systems in the region is their inability to accumulate a

large reserve fund, a consequence of lax requirements to obtain benefits and of frequent negative real returns on investment. Actuarial studies project in general that if no changes are made, surpluses will end and funds will be depleted in five to ten years.

4.2 **An assessment**

Sections 3 and 4.1 show the extent to which pension systems in Central America present the problems common to systems based on pay-as-you-go and scaled premiums. All programs analyzed show a weak link between contributions and benefits. This introduces distortions and provides incentives to evade and underreport earnings. Costa Rica, Guatemala and Nicaragua have particular problems in that conditions to obtain benefits have been relaxed and benefits have increased at a faster pace than projected. Honduras is at the other extreme, with very few benefits granted to affiliates. On top of this, Honduras's IHSS has the problem of a very low effective coverage of wages, given that the maximum taxable wage has been fixed nominally for a long time. In El Salvador, conditions for retirement have been respected and the system is in relatively better financial health.

In Costa Rica, Guatemala and Honduras there has been a proliferation of different programs for specific groups of the population. In each, separate programs have appeared in different parts of the public sector. This creates a situation of inequality with respect to the rest of the population because the government normally finances these programs. Also, it imposes rigidities in the labor market, because contributions to one program are not recognized if a worker changes to a job in another sector.

Finally, the maturity of the systems combined with aging populations determine that most systems in Central America are or will soon be depleting their reserve funds and will need to raise contribution rates in the next ten years.

5. **Conclusions**

An analysis of the current situation of pensions systems in Central America reveals that all of them suffer from the problems that affect most unfunded pension systems in the world: proliferation of multiple programs (with the exception of El Salvador and Nicaragua); poor performance of investment of the reserve fund; weak links between contributions and benefits

and, therefore, distortions in the labor market; and the use of pensions to respond to the political pressure of organized groups.

Given that most systems, with the exception of Costa Rica, have low coverage and low contribution rates, it may be tempting to think that the solution to the financial problems will come by increasing coverage and contribution rates. It is true that this may alleviate financial pressures in the short run, but in the long run problems will appear again. Unfunded, defined benefit systems tend to generate the problems listed above because of the incentives implicit in them, as explained in this paper and documented widely in the literature. Moreover, the ability of unfunded schemes to provide a good system for financing retirement depends on demographic variables. The evolution of these variables in Central America, as in the rest of the world, has increased the elderly population. With these demographic trends and no reforms, unfunded systems will generate low pensions.

The fact that most systems, with the exception of Costa Rica, are small should be taken as an opportunity to move towards fully funded systems, especially as the cost of transition is low for small systems. Fully funded systems, designed according to the characteristics of Central American economies can overcome many of the incentive problems found in unfunded systems and can have positive externalities on other dimensions such as the development of financial markets and the increase in national saving rates. The economic effects of moving toward fully funded systems in Central America is explored in more detail in Cifuentes and Larraín (1997).

Table 25: CENTRAL AMERICA. Comparison of Pension Programs
(1996, unless otherwise noted)

	Costa Rica CCSS	El Salvador INSS	El Salvador INPEP	Guatemala [1] IGSS	Guatemala CPE	Honduras [2] IHSS	Honduras Injupemp	Honduras Inprema	Nicaragua INSS
Year OASDI program begins to operate	1941	1969		1977		1972			1957
Coverage:									
Contributors/ Labor Force	50.9%	19.2%	7.0%	23.4%	5.1%	21.9%	2.5%	2.7%	13.6%
Contributing Rates:									
Worker	2.50%	1%		1.5%	9 - 15%	1%	7%	7%	1.75%
Employer	4.75%	2%		3.0%	10%	2%	11%	12%	3.50%
Government	0.25%	0.5%		25% [3]					0.25%
Pensioners/ Contributors									
Old Age	5.2%	5.5%		4.6%		1.3%			9.8%
Disability	4.9%	0.2%		1.3%		0.3%			4.1%
Survivors	5.0%	2.9%		7.1%		1.4%			7.0%
Contributors / Total Pensioners	6.6	11.6		7.7		32.6			4.8
Finances (% of GDP)									
Total Revenue	3.1%	0.54%		0.65%		0.45%	0.88%	0.70%	4.3%
Contributions	2.2%	0.38%		0.40%		0.21%	0.50%	0.52%	3.6%
Expenses	1.9%	0.43%		0.33%		0.14%	0.21%	0.26%	4.3%
Surplus	1.3%	0.10%		0.32%		0.31%	0.67%	0.37%	0.00%
Reserve	6.9% [4]			1.68%		2.17%	4.51%	3.44%	

1: Figures correspond to 1995.
2: Figures correspond to 1994.
3: 25% of total expenses should be provided by the government.
4: Figure corresponds to 1995.

Source: Tables section 3.

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