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Pension Reform and the Development of Pension Systems: An Evaluation of World Bank Assistance

Background Paper
Mexico Country Study

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Acronyms and Abbreviations

AFORE	Administradora de Fondo para el Retiro (Retirement Fund Administrator)
CONSAR	Comisión Nacional del SAR (National Commission of the Retirement Savings System)
CPI	Consumer Price Index
CURP	Clave Unica de Registro Poblacional
FOVISSTE	Fondo de la Vivienda del ISSSTE (Housing Fund for the Staff of the Institute of Social Seurity and Government Workers)
FTAL	Financial Sector Technical Assistance Loan
GDP	Gross domestic product
IADB	Inter-American Development Bank
IEG	Independent Evaluation Group (formerly OED)
IMSS	Instituto Mexicano del Seguro Social (Mexican Institute of Social Security)
INFONAVIT	Instituto Nacional para el Fomento de la Vivienda para Trabajadores (National Institute for the Development of Living Quarters for Workers)
ISSSTE	Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado (Institute for Security and Social Services for Government Workers)
IVCM	Invalidez, Vejez, Cesantia en Edad Avanzada, y Muerte (Disability, Old Age, and Survivorship)
OECD	Organisation for Economic Co-oporation and Development
OED	Operations Evaluation Department (changed its name to IEG in December 2005)
SAL	Structural Adjustment Loan
SAR	Sistema de Ahorro para el Retiro (Retirement Savings System)
SHCP	Secretaría de Hacienda y Crédito Público (Secretariat of Finance and Public Credit)

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Preface

This paper belongs to series of 19 country and regional case studies commissioned as background research for the World Bank's Independent Evaluation Group (IEG) report "Pension Reform and the Development of Pension Systems." The findings are based on consultant missions to the country or region, interviews with government, Bank, donor, and private sector representatives involved in the pension reform, and analysis of relevant Bank and external documents.

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1. Background

Pension System Structure before 1997

1.1 Mexico's pension system has undergone many changes through the years, including significant reform measures in 1992 and 1997. The old Mexican social security system (established in 1942–44) offered a rich menu of services for citizens later in life, including savings for old age, longevity insurance, and survivors' pensions. Institutions that offered pension services were the Mexican Social Security Institute (IMSS), for private-sector workers; the Institute for Security and Social Services for Government Workers (ISSSTE), founded in 1959 through the unification of older plans for federal workers and some state government employees; 32 public schemes serving state-level government employees, and separate institutes for military personnel and the police, university professors, and workers at several parastatals, including Petroleos Mexicanos, and even for IMSS's own personnel, all of whom were exempt from contributing to IMSS's general plan and to ISSSTE.

1.2 These are not specialized institutions because they also provide health insurance and medical services (for active and pensioned members), workers compensation, disability insurance, life insurance, maternity leave coverage (for example, loss-of-earnings insurance), child care services, and marriage bonuses. In addition, IMSS provides social services, which include subsidized cultural and sport activities, vacation resorts, public education about health and first aid, funeral services, and a host of other activities. IMSS also provides (noncontributory) social assistance in the form of health services for selected poor communities.[1] Although the law endows each of these social security institutions with a separate contribution rate, in practice, the resources are pooled. For example, the Disability, Old Age, and Survivorship (IVCM)[2] office at IMSS had cash surpluses in 1995 and 1996, and these surpluses were used to finance the delivery of medical services.

1.3 Until Mexico's more recent reform in 1997, there were two branches of social security, managed by separate institutions. The first branch, called the Retirement Savings System (SAR), supervised by the National Commission of SAR (CONSAR), was created in 1992 and began operations in January 1993. SAR required a two percent contribution of declared earnings up to 25 minimum salaries from members of both IMSS and ISSSTE.[3] In exchange, the SAR offered a supplemental retirement benefit to members when they reached age 65, became eligible for a pension under the IMSS or ISSSTE plans, or upon receipt of an employer-provided pension. SAR did not mandate

[1] See Articles 208 to 217 of the Social Insurance Law.
[2] Old-age pensions will be referred to in this paper as the "IMSS/IVCM plan." IVCM was a much-used name for the following combination of programs within IMSS: pensions for old age and the unemployed old, health insurance for pensioners, disability and survivorship insurance, and social assistance. Note that the last two of these components are not considered part of old-age security in other countries. Health insurance for pensioners is also managed separately in other countries.
[3] Apparently, workers in states with separate plans, in Petroleos Mexicanos, and in the military were not required to participate in the SAR.

longevity insurance because it allowed members to withdraw 100 percent of their benefits as a lump sum when they reached eligibility. All of the funds collected by SAR were invested at the central bank, and the law promised a real interest rate of two percent on the funds.

1.4 Since 1972, the second branch of social security has offered subsidized loans for home buying and construction to its contributors. The institutions in this branch are the National Workers Housing Fund Institute (INFONAVIT), for covered private-sector workers, and the National Institute for the Development of Housing for Government Workers (FOVISSTE), for federal employees. The contribution rate to INFONAVIT is five percent of declared earnings, up to a special ceiling, and the one for FOVISSTE is six percent. Members who do not obtain a loan (or after they repay one and have reached pension age) are allowed to use their account balances to buy a supplementary old-age pension. Until 1992, however, the nominal interest rate on virtual account balances for this purpose was zero percent. Given that actual inflation remained above 50 percent in each of the seven years from 1982 to 1988, this meant a real return at below –33 percent per annum, which drove the value of the accounts to nearly zero. In the 1992 reform, the interest rate was required to be positive in real terms, thus creating a government guarantee. The 1992 reform called INFONAVIT part of the retirement system and created the "INFONAVIT sub-account," whereby contributions are credited. In practice, this is not managed as a retirement plan but, rather, as a housing subsidy program.

Redistribution toward the Elderly Poor

1.5 In the 1990s, Mexico set up successful redistribution programs for the rural poor, such as *Progresa* (now called *Oportunidades*).[4] However, Mexico did not provide assistance pensions to the elderly poor on a noncontributory basis.[5]

1.6 Two provisions under the IMSS pension plan had progressive redistribution toward the elderly poor as their specific aim and have been active since 1997. (IMSS is a provider of health services to the rural poor, including the elderly poor.) One is the progressive scale of replacement rates embedded in the benefits formula as a function of the level of the base salary (expressed in multiples of the minimum salary). For a base salary equal to 1.01 times the minimum salary and 9.6 years of contributions, the promised replacement rate is 80 percent. For a base salary equal to the median—2.8 times the minimum salary—achieving the same 80 percent replacement rate requires 34.9 years of contributions.

[4] *Oportunidades* is targeted at poor women with children, who must take instruction in particular nutritional, health, and education services to become eligible. This information is from World Bank 2002, p. 13, paragraph 34.
[5] In 2000, Mayor of Mexico City Manuel Obrador, created the first universal noncontributory old-age pension in Mexico, at Mex$ 600 /month (US$ 70 /month). The pension was available to the residents of his city who requested it. Some ineligible residents in other towns tried to find a way to become recipients. This may have been the harbinger of future social policies.

1.7 The second redistribution provision was the minimum guaranteed pension for IMSS beneficiaries indexed by a 1989 law equal to 100 percent of the minimum salary. If the minimum pension amount is larger than the pension set by the benefits formula plus cost-of-living adjustments since inception, the government will pay the difference. The amount set by the benefits formula does not depend on the balance of the INFONAVIT sub-account.[6]

1.8 Access to these two redistribution provisions was limited by a further requirement: completion of 500 weeks (9.6 years) of contributions. Moreover, for the many workers who contribute fewer than 9.6 years in the formal sector, these subsidies turned into a tax—no benefits whatsoever were paid and the member lost 100 percent of the contributions. This implicit tax was regressive because it affected mostly women and poor workers.

1.9 Progressive redistribution can also be achieved by an appropriate taxation schedule. Just before the 1997 reform, the personal income tax had an exemption equal to three minimum salaries. Also, the benefits paid by IMSS were exempt from income tax.

Savings-Insurance Programs

1.10 Delivering savings-insurance to the middle classes was another major aim of the IMSS plan. The benefit formula is such that the pension amount rises proportionally to the base salary, and pays higher pensions to higher-salaried members.[7] The IMSS plan offered defined benefits and financing through an unbalanced pay-as-you-go system, with both workers and employers making contributions and other branches of social security at IMSS absorbing the cash surpluses. The IMSS plan, however, was not supported by a governance structure to help it meet savings-insurance goals at a minimum risk to workers. For example, it did not include an independent office for long-term actuarial projections and make them public.[8] The IMSS is a unified federal organization employing about 350,000 workers in 1992 and 371,186 in 2001, including those delivering medical services.

1.11 Savings-insurance can also be offered to medium and high earners through tax incentives for voluntary and occupational plans (third-pillar). Since 1993, the SAR reform allowed favorable tax treatment for additional voluntary savings for old age by individuals, but this attracted a very limited amount of funds.

[6] See Article 168 of the Social Insurance Law; before the 1995–97 reform. When stipulating the pensions to be supplemented by subsidies until the minimum amount is reached, it omits INFONAVIT benefits.
[7] The same happens at ISSSTE, which offers a replacement rate of 100 percent upon completion of 30 years of service.
[8] The first external and audited actuarial report of IMSS, required by a 2001 reform, was made public in June 2002 and was a valuable first step. However, it excluded a valuation of the liabilities of the old-age pension program because these were transferred to the federal government by the 1997 reform, as part of the transition costs. See IMSS 2002, pp. ii and v.

Human Resources Management: Aims and Portability

1.12 Some large employers use contingent pension promises to permanent workers to assure the recovery of the firm-specific training and team-building investments and to select better employees. There is a tradeoff between this aim and the ease of transferring pension rights between jobs under different mandatory plans. In Mexico, there were about 8,000 employer-sponsored plans, covering a significant 20 percent of formal employment. Most of these plans' assets—about five percent of gross domestic product (GDP) in 1993—belonged to just 35 plans, sponsored by a few multinationals and parastatal firms. The labor law set a minimum severance payment of 1.5 months of salary per year of service, and the need to fund this liability led some employers to create pension plans. The 1973 Social Insurance Law made some demands on employer plans, and allowed IMSS to compete as a provider of services. Article 27 of this law allows contributions to an employer plan to be excluded from the earnings base to which IMSS contribution rates are applied (partial opting out),[9] but only if the plan is authorized by the Ministry of Finance on a case-by-case basis. Until 1997, however, there was no regulatory agency in charge of supervising these plans. There are no regular statistics about the types of plans or about their financial status. Thus, employer-based supplemental plans did not benefit from a regulatory infrastructure that balanced the interests of employers and employees.

1.13 The ISSSTE plan does not help the government-as-employer protect its investments in personnel training because pension eligibility is not linked to a given agency or career path. Therefore, it cannot help recover agency-specific training or selection costs. The IMSS plan, ISSSTE plan, state-employee plans, and parastatal plans, however, are not fully portable, as there is no system to allow workers that move among the different sectors transferring pension rights from one plan to the other.

The IMSS/ICVM Old-Age Pension Plan

1.14 The IMSS/ICVM is a traditional single-pillar plan, in the sense that both redistribution and savings-insurance aims are served together. Until 1992 the contribution rate for the old-age pension was very low, as is common in pension plans that have not yet matured. The contribution rate for old-age pensions was 3.0 percent of earnings. The government contributed five percent of this, the worker contributed 25 percent, and the employer contributed 70 percent. If the two percent for the SAR (fully paid by employers, after INFONAVIT contributions) is added, the total contribution for old age was less than five percent, which is way below contribution rates in mature, funded plans.

1.15 The pension age for the IMSS plan is 60 if the worker is fired or arranges to be fired (old-age severance or *Cesantía en Edad Avanzada*), and 65 if the worker quits (old age or *Vejez*). Members who continued working in their current job could not draw a pension. Until 1997, however, a member was entitled to a (lower) pension with just 500

[9] Opting out would be complete if contributions to the employer plan were deducted from the *contributions* to IMSS.

weeks (9.6 years) of contributions. IMSS pensioners had an average contribution period of 22 years, confirming that IMSS/ICVM was a plan that had not yet matured.

1.16 The benefit formula was unusually complicated because it depended on both earnings and on the number of years of contributions or years of service (as in the United States).[10] In the range for median declared earnings, the following benefits formula applied:

$$\beta_{2.76\text{–}3.00} = 0.3048 + 0.01958 \cdot (N - 9.6),$$

where β is the replacement rate and N is the number of years of contribution. The base salary was the average of the last 250 weeks (4.8 years) of earnings, not adjusted for inflation. Benefits for pensioners included a 13th pension each December (*Aguinaldo*). After disbursement, the pension amount was adjusted for real price inflation once a year, in February.

1.17 Pension benefits include health insurance coverage but only for health services provided at IMSS facilities. The cost of this extra benefit was potentially very significant in the long term, as international experience shows. An unusual aspect of IMSS/ICVM health insurance for the elderly is that members earn the right to it by paying a contribution of 1.5 percent of declared earnings when they are active, not when retired (as in many countries). Most descriptions of the ICVM plan omit the fact that promised benefits are not just pensions, but also include health insurance.

Pension System Performance before 1997

Coverage and Total Payroll Tax

1.18 In 1993, the IMSS plan had about 9.4 million contributors and about 1.4 million pensioners. The analogous ISSSTE plan had about 1.5 million contributors and about 0.26 million pensioners in 1993, with an average declared salary and average benefits much higher than at IMSS. The Petroleos Mexicanos plan had about 0.5 million contributors, the military plan had about 0.3 million, and the IMSS-employee plan had about 0.3 million. For the informal sector and self-employed (mostly in subsistence agriculture), about 13 million workers were not covered by any plans. Mandatory plan contributors were 40 percent of the employed (Ayala, 1997), of which IMSS covered 79

[10] The benefits formula is a table of the formula: $\beta_k = c_k + a_k \cdot (N - 9.6)$, where k indicates the range in which the value of the base salary of the individual falls, expressed in multiples of the minimum salary. There were 21 ranges that ran from (1.01–1.25) to (6.01–10) minimum salaries. For the highest earnings the following benefit formula applied: $\beta_{6.01-10} = 0.1300 + 0.0245(N - 9.6)$. Source: Article 167 of the 1973 Social Insurance Law.

percent of them. The declared taxable wage bill was about 7 percent of GDP[11] in 1994, which is low by international comparisons.

Labor Market Efficiency

1.19 The low coverage rate may have been partly because of large payroll taxes, which may have created incentives to move production to the informal sector. The contrary view is that payroll taxes were low compared with benefits. The total nominal tax rates on private sector employment added up to an apparent 31.5 percent of declared earnings, up to 10 minimum salaries, and to 14.5 percent on the surplus, up to 25 minimum salaries,[12] and zero thereafter. These rates need to be corrected, however, on three accounts.

1.20 First, Article 27 of the Social Insurance Law requires contributions to INFONAVIT to be excluded from the earnings base to which IMSS tax rates are applied. Second, five percent of the remaining rate was a contribution to IMSS from general revenue (the "government's contribution" in the tripartite scheme). A third correction is required to take into account that 70 percent of IMSS contributions were paid by the employer and only 20 percent by the worker. In contrast, the SAR and the INFONAVIT rates were paid at 100 percent by the employer. Therefore, the total effective rate *as a proportion of the employer's cost*, equivalent to the case in which contributions are paid entirely by workers, was 24.4 percent.[13] This rate is modest when compared with other countries in the Organisation for Economic Co-operation and Development (OECD), given the volume of insurance and other services promised in exchange. However, it may still be too high for Mexico's conditions, where uncovered employment is 60 percent, and where the real wage elasticity of labor to the covered sector is likely to be higher than in the OECD.

1.21 The benefits-contributions link at the individual level was extremely weak in Mexico, so this tax rate was likely to be perceived as a pure tax on declared earnings, to a larger extent than in other OECD countries. The five percent contribution rate for housing (INFONAVIT) sets Mexico apart from other countries, and moreover, is perceived as a pure tax because of the way in which housing benefits are distributed: subsidized loans are distributed mostly to members of powerful unions and the subsidy is not proportional to past contributions. Because contributions to INFONAVIT, prior to 1990, were fully taxed away by inflation, there is little trust in a benefits-contributions link. Regarding

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[11] This number is estimated by multiplying 9.4 million contributors by an average declared salary of 2.8, multiplied by a minimum salary of 80 dollars per month, multiplied by the exchange rate of 3.38 for 1994, multiplied by 12 months, and dividing by the GDP for 1994, which was 1,226 billion *pesos*.

[12] The ceiling for contributions to SAR (2 percent contribution) and to the health portion of IMSS (12.5 percent contribution) is 25 minimum salaries.

[13] Valdés Prieto 2002, Chapter 5, shows that the equivalent total tax rate on workers is $(\theta E + \theta L)/(1 + \theta E)$ in the absence of INFONAVIT and SAR taxes, where θE is the employer's contribution rate and θL is the worker's contribution rate. In the presence of INFONAVIT and SAR taxes, the equivalent total tax rate is $[5.0 + 2.0 + (31.5 - 5.0 - 2.0) \times (1-0.05)] / (1 + 0.02 + 0.05 + 0.70 \times (0.315 - 0.05 - 0.02)) = 24.39$ percent.

SAR, the funds were fully invested in government securities and paid a two percent real return, which was miserly compared with market returns.

1.22 The amount of health services provided by IMSS was unrelated at the margin to the individual's money contribution, so the marginal tax rate was 100 percent. As for IMSS disability and life insurance, its benefits were earnings related, so the link was acceptable. As for the IMSS's old-age pension promises, those earning the minimum salary meant that, at the margin, one more year of contribution did not raise the replacement rate.[14] For those earning the median salary, one more year of contribution raised the replacement rate by two percentage points, which is way below the increase afforded by market interest rates. In addition, this promise was subject to inflation taxes and to the (political) risk that the formula would be changed. Moreover, the short averaging period (4.8 years) used to determine base salary meant that contributions made before that period had zero marginal effect on pension benefits, cutting the benefits-contributions link to zero in those periods.[15] In summary, the overall benefits-contributions linkage was nearly zero, allowing low coverage to be explained in part by the 24.4 percent payroll tax rate.

Redistribution to the Elderly poor

1.23 Some redistribution provisions were successful and others failed. The contribution requirement excluded most of the rural poor, who have the shortest periods of employment in covered jobs. For this same reason, the implicit 100 percent tax on those members not completing 500 weeks of contribution was highly regressive. Old-age benefits covered just 20 percent of the urban elderly[16] and probably a negligible percentage of rural elderly. Thus, the urban coverage rate for benefits was a mere *one-half* of the coverage rate of contributions, reversing the situation in other countries where the coverage rate for benefits is higher thanks to noncontributory pensions. On the other hand, the minimum pension was successful, in the sense that 80 percent of IMSS pensioners had their calculated pensions topped-up to reach the minimum by this program.[17] The progressive benefits formula at IMSS can, at most, redistribute wealth among plan members, excluding the relatively better-paid employees at the large parastatals, the federal and state governments, the higher-income self-employed, and the owners of capital. This situation could not be reversed by a government contribution of just five percent of the IMSS rate, which meant just 0.98 percent of the employer's cost.[18]

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[14] The subsidy paid by the minimum pension was withdrawn rather harshly when the average of declared earnings surpassed the minimum salary by just 1 percent, because the replacement rate fell from 100 percent to 80 percent (provided the member had contributed for 9.6 years). This implies an infinite marginal tax rate at that point.

[15] The short averaging period also stimulated over-reporting the last 5 years of earnings, but did not stimulate overtime hours of work because their remuneration was excluded from taxable earnings by Article 27 of the 1973 Social Insurance Law.

[16] This is taken from World Bank 2002, p. 13, paragraph 34.

[17] Ayala, 1997.

[18] The government contribution was just $[(31.5 - 5.0 - 2.0) \times (0.05)] / (1 + 0.02 + 0.05 + 0.70 \times (0.315 - 0.05 - 0.02)) = 0.9867$ percent of employer costs.

Redistribution through IMSS was also limited by the ceiling on taxable earnings for pension purposes, set at 10 minimum salaries. Finally, a benefits formula that sets the base salary at the average of the last 4.8 years of earnings redistributes toward those with steeper age-earnings profiles, which are not the poor.

Savings-Insurance

1.24 The provision of a savings-insurance vehicle for the middle classes was a failure. The promised replacement rate (40–80 percent plus health benefits) was generous compared with the apparent contribution rate (6.5 percent), in the sense that the implicit promised rate of return was large in real terms.[19] However, the IMSS defaulted on this promise because of repeated policy decisions to avoid implementing indexation rules to protect the real value of pension promises. Inflation was also never below 50 percent per annum in 1982–88.[20] Indexation of the minimum pension occurred *after* the high inflation of the 1980s wiped out the value of most pensions.

1.25 The base salary is the average of nominal covered earnings during the last 250 weeks (4.8 years) before the pension is issued and, therefore, the pension's real value when it is first issued is a negative function of the inflation rate. Inflation indexation for paying pensions occurs at a fixed regular interval (in February), so a permanent increase in the inflation rate reduces the average real value over an annual cycle. The high proportion of pensioners on the minimum pension proves how much the real value of pensions was devalued during the inflationary period 1982–88. Inflation and willful omission of indexation clauses, therefore, destroyed the reputation of the IMSS/IVCM plan as a savings-insurance vehicle for the middle classes. Although this default on pension promises could also have allowed the government to reduce its deficit and stabilize the economy and recover growth, it did not happen in 1982–87. Administrative costs at IMSS were huge, owing to the excessive compensation and staffing agreed to with the labor unions.

1.26 A retirement saving scheme, SAR, was introduced in 1993. But the SAR program was poorly managed, as neither CONSAR, the regulatory agency, nor private banks that collected contributions successfully addressed operational problems, and members began to accumulate multiple accounts when they switched employers. In addition, the SAR's failure to mandate longevity insurance— as benefits could be taken as a lump sum— making the program was ineffective in protecting improvident members in old age.

1.27 Old-age pensions were offered as in either defined-benefit or defined-contribution form, with different risk structures respectively. The IMSS/IVCM was a defined benefit plan, while the SAR's benefit was defined contribution, unless the member chose to buy

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[19] However, as the marginal real interest rate in the financial market was also very large in most years during 1982–95, the presence of planned redistribution toward the earlier generations of members is not evident.

[20] The Mexican CPI inflation rate stayed above 50 percent per annum from 1982 to 1988, peaking at 159.2 percent in 1987. In 1989–94 it fell steeply to 7.0 percent, but in 1995 it rose again to 52.0 percent. Inflation was 27.7 percent in 1996 and 15.7 percent in 1997.

an annuity in a private insurance company—a defined benefit. INFONAVIT benefits were defined contributions if paid in a lump sum. Even IMSS/IVCM annuities were, in effect, defined contribution benefits with respect to inflation risk, which was not covered.

Financial Condition of the IMSS/IVCM Plan

Expenditures on IMSS/IVCM were very low in the early 1990s, about 0.40 percent of GDP. This figure includes expenditures on disability and survivor pensions, social assistance, and health insurance for pensioners because they are all part of IVCM. On the other hand, IVCM revenue was 8.5 percent of taxable earnings, including a contribution for disability and life insurance,[21] and this was about 0.60 percent of GDP.[22] Thus ICVM had a cash surplus of about 0.20 percent of GDP in 1994, which was projected to fall gradually and disappear by 2007.

1.28 Government projections showed that IVCM was not sustainable as cash flows turned substantially negative in the long run. To interpret such figures, it is essential to distinguish three situations: (i) balanced pay-as-you-go finance under steady-state demographics, which is financially stable because cash flows are zero every period. In this (theoretical) case, accrued liabilities are equal to the (positive) difference between the present discounted value of future contributions and the present discounted value of future benefits; (ii) an initially balanced pay-as-you-go finance that suffers an aging shock, for example, an increase in the portion of the population above age 60 (for example, in Mexico, from 6.4 percent in 1990 to 10.4 percent in 2020) will exhibit negative cash flows until the parameters are adjusted; and (iii) under many plans the actuarial deficits go over and above the levels that can be explained by an aging shock, because of a combination of an immature system with generous vesting for initial generations, and a preference of politicians to delay parameter adjustments. Mexico's actuarial deficits combined the second and third situations.

1.29 Mexico did not have independent institutions in charge of publishing actuarial projections for IMSS/IVCM on a regular basis. The figures cited below are from a private actuarial office hired by IMSS in mid-1995, and from a model developed by the Ministry of Finance. The parameters of both models were not reported in World Bank documents and the annual cash flow projections were not published until 1998. The government reported in 1995 that the IVCM/IMSS plan had an actuarial deficit of 73.4 percent of GDP for those generations that had joined the IVCM/IMSS as of the valuation date.

1.30 The breakdown of this figure by generations is informative. First, the liability to the generation already pensioned was just 7.62 percent of GDP, in line with the modest benefit expenditure of 0.40 percent of GDP for 1994 inherited from the 1982–88 inflation. Second, the present value of expected future contributions from currently active

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[21] The 8.5 percent excludes the 2 percent for SAR. The figure consists of 3.0 percent for old age + 1.5 percent for old-age health + 3.0 percent for disability and death + 0.4 percent for social assistance + 0.6 percent for administrative expenses = 8.5 percent.

[22] This is obtained by multiplying a taxable wage bill of 7 percent of GDP by 8.5 percent, which is the combined IVCM contribution rate.

members was 14.12 percent of GDP, in line with low coverage, low declared earnings, and low contribution rates. Third, the present value of expected future benefits to currently active members was 79.95 percent of GDP, way above the other numbers and driving the total. This large value is a result of the following: (i) an assumption that inflation would fall in Mexico, thus allowing the generosity of the benefits formula to emerge (a pension age of 60, a 100 percent replacement rate for those on low earnings, and a vesting period of 9.6 years); (ii) the fact that benefits include health insurance for pensioners, and its cost grows in real terms; (iii) economic growth, so new pensions would be based on the average of 4.8 years of much higher real earnings; and (iv) aging members. The IVCM/IMSS plan would thus become insolvent without new legislation.

1.31 Annual cash flow projections were not available during the reform debate. According to projections later done by Sales, Solís, and Villagómez (1998), IMSS/IVCM *expenditures* for the old system were 1.55 percent of GDP for 1997, 5.43 percent of GDP for 2022–26, and 14.01 percent of GDP for 2047, at 3 percent annual GDP growth. These amounts are very sensitive to growth assumptions because the last projection dropped to 6.29 percent of GDP when using five percent annual growth.

1.32 The financial situations of other mandatory pension plans in Mexico are worse, relative to the number of members. The actuarial deficit at ISSSTE was about 15 percent of GDP, and state employee plans and parastatals were believed to add another 35 percent of GDP in actuarial deficits (Ayala, 1997). The IMSS employee plan had an actuarial deficit of 5.2 percent of GDP as of 2001. If potential government liabilities in private sector occupational plans are ignored, total hidden pension debts in Mexico before the reforms can be estimated at 130 percent of GDP.

Government Policy on Pension Reform

1.33 Mexico implemented a pension system reform on July 1, 1997 established by two laws, dated December 1995 and April 1996.[23] Institutionally, the reform split up the IVCM combination of programs, leaving IMSS with health insurance for pensioners, disability and survivorship insurance, and social assistance. The contribution for disability and survivorship insurance was cut from 3.0 percent to 2.5 percent of earnings, because benefit promises were cut;[24] the 0.4 percent contribution for social assistance was replaced by a transfer from the treasury; and the 0.6 percent contribution for IMSS's administrative expenses was redirected to the elderly (see table 1.1). Old-age pensions and old-age severance were taken from IMSS and merged with the SAR retirement pension into a new old-age pension system. The new system is fully funded (Sociedades de Invesión Especializadas en Fondos para el Retiro), and contrary to SAR, the funds are, in fact, managed by private firms called Administradoras de Fondos para el Retiro

[23] The original reform date of January 1, 1997, was delayed to assure effective implementation.
[24] The eligibility requirement for disability insurance was raised dramatically, from 150 to 250 weekly contributions (from 2.9 to 4.8 years of contribution). This change excluded those disabled young workers with longer periods of work outside the covered private sector (40 percent of employment) from receiving benefits.

(AFORE). These firms may be established by unions, private enterprises (including those that are foreign owned), and IMSS. INFONAVIT continued distributing housing subsidies, as before, except for some limited reforms to its management.

Table 1.1: Program Contribution Rates

Program name before reform	***Before reform on July 1, 1997***	***After reform on July 1, 1997***	***Program name after reform***
SAR: Retirement account at the central bank.	2.0 %	2.0 %	AFORE: Retirement sub-account[a]
n/a	---	US$ 4.4 (in 1997) per contribution	Social quota --new transfer from Treasury[a]
Old age and severance[b]	3.0 %[c]	4.5 %[c]	Old age and severance sub-accounts[a]
Social assistance[b]	0.4 %[c]	Added to old age and severance sub-accounts	Financed with a new transfer from the treasury
Administrative expenses[b]	0.6 %[c]	Added to old age and severance sub-accounts	Eliminated
Disability and survivors insurance[b]	3.0 %[c]	2.5 %[c] 0.5 points moved to old age and severance	Disability and survivors insurance[b]
Health insurance for pensioners[b]	1.5 %[c]	1.5 %[c]	Health insurance for pensioners[b]
Health and maternity insurance[b]	12.5 %	US$11.1/contribution (by employer) + 8 % of (E-3MS) (25 % worker and 75 % employer)	Health and maternity insurance[b] + new transfer from Treasury of US$ 11.1/mo. per worker
Child care service[b]	1.0 %	1.0 %	Child care service[b]
Work accident insurance[b]	2.5 %	2.5 %	Work accident insurance[b]
INFONAVIT Housing subaccount	5.0 %	5.0 %	INFONAVIT Housing sub-account[a]

Note: The contribution base and the ceilings on taxable earnings differ among SAR, IMSS, and INFONAVIT.
a. AFORE.
b. IMSS.
c. Figures include a 5 percent government share of the contribution rate. Workers have a 25 percent share and employers have a 70 percent share, and the sum of their rates is 95 percent of the reported rate. The contribution rates to the AFORE system reported here are before fees are subtracted.

1.34 This reform covered only members of IMSS, that is, private-sector workers in covered firms, excluding ISSSTE members, workers at parastatals and state governments, and the uncovered private sector. Across generations, those pensioned at IMSS before 1997 retained their pension rights, although the obligation to pay them was shifted from the IMSS to the Treasury, while IMSS retained the benefits payment function. Those joining covered employment for the first time after 1996 were prohibited from belonging to the IMSS regime for old-age pensions. Benefit rights accrued by all generations of active IMSS members as of 1996 were recognized (discussed below).

1.35 The1997 reform took collection away from the private banks and returned it to IMSS, which continued collecting other for programs as well. A newly centralized "information collection and database management" function was created. A private monopoly was chosen to operate it through international bidding, with tariffs set by CONSAR.[25] The reform introduced a new social security number, called the *Clave Unica de Registro Poblacional* (CURP) and its 18 characters include data on the member's age, sex, and birthplace.

Redistribution toward the Poor Aged in the Long Run

1.36 The reform replaced the progressive benefit formula at IMSS with a flat universal subsidy from the Treasury for each contribution or "social quota." These were paid into a member's saving account for old age, even those with high earnings. The amount of this benefit was set at 5.5 percent of the minimum salary (US$ 4.4 per monthly contribution, as of 1996, and about US$ 7.0 per contribution, as of early 2004). Over the years this amount will decline relative to wages because for this purpose the minimum salary was indexed to price levels (discussed below). Members who spent longer periods in informal jobs received the social quota less frequently than those with more periods of contribution.

1.37 Members with an incomplete contribution records no longer suffered from a 100 percent tax on past contributions if the number of contributions was below 500 weeks. These members were allowed to withdraw their accumulated funds, including interest, as a single lump sum at age 60.

1.38 The reform raised the eligibility requirement for the minimum pension guarantee from 500 to 1,250 weeks of contributions and redefined a "week" from a calendar week to seven full working days. This meant an increase from 9.6 to 33.7 years of contributions (not 25 years, as was widely reported). Moreover, indexation of the minimum pension guarantee was changed from wages to prices (a reduction in effect). The old minimum pension was 100 percent of the current minimum salary, but the new one was 100 percent of the minimum salary as of December 31, 1996, and it was adjusted for inflation using the Consumer Price Index (CPI). Minimum pensions were also withdrawn if a pensioned member found covered employment again with a different employer.[26]

1.39 The amount of subsidy implicit in any minimum pension is the difference between the minimum amount and the self-financed pension. The 1997 reform changed the applicable self-financed pension for the generations that entered the labor market after 1997, thus modifying their subsidy. Originally, the self-financed pension was the IMSS benefit alone, *excluding* INFONAVIT benefits. The reform redefined the applicable self-financed pension in two opposite ways: (i) increasing old-age benefits by financing with

[25] The winner in the bidding contest was PROCESAR. Its main function is to collect individualized information on worker contributions from employers, validate it, and pass it on to AFOREs to update the individual accounts.

[26] Compare Article 173 of the new Social Insurance Law with Articles 174 and 123 of the old law.

the social quota and INFONAVIT contributions, and also (ii) decreasing old-age benefits because they were likely to be below the generous pre-1997 IMSS benefit level for most members.

1.40 The government created a new program that extended a flat health subsidy, equal to 13.9 percent of a minimum salary, to self-employed poor workers (and their families), who also contributed a flat rate of 22.5 percent of a minimum wage on their own.

Savings-Insurance in the Long Run

1.41 The total contribution rates for IVCM were *not* increased, despite their low initial level. However, the following contributions were diverted to old-age savings: 0.5 percent originally designated for disability and survivorship insurance, 0.4 percent originally designated for social assistance, and 0.6 points originally designated for IMSS administrative expenses. Including the SAR, total contributions for old-age savings reached 6.5 percent of earnings, which is still modest by international standards, especially because AFORE commissions are subtracted at an average rate of about 1.6 percent of earnings,[27] leaving just 4.9 percent to accumulate. The five percent paid to INFONAVIT is frequently described as part of the old-age pension system, but this characterization is inaccurate because it is a housing subsidy program, so it is uncertain whether it will live up to its promised zero percent real return. The social quota is sometimes reported as part of the contribution rate, but this is confusing because the quota will fall over time relative to average earnings.

1.42 To estimate the replacement rate for the average male earner, consider a simple simulation. Assume that a total flow of 11.9 percent of the 1996 earnings of an average earner obtains the following rates of return: a five percent real rate of return on net contributions and on the social quota contribution (the rates of return earned by Mexican pension funds are higher); and a one percent real rate of return on the INFONAVIT contribution. Also assume that the internal rate of return paid by joint annuities in the dispersal phase is four percent real, that the growth rate of an individual's salary is three percent real (including a premium for experience) until age 40 (and zero thereafter), that the rate of contributions is 50 percent (in line with coverage of 40 percent), and that the duration of retirement 25 years. The result is a final-salary replacement rate of 27.5 percent for the average earner who begins to receive a pension in 2037. This is low, but if the rate of contributions rises to just 75 percent, the replacement rate increases to 41.2 percent, which is acceptable. Bank staff focused on the possibility of raising INFONAVIT returns to equal those of the pension funds, a case where the replacement rate rises to 36.9 percent even if the contribution rate stays at 50 percent. Lower rates of return of four percent for the active phase, and three percent for annuities, compensated for with an increase in INFONAVIT returns to four percent real and a 75 percent contribution rate, leaving the replacement rate at 35.6 percent. Note also that health insurance benefits in old age should be added for members that contribute 1.5 percent to

[27] Approximate average for June 1998. As of January 2004, the commission rate as a percentage of salary at BANAMEX, the largest AFORE by members, was the same 1.70 percent observed in June 1998.

IMSS during 20.2 calendar years. Unlike the old system, these replacement rates are financed on a sound basis.

1.43 The standard pension ages—60 for those who have been dismissed and 65 for those who quit—were not modified, but three significant changes were adopted. First, the required number of contributions for those starting a *pension* (either an annuity or a scheduled withdrawal) was raised from 500 to 1,250 weeks, with weeks redefined as seven working days (9.6 to 33.7 calendar years). Second, a new benefit was created for members aged 60 (dismissed) or 65 (quit) that did not meet this contribution requirement, which was most—the payment in a single *lump sum* of 100 percent of the amount accumulated in the individual's account.[28] Third, an early benefit was created—members were allowed to take a pension as soon as the total account balance was enough to finance an immediate pension equal to 130 percent of the new minimum pension (as of December 1996 indexed to prices) plus proportional survivorship benefits free of age or contribution requirements.[29] The early benefit had to be taken as an annuity of at least 130 percent of the minimum pension, but the surplus could be a lump sum.

1.44 The mandate to contribute was weakened by the low eligibility requirements in the early pension: effectively, members were allowed to stop contributing[30] as soon as the AFORE account balance was enough to finance 130 percent of the minimum pension. At age 35, this could mean an account balance of US$ 26,000 for a member who is single.[31] Because this amount is indexed to prices, it will fall relative to average earnings. Moreover, because voluntary contributions are also allowed, a member who only has, for example, US$ 20,000 in his AFORE account and declares earnings equal to six times the minimum salary, can circumvent the mandate and save for old age at his own pace by doing the following: borrow US$6,000 from a bank; deposit this in the AFORE account; ask for an early pension; stop contributing for old age, health, and to INFONAVIT; use the cut in contributions for US$1,400 per year[32] to pay off the bank loan in four years; and be free of all contributions and AFORE fees thereafter.

[28] See Articles 154 and 162 of the Social Insurance Law. This includes the balance at the INFONAVIT sub-account.

[29] See Article 158 of the Social Insurance Law.

[30] More precisely, if the pensioned member continues in a covered job, the employer must deduct the contributions and the member has to claim these back from the AFORE periodically. The returned contributions are subject to income taxes. The tax impact is the same as being exempt from mandatory contributions.

[31] The monthly pension to be financed is US$ 80 x 1.3 = US$ 104 at the December 1996 exchange rate. A real interest rate of 4 percent per annum was assumed. If the member is married and/or has children, then additional savings are required to finance survivor pensions.

[32] This amount is estimated on the basis of taxable earnings of US$ 480 per month in terms of the 1996 parameters. The contributions avoided by both worker and employer are a 95 percent share of the 4.5 percent for old age and severance, 100 percent of the 2 percent for retirement, 100 percent of the 5 percent for INFONAVIT, the full contribution for health insurance of 8 percent (in 1997) in excess over three minimum salaries, the full flat employer contribution of 13.9 percent of a minimum salary (US$ 11.1/contrib. in 1997 $), the full 3.5 percent of contributions to IMSS for child care and work accident insurance, and 95 percent of the 4.0 percent for IMSS, pensioner health insurance, and disability and life

1.45 This type of arbitrage is not prevalent in Mexico. One explanation is that a large part of the US$1,400 savings cut employers' contributions, so the member would have to bargain for a higher salary in order to recapture that part. Another is that once pensioned, the member stops receiving the flat social quota (US$4.4 per month in 1996). A third explanation is that high earners get a tax incentive for mandatory savings. A fourth is that some members value the insurance lost and dislike a pension amount that would be just 15 percent of earnings (although voluntary savings could make up for that). Health insurance is granted to pensioners only if they have 750 weeks (20.2 years) of contributions,[33] but as health services are delivered mainly at IMSS hospitals, quality may be too low to be acceptable to a worker at this income level. Another likely explanation is the absence of information.

1.46 The annuitization mandate was also reduced, by increasing the size of the lump-sum benefit available at old age, while reducing the pension benefit. The old lump-sum benefit was 100 percent of the amount accumulated by the SAR's two percent contribution rate. The new lump-sum benefit is the surplus accumulated with the 6.5 percent contribution rate to AFOREs (minus fees), plus the account balance at INFONAVIT, plus the accumulation from the Social quota, minus the amount needed to finance a pension equal to 130 percent of the 1996 minimum pension, plus proportional survivorship benefits (both annuities are indexed to prices, so they fall over time relative to average earnings). In addition, 100 percent of the amount preserved to purchase a "pension" can be invested in a scheduled withdrawal, which is different from an annuity and does not provide individual longevity insurance.

1.47 Another innovation in the Mexican reform was partial liquidity for mandatory savings at an AFORE, called "Help for the Unemployed" (*Ayuda de desempleo*). Members were entitled to withdraw a lump sum equal to the lesser amount of either 10 percent of the sub-account balance or 65 days of average daily salary (three monthly salaries). The eligibility requirements are: (i) no contributions for 46 days (two calendar months) since being dismissed from a covered job; and (ii) no withdrawals during the last five calendar years.[34] In 2002, the aggregate flow amount withdrawn owing to this benefit, plus the marriage benefit, was about 1 percent of the contributions to AFORE, net of commissions.

1.48 Each AFORE was allowed, in principle, to offer several different portfolios to each member. However, a regulation required a single portfolio initially and it was still in

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insurance. The savings are 0.95 x (4.5 + 4.0) + 2 percent + 5 percent + 3.5 percent + 11.1 + 8 percent x (6-3) / 6 per month = (11.1 + 480 x 0.227125) x 12 = US$ 1,410/year.

[33] According to Articles 154 and 162 of the Social Insurance Law.

[34] See Article 191-II of the Social Insurance Law. However, Article 198 of the Social Insurance Law creates a penalty at the margin for withdrawing funds because the number of contributed weeks is reduced in proportion to the amount of funds withdrawn, making it less likely to become entitled to the minimum-pension guarantee. Apparently a subsequent reform (possibly in 2002) raised one of the benefit options from 65 to 75 days of earnings, but a further eligibility requirement was added—250 weeks (6.7 calendar years) of contributions.

force as of early 2004.[35] Portfolio variety among different AFOREs is small, partly owing to very tight regulations on portfolio composition. International investment is prohibited, investment in domestic shares is prohibited, and at least 50 percent of the portfolio is required to be invested in CPI-indexed bonds, which up until 2004 was issued mostly by the government. In the long term, the new system will follow a defined contribution rule for the accumulation phase. The benefits taken as pensions can be real annuities issued by private life insurance companies (defined benefit) or scheduled withdrawals (defined contribution).

1.49 The incentives for members to choose the AFORE with the lowest commissions are dampened by the fact that no AFORE fee is deducted from take-home wages. Instead, the fee is deducted from benefits, which are far off in the future and thus seem unimportant to many members. This incentive is dampened also by the complexity of the system just described and the variety of fee schedules. However, the reform did allow CONSAR to decide how to allocate new members who had clearly not chosen an AFORE—about 200,000 per month.[36] Since 2000, CONSAR has exercised this option in a way akin to a bidding contest,[37] favoring the two AFOREs with the lowest commissions. This created a new way for firms to enter the industry, with the first entries into the Latin America AFORE business in 2003—Azteca and Actinver. Their presence—although still modest—created incentives to cut commission rates, and six AFORE did so as of February 2004. The cut in commission revenue, however, is still modest in the aggregate.

1.50 The reform significantly reduced the potential fiscal costs of health insurance for pensioners. It introduced a contribution requirement for entitlement at 750 weeks (20.2 calendar years) without reducing the amount of the contribution for pensioners' health insurance.

1.51 The active worker's contribution for health insurance was cut by about five percentage points. The original contribution rate was 12.5 percent of covered wages, of which 95 percent was paid by workers and employers. The new system included the following: (i) a flat employer contribution, set at 13.9 percent of a minimum salary (US$ 11.1 per month); (ii) a contribution of eight percent of the portion of each covered wage that exceeded 3 minimum salaries (in 1997, of this eight percent rate, two percentage points were paid by the worker and the rest was paid by the employer);[38] and (iii) a new budget contribution, from general revenue, equal to a flat 13.9 percent of a minimum

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[35] In 2002, a second portfolio was allowed but only for voluntary tax-favored savings. Only three AFOREs offer it and the take-up rate is low.

[36] Power granted to CONSAR by Article 17-transitory of the Social Insurance Law.

[37] However, undecided workers are relatively young (low numbers of contributions) and have lower individual account balances as compared with other contributors. The fees they pay are modest. Azteca had losses in 2003.

[38] See Article 106 of the Social Insurance Law. According to Article 19-transitory, these tax rates will be modified gradually over a 10-year period until the following steady-state scheme is reached: a flat employer contribution set at 20.4 percent of a minimum salary, plus the flat contribution from general revenue equal to 13.9 percent of a minimum salary, plus 1.5 percent of the portion of each covered wage that exceeds 3 minimum salaries. Of this 1.5 percent, 25 percent is paid by the worker.

salary (US$ 11.1 per month). This reform maintained IMSS's revenue constant but cut contribution rates.[39]

Recognition of Entitlements Accrued by Members in Mid-Career

1.52 Entitlement recognition was done by guaranteeing that each transition member (those who had joined the plan before January 1, 1997) would be free to choose between the benefit packages offered by the new and the old systems, known as the "lifetime switch option." The reason the government offered this option was because the Constitution had established that the right to property greater than the promised benefit becomes fully vested when one becomes a plan member, not when the pension is issued, as under other plans. This point was later challenged.

1.53 It is important to make clear the differences between the new and old systems. The new system's package includes: (a) a lump sum plus a pension, or a lump sum alone, financed with the balance at the AFORE; (b) the SAR lump sum; and (c) the INFONAVIT benefit. Entitlement is given to the *new* minimum pension guarantee, depending on *new* eligibility requirements, which are very tight but encompasses benefits (a) + (b) + (c).

1.54 The old system's package includes: (i) the IMSS annuity the member would have been entitled to in the absence of reform, including the *old* minimum pension guarantee with *old* eligibility requirements; (ii) the SAR lump sum; and (iii) the INFONAVIT benefit.[40]

1.55 When a transition member chooses the old benefit formula, his entire accumulation is paid in one lump sum to the Treasury, which issues the IMSS annuity in exchange. In present-value terms, the government is worse off but it receives a cash infusion. In the other case, where the transition member chooses the AFORE package, the government is better off in present-value terms but its cash position does not improve. For example, it is highly likely that the annuity equivalent of the sum of benefits offered through the old system will be higher for someone claiming benefits in 2007, provided inflation remains low, as in 2000–03. However, many transition members may prefer the new benefit package because there is more in a lump sum, even if its present value at market interest rates is lower.

1.56 For transition members that choose the old system's benefit package, the government will continue to bear approximately 70 percent of the investment risk of the individual account balance managed by the AFORE, with a strike price given by the

[39] It is known that average earnings were 2.8 times the minimum salary. As an example, assume that only 40 percent of contributors have earnings that exceed 3 minimum salaries, and that the average of such earnings, up to the ceiling, is 5.03 minimum salaries. Then the new system for health collects the same as a tax rate of [13.9 percent + 13.9 percent + 8 percent · (5.03-3) · 0,40] / 2.8 = 12.25 percent, which is the 95 percent portion of the original tax rate paid by workers and employers. The other 5 percent of the tax rate was paid by the government.

[40] See Articles 3-transitory and 13-transitory of the Social Insurance Law.

IMSS annuity. This figure is not 100 percent because the 2.0 percent contribution for the SAR sub-account is not replaced by the IMSS annuity but, rather, is paid to the transition member that claims benefits. The government will also share 70 percent of the commissions charged by the AFORE, for the same reason. This is separate from the investment risk guarantee of the INFONAVIT sub-account, at zero percent real return. The government will also bear the aggregate longevity risk, proportional to the volume of IMSS annuities chosen by the transition members. The government does not bear investment risk for transition members that choose the new system's benefit package (except for the new minimum pension, which is negligible).

1.57 The presence of this 70 percent investment guarantee on the returns of the new pension funds means that sophisticated transition members choosing the old benefit package have an incentive to prefer the most risky investment strategies available. However, many transition members who do not plan to complete 33.7 calendar years of contributions—because doing so would prevent them from choosing all benefits as lump sums under the new system—do not suffer distortions in their preferences regarding investment risk.

1.58 The incentive to choose the AFORE with the lowest commission is muted for transition members who are entitled to the 70 percent investment guarantee on net returns.

Human Resource Management: Needs and Portability

1.59 The 1997 reform gave CONSAR new power to supervise and regulate employer plans. CONSAR established a voluntary registration system, with the incentive that members of registered plans would be allowed to transfer their account balance at the AFORE to their private plans, provided the latter pay a sufficient pension. Apart from this, the reform created two tax-favored vehicles for voluntary individual savings for old age:[41] (i) the option to contribute more than 6.5 percent of earnings to the old-age account; and (ii) contributions to a separate voluntary account at an AFORE—but not at banks, insurance companies, or mutual funds—which could be withdrawn at least once every six months.

Fiscal Policy Response

1.60 Several sources have estimated total government expenditure related to the IMSS/AFORE pension programs from 1997 including: Cerda and Grandolini 1997; Ayala 1997; and Sales, Solís, and Villagómez 1998. This accounting concept is very useful for budget programming, but it is not directly related to the evaluation of a pension reform. Several expenditure programs existed before the reform and this approach does not identify the differences made by the reform. The "total cost" for 1997–98 has been variously estimated at one percent of GDP (Cerda and Grandolini 1997), at 0.931 percent of GDP (Ayala 1997), and at 0.48 percent of GDP (Sales, Solís, and Villagómez 1998).

[41] See Articles 191-I and 192 of the Social Insurance Law.

1.61 The Mexican reform diverted contribution flows away from IMSS and from the SAR account at the Central Bank to the new pension funds, net of AFORE commissions, at about 4.9 percent of covered earnings, or 0.343 percent of GDP in 1997. This is the "transition deficit" created by the shift to funding of the second pillar.[42] If this side of the budget equation is estimated, it is not necessary to project the other side, and it does not matter if the cash flow under the initial plan was different from zero. Payments to those already pensioned as of the reform date and the benefits to be paid to the transition generation would have occurred anyway, with or without the shift to funding, given the lifetime switch option. Similarly, the five percent government share in contributions would continue, with or without the shift to funding.[43] The Social quota is a new program that poured about 0.143 percent of GDP into the new pension funds. This additional "transition deficit" was created by shifting the first pillar to funding.

1.62 The AFORE commission, a new program, diverted 1.6 percentage points of earnings (0.112 percent of GDP) away from the general government, and was *not* accumulated in pension funds. Health insurance reform received five percentage points in payroll taxes with additional government transfers at about 0.35 –0.50 percent of GDP,[44] and these did *not* go into pension funds either. The overall impact of the reform to the Social Insurance Law in the short term was, therefore, a worsening of the government's cash flow by about 0.948–1.098 percent of GDP. However, only half [(0.343 + 0.143) / total] of it was created by a shift to funding the existing pay-as-you-go financed programs.

1.63 The largest impact of the 1997 reform was on long-term fiscal sustainability. According to Sales, Solís, and Villagómez (1998), the reform allows projected IMSS/AFORE pension-related expenditure for 2022–26 to drop from 5.43 percent to 2.53 percent of GDP. The expenditure projection for 2047 drops from 14.01 percent to 2.02 percent of GDP (at three percent GDP growth). Overall, the reform of the second pillar reduced dramatically the pension debt hidden in IMSS promises. In this connection, it is useful to distinguish between first-pillar pension programs, second-pillar rules for the transition generations, and second-pillar pension programs for the long term. Expenditures on first-pillar programs increased because the Social Quota was created. In addition, the composition of first-pillar benefits changed dramatically owing to cuts to the minimum pension guarantee. Benefits paid to the transition generations after the first 20 years were also cut, by allowing each member to take most benefits as a lump sum, in exchange for giving up the right to the old system's benefit package.

1.64 Expenditures on the second pillar were subject to both increases and cuts over the long run. For example, the increase in benefits for old members with less than 9.6 years

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[42] This amount evolves over time with covered wage-bill growth, which depends on assumptions and on incentives for coverage and declared earnings.
[43] The subsequent transfer of the SAR balances (stocks, not flows) accumulated in 1993–96 to the new pension funds does not change the degree of funding.
[44] The first of these estimates is obtained as the product of the cut of 5 percent in payroll tax rate times a covered wage bill of 7 percent of GDP. The second estimate may include the cost of the new health subsidy to self-employed poor workers.

of contribution, and the commitment to pay part of the AFORE commissions during the transition, raised expenditures. The biggest cut in pension promises to generations joining IMSS after July 1, 1997 was the replacement of the generous benefit formula under the old law for self-financed defined-contribution benefits. These were modest because the contribution rate is low (6.5 percent), AFORE commissions are high (1.6 percent), and INFONAVIT returns are likely to be low. The minimum pension is unlikely to stem the drop in benefits because the required contribution period for entitlement was increased from 9.6 to 33.7 years, which is basically impossible to meet in the Mexican labor market.[45]

1.65 The timing of the 1997 reform was fiscally convenient because coverage of contributions was just 40 percent in 1997, so few people are entitled to transition-generation treatment. The fact that paying pensions are so cheap—just 0.40 percent of GDP, owing to the decision not to index pensions to the CPI or to wages until 1989 and because of demographics—means that the transition deficit is low. In addition, because of the timing, the minimum pension could be price-indexed to an historically low value, although this fiscal gain could be reversed by future legislation. However, the fact that most contributors were young (65 percent of members are younger than 32 years) *does not* cut the implicit debt, because it is likely that those members will be able to report large average earnings for the last 4.8 years of contributions when they claim their IMSS annuity.

1.66 The impact of the reform on national savings has three main components. The largest one is the elimination of an actuarial imbalance big enough to threaten fiscal stability (projections of pension expenditures are 14.01 percent of GDP by 2047, at 3 percent GDP growth). This long-term fiscal stabilization is likely to increase domestic savings by preventing large budget deficits, and thus allow faster and more sustainable economic growth. The second component is the improvement in labor market incentives and in the new incentives for capital market development associated with the presence of the new pension funds. The third component is the shift toward funding and it is the only one that operates immediately, at about 0.486 percent of GDP per year.

1.67 The impact on national savings of the shift to funding is entirely determined by the method used by the government to finance the transition deficit, regardless of the size of the new pension funds being accumulated.[46] According to our interviews, there is some disagreement about whether the shift to funding was financed mostly with new public debt during the first two years or with an immediate increase in primary fiscal saving (a cut in non-pension programs and/or a tax increase). This controversy can be resolved by realizing that the high growth rates experienced during 1997–2000 (consecutively, 6.8 percent, 4.8 percent, 3.8 percent, and 6.9 percent) allowed for the financing of part of the transition deficit with new debt, without increasing the debt/GDP ratio. There is complete

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[45] This increase does not affect transition generations, as explicitly stated in Article 11-transitory of the Social Insurance Law.

[46] If the transition deficit is financed with new public debt only, then the impact of a shift to funding on national savings is zero. See World Bank, 1994, Chapter 8.

agreement that since 2000, the transition deficit has been incorporated into the baseline for budget projections, and was thereafter financed with primary fiscal savings.

1.68 In the optimistic extreme at zero debt financing, the impact on national savings of the shift to funding was to increase fiscal savings by about 0.486 percent of GDP. Assuming that partial Ricardian equivalence reverses 30 percent of these increases in fiscal savings with cuts in private savings, the increase in national savings achieved since 2000 would be 0.34 percent of GDP. The cumulative impact on national wealth of this component alone (using standard assumptions about growth and real interest rates) may be up to 30 times the annual impact, that is, 10 percent of GDP.[47] Our interviews suggest that the reform has been accepted by most members of Mexican society and, therefore, this component of the increase in savings is likely to last for several decades.

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[47] An alternative estimate provided by Sales, Solís, and Villagómez 1998, table 4.10, is a cumulative impact of 98 percent of GDP. This estimate is seriously flawed because: (i) it adds the balances of the INFONAVIT sub-account as new savings, despite the fact they were not modified by the reform; (ii) it adds the 2 percent contribution to the retirement sub-account (SAR), which was not modified by the reform either; (iii) it does not subtract the AFORE commission, which takes away at least 1.6 percentage points of the 6.5 percent contribution rate; (iv) the flat social quota is counted as a flow into individual accounts but is not counted as a fiscal expenditure; and (v) the offset due to partial Ricardian equivalence is not taken into account.

2. Bank Assistance to Mexico

Genesis of Bank Involvement

2.1 In 1990, the Bank produced its first detailed analysis of pension policy in Mexico. Some of the recommendations for this report were adopted in the SAR reform approved in 1992 and implemented in 1993. The SAR is the only reform that has increased the total contribution rate for old-age benefits (by two percentage points). This was also the first reform that introduced defined contributions and funding to Mexican social security, and started reform of INFONAVIT. Subsequent assessments that the SAR reform was a failure (collections were poor and private fund management was delayed) should be qualified. The Bank did not participate in the SAR reform with either technical assistance or structural adjustment loans. During those years the Bank's lending to Mexico shifted to poverty reduction, human resource development, the environment, and infrastructure.

2.2 During the first half of 1994, the Bank provided technical assistance in the area of pension reform that touched on capital market development. This culminated in the preparation of a pension policy options paper for the incoming Zedillo administration, and an assistance component to the regulator, CONSAR, included within a new Financial Sector Technical Assistance Loan (FTAL), which was presented to the Bank's Executive Board on December 22, 1994. This was one of the first instances of Bank involvement in Mexico.

2.3 The two main loans evaluated here originated in other ways during the financial crisis that started on December 22, 1994. After 10 months of mounting pressure against the ceiling of Mexico's exchange rate band, the just-installed Zedillo government was forced to abandon the ceiling and allow the exchange rate to float freely. Investors reacted with panic; because international investors reacted by choosing to reduce their exposure to other emerging markets as well, contagion spread, causing negative international externalities. On January 12, 1995, the executive branch of the U.S. government announced that it would seek up to US$ 40 billion of liquidity support for Mexico. This required the approval of the U.S. Congress, and when it was not forthcoming, the U.S. authorities assembled an even larger alternate package.[48]

2.4 On March 9, 1995, the Mexican government completed its response—with Bank support—and announced an overall macroeconomic program for the short run. In May 1995, the Mexican government identified several structural weaknesses that contributed to the crisis, independent of short-term macroeconomic mistakes. For each weakness, the government announced a policy response. One of these structural weaknesses was a fall in domestic savings of about 7.5 percentage points of GDP, from its average level during

[48] For the new package, the U.S. government would provide up to US$ 20 billion; the IMF would provide US$ 7.8 billion under a Stand-by Loan, and up to an additional US$ 10 billion, to the extent required, to top-up a fund from non–G-10 governments; the BIS would provide US$ 10 billion through swap lines; Canada would provide Can$ 2 billion; and commercial banks would provide, US$ 3 billion.

1980–84 to 1992–94.[49] This fall had required a large current account deficit in order to finance investment and growth. In response, the government's announced measures to raise domestic savings: (i) a further shift to consumption-based taxes (as opposed to income-based taxes), making the increase in VAT rates permanent; and (ii) effective pension reform, defined as moving more toward a fully funded, defined-contribution, privately directed scheme. A second structural weakness was labor-market rigidity, and the response was to reduce the "wedge" created by high payroll taxes by reforming social security (health).[50]

2.5 The Bank supported this overall program and granted its first loan in support of a nationwide pension reform. The loan for US$ 400 million was a single tranche, an approach whereby most policy actions usually have to be taken before loan approval, but this loan was part of a medium-term strategy that offered a second loan. Subsequently the Bank granted another loan for US$ 400 million to support the second phase of the pension reform. The Bank also granted a US$ 0.975 million to the Policy and Human Resources Development Fund on July 26, 1996, to support preparation of the second large loan. The second loan was negotiated during Mexico's first fully democratic congressional elections in summer 1997, which also coincided with the first collections for the new AFORE system. The newly empowered political opposition publicly registered concerns about the new system.

Description of Bank Assistance

2.6 During this period, Bank lending to Mexico for pension reform relied on the following instruments: part of a FTAL, two large structural adjustment loans (SALs), and one large analytical study of policies to increase domestic savings. The amount of economic and sector work in Mexico was modest—out of the five chapters of the analytical study on savings (previously cited as Ayala 1997), only one was devoted to pension reform.

2.7 Since the inception of the FTAL, most of Mexico's resources were oriented toward banking regulation, and after the December 1994 devaluation of the Mexican *peso*, the new priorities of the government emphasized that orientation even further with a supplementary measure, which was approved in June 1995. The FTAL resources earmarked for supporting the pension reform were for used to assist the regulator, CONSAR, and amounted to US$ 6 million.

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[49] The Bank produced a complete report on this: World Bank 1997. See Vol. 1, p. 3, paragraph 8. It reported that at least 5.5 percentage points of the decline in savings can be attributed to the private sector. There was a consumption binge, apparently financed by runaway expansion of consumer credit, supplied by commercial banks privatized in 1988–90, and by foreign capital inflows. The savings figures do not take into account the implicit guarantees for commercial banks' liabilities, unwittingly issued by the government during 1992–94, or the cost of the exchange rate guarantees involved in the replacement of *peso*-denominated for U.S. dollar-denominated short-term debt during 1994.

[50] There was a third measure: "further development of the capital markets by introducing inflation-indexed saving instruments."

2.8 The Bank realized that progress in the resolution of commercial bank insolvencies—and banking reform more generally—was a precondition for long-term success in pension reform. AFOREs would be established by local financial groups that also owned insolvent banks now. Investments by the new pension funds in bank deposits exposed them to bank weaknesses. To address these risks, the Bank invested heavily in technical assistance and SALs for banking reform. The Bank also agreed to the creation of specific limits for pension fund investments in securities issued by banks, and argued in favor of allowing foreign investments in AFOREs, at least from countries in the North American Free Trade Agreement.

2.9 Mexico's request for the first large SAL was made in September 1995. Subsequently, its Congress approved the reform, contained in two laws, which were enacted in December 1995 and April 1996. However, the two large SALs were not approved until November 16, 1996 and in May 13, 1998, respectively, seven and 25 months *after* the second law had been approved. One interpretation is that the conditionality of the two large loans was exercised before the loans were granted. Another interpretation is that the two large loans fulfilled promises issued during the crisis in 1994–95, and that the Bank thus did not influence the design of the reform. Both interpretations were supported by our interviews conducted in Mexico City with relevant officials (see appendix). All of those interviewed acknowledged the role of the Bank in supporting the key draft regulations issued by CONSAR and other agencies in 1996–97.

2.10 Officials at the Mexican Ministry of Finance's *Secretaría de Hacienda y Crédito Público* (SHCP) are well-trained economists, fully able to maintain a dialogue with the Bank. The Mexican officials interviewed appreciated the Bank's assistance. Most said that they thought the Bank's staff, from both the local office and Washington, DC, were specialists in pension policy and were open to the ideas that have guided every Mexican administration in the pension area.

2.11 The FTAL is evaluated in this chapter. Our overall evaluation of the SALs and economic and sector work is discussed later in this report.

Table 2.1: Preliminary Rating of the FTAL

Loan	***Relevance of objectives***	***Efficacy***	***Institution. develop. impact***	***Sustaina-bility***	***Bank perfor-mance***	***Borrower perfor-mance***
Pension part of FTAL: CPL-38380; SCL-3838A; SCPD-3838S; CPL 38381; SCL-3838B US$ 6.0 million	HS	S	S	HL	S	S

Note: The rating code is as follows: HS = highly satisfactory, S = satisfactory, MS = marginally satisfactory, MU = marginally unsatisfactory, U = unsatisfactory, H= high, HU = highly unsatisfactory, HL = highly likely, L = likely, UN = unlikely, HUN = highly unlikely, H = high, SU = substantial, M = modest, N = negligible.

2.12 The pension component of the FTAL specified the following revised actions: (i) prepare a new regulatory system for private investment management of SAR account balances and additional contributions diverted by the coming pension reform (this

includes the design of investment limits as well as guidelines for diversification, for the structure and level of commissions, for conflict of interest, and for disclosure); (ii) prepare a new regulatory framework for occupational pension plans (part of the third pillar) that require disclosure, mandate the segregation of pension accounts from the general corporate accounts of the sponsor, and mandate external actuarial audits; (iii) train CONSAR staff to implement supervision of SAR accounts, which would be expanded, plus develop supervision manuals and specialized software, and introduce new office technology; (iv) implement a public information campaign to support the reform, disseminated throughout the country and aimed at encouraging participation; and (v) support specialized training abroad for CONSAR staff and the use of external consultants for the training. The relevance of these objectives is rated as highly satisfactory, because the cost of failing to properly implement the pension reform that was already under way would have been huge.

2.13 The efficacy of the assistance is rated as satisfactory. On the upside, CONSAR was been turned around, from the agency that failed to implement the 1993 reform into one that is recognized as one of the more effective regulatory agencies of private pension systems in Latin America. CONSAR was an active player that absorbed US$ 5.5 million (and perhaps as much as US$ 6.0 million), far above the revised allocation of funds to CONSAR in May 1995, which had been just US$ 2.4 million. However, objective (ii) above of preparing a new regulatory framework was not successful despite the fact that CONSAR issued several circulars on it. Only 13 plans (with 14,000 members) registered. The largest plans stayed out because the Social Insurance Law did not authorize CONSAR to mandate registration, and low incentives were provided. The institutional development impact at CONSAR is rated as satisfactory for the same reasons. Sustainability is rated as highly likely because CONSAR is very well established.

2.14 Bank performance is rated as satisfactory. First, it exhibited flexibility in designing a loan capable of assuring a continuing dialogue with the government of Mexico on pension reform. Second, the Bank adjusted the loan as priorities changed. The Bank, however, did not follow up on the important problems that arose with the occupational plans. Borrower performance on the side of CONSAR is also rated as satisfactory because it participated actively in preparing the loan and, subsequently, it was an active player that absorbed US$ 5.5 million (92 percent of allocated funds).

3. Impact of Bank Assistance

3.1 This section evaluates Bank assistance as a whole. The three areas evaluated are outcome, institutional development impact, and sustainability.

3.2 Outcome is the combined result of the assessment of the (i) relevance of objectives, and (ii) efficacy in achieving the objectives.

Outcome: Relevance of Objectives

3.3 Relevance indicates the extent to which the overall assistance had objectives that furthered both Mexico's development needs in the short term, and the general aims of income security for old age, in a balanced way.

Mexican Development Needs

3.4 For Mexico to survive the 1995 recession and to resume economic growth, the main efforts had to focus on macroeconomic policy—both fiscal and exchange rate—and on the resolution of the perceived insolvency of the major commercial banks. Without recovery of international liquidity, Mexico could have spiraled back into a situation of high inflation as in the 1980s. In turn, internationally mobile capital (both domestic and foreign) would be assured only by sound fiscal policy underpinned by structural reform. Pension reform could help by sending a powerful positive signal to internationally mobile capital.

3.5 In the medium term, Mexico needed to address the structural weaknesses that contributed to the 1994–95 crisis with a view to supporting sustainable growth thereafter. One such weakness was the fall in domestic savings observed in 1992–94 of about six percentage points of GDP, which reduced local financing for investment and reduced the sustainability of growth. In this setting, development demanded a pension reform design that would contribute to increased domestic savings. A second possible contribution was related to the labor market distortions caused by the existing pension plan, which supported a perception of high net payroll taxes. A better design could help bring more firms and employment into the formal sector, where they could grow faster. Finally, pension reform might contribute to increasing the efficiency of capital markets, making a third contribution to growth.

3.6 All countries need a pension policy that furthers the general aim of income security for old age, namely savings-insurance and redistribution toward the elderly poor, in a balanced and efficient way. Efficiency requires maximizing the impact on growth and combining employer's human resource management needs with the gains from portability.

3.7 Mexico's pension system had defaulted on its pension commitments during the 1980s, failing to fulfill its savings-insurance function. The default was the result of several factors, one being the high inflation brought about by fiscal instability. Another factor underlying the default was widespread suspicion about the lack of equity of the old

pension system, which undermined its legitimacy and encouraged evasion. In fact, the old pension system had also failed to fulfill its redistribution function (first pillar); 80 percent of the poor elderly in urban areas and almost 100 percent in rural areas did not obtain pension income in their old age. If a pension reform could create a support network for Mexico's elderly poor, it might strengthen political stability. Mexico also needed to increase the long-term sustainability of its old-age plan, the current parameters of which created a bulging hidden debt that threatened fiscal stability.

3.8 The critical need, however, was to survive the 1995 recession, and this required sending a positive signal to internationally mobile capital. Pension reform could help by making a powerful contribution to improving long-term fiscal sustainability. A reform that could prevent the projected pension expenditures of IMSS/IVCM—expected to explode from 0.40 percent in 1997 to 14.01 percent in 2047, at 3 percent GDP growth—would provide a welcome signal to internationally mobile capital.

Bank Strategy

3.9 The Bank had little participation in the SAR reform of 1992–93. It also contributed little to the overall design of the laws approved in December 1995, as demonstrated by the high sophistication of several reform measures adopted in Mexico and the limited understanding of their significance as suggested by the Bank's reports. Among many examples, no Bank document reports that the defined contribution aspect of the Mexican social quota goes against the multi-pillar approach fostered by the Bank's 1994 report, *Averting the Old Age Crisis,* because it passes investment risk along to the elderly poor. Although the Bank could have used its considerable expertise to reassess the pension policy decisions adopted in the 1995 law, it chose to accept the design. In part, this strategy was justified by the increasingly politicized pre-electoral climate that took hold of Mexico leading up to its first fully democratic congressional elections in the summer of 1997.

3.10 The Bank's apparent strategy was to encourage a reform that would raise domestic savings by adopting a fully funded, defined-contribution, and privately managed pension scheme. This objective was stated explicitly in several country assistance strategies and loan documents. However, it was impossible to improve domestic savings by about six percent of GDP (the drop observed up until 1994) by tinkering with a pension plan whose covered wage bill was seven percent of GDP and whose new contribution rate for old age was 6.5 percent before fees. Chapter 1 estimated the immediate impact of the 1995 reform on domestic savings, in the favorable case where none of the transition costs were financed with new debt, and the result was only 0.34 percent of GDP. This is considered a success, given the small size of the IMSS/IVCM program. In our view, the Bank's apparent strategy was not the real one. This does not subtract from the value of preventing IMSS/IVCM expenditures from ballooning to a projected 14.01 percent of GDP by 2047 (at three percent GDP growth), which prevented a future fall in domestic savings and, most important, which in 1995–96 sent a valuable signal to investors.

3.11 As explained in Chapter 1, some components of the reform involved a shift toward funding and created a transition deficit. The Bank did not require the government

to draw provisions and plans to manage the transition deficit in a conservative and cautious way, for example, by increasing the primary fiscal surplus, or if new debt was used, to ensure that enough new tax revenue was created to cover the interest expense of the new debt. The absence of such a condition may seem contradictory with the importance given to an increase in savings, as it was well known that the impact on savings depended on the type of financing of the transition deficit. Sales, Solís, and Villagómez (1998, p. 164) reported that "the government has not announced (yet) the way in which (the transition) will be financed."

3.12 However, the Bank's inaction may have been justified because one viable strategy to incorporate these effects into the baseline fiscal situation and to adopt tax financing de facto was to deemphasize the short-term fiscal significance of the reform in the midst of the pre-electoral climate in summer 1997, while focusing on bringing the overall budget deficit under control. Our interviews and the country assistance strategy show that the Mexican fiscal policy debate did indeed take this direction after 1997. However, if the Bank realized that this was the strategy, then the condition on SAL I of "publishing annually the actuarial income and expenses of the IVCM program to make transition costs explicit," must be rated as unsatisfactory. Fortunately, this condition did not cause real harm because the government ignored it and did not commit to specific tax increases or benefit cuts (which would have been used to attack the pension reform), while retaining IMF surveillance of the overall public debt policy.

3.13 The Bank's real strategy, as shown by several country assistance strategies was to concentrate on helping Mexico in the resolution of commercial bank insolvencies, and on banking reform more generally. The consumer boom of 1992–94 had been financed with runaway bank credit issued by newly privatized banks, subject to little solvency regulation, so this focus was indeed justified. Beginning in 1995, the Bank directed many more resources to the commercial-bank rescue operations than to pension reform (about US$1.1 billion in World Bank Group resources). In the pension area, the Bank focused on the financial market implications of the pension reform, because they were connected with the enormous resources committed to banking. This strategy was consistent because banking reform is a precondition for long-term success in pension reform. The Bank had a flexible attitude, and obviously allowed the government to take into account domestic political, institutional, and cultural preferences. Mexico's government clearly owned the pension reform.

3.14 Cash flow deficits may be high during the latter years of the transition, for example, in 2010–30, owing to the expense of the lifetime switch option granted to the transition generations. In this sense, the old plan continues to threaten fiscal sustainability. The Bank was fully aware that the Mexican recognition scheme created "major fiscal risks." However, the Bank failed to identify the true sources of these risks when proposing the first SAL in 1996, the second SAL in 1998. These focus on the fiscal cost of the minimum pension guarantee in the new system's benefit package, which was thought to be triggered far more frequently by transition members choosing the new system's package when the INFONAVIT sub-account got a low rate of return. However, the emphasis on the interaction of the new system's minimum pension with INFONAVIT returns was a mistake.

3.15 There are three types of *transition* members. Type (A) represents those not covered by either the old or the new minimum-pension guarantee. For them, a low balance of the INFONAVIT sub-account reduces benefits equally in both systems and, therefore, does not affect their choice between the two benefit packages.[51] Type (B) represents those covered by the *old* minimum pension guarantee, but not by the *new* one, which may be the most numerous because of the much higher contribution requirements under the new one (33.7 years versus 9.6 years) and a much lower level because it is indexed to prices, not wages. For these members, a reduction in INFONAVIT benefits applies to both the new and the old benefit packages and does not affect their choice between the two packages. Type (C) represents those covered by both minimum-pension guarantees, old and new.

3.16 For type (C) members, the new system's minimum-pension guarantee has the advantage of encompassing INFONAVIT's benefit. Therefore, smaller returns at INFONAVIT induce more members to choose the new system's package, but this has two effects on fiscal cost: (i) expenditures on the new minimum pension rise; and (ii) expenditures on the old system's package fall. However, as the old system's package includes smaller lump sums and greater annuitization, its present value may be higher for the government despite being less attractive for the member. In this case, the net impact would be a fiscal savings. Thus, for type (C) transition members, the fiscal cost of a low return in INFONAVIT is *uncertain*.

3.17 The Bank ignored type (B) members, who are likely to be the most numerous. For type (C) members, the Bank ignored aspect (ii) and focused exclusively on aspect (i). In conclusion, the documents overestimate the fiscal costs of low returns at INFONAVIT because they focus on the minimum-pension guarantees. Arguing the converse, even if INFONAVIT returns rise to a real five percent in 2004 and after, fiscal sustainability during the transition will be far from assured.

3.18 Given that the Bank believed that cash flow during the transition period depended on INFONAVIT's rate of return, it is understandable that conditions on reforming INFONAVIT, and not on the transition's fiscal cost, were introduced in SAL II. Although the Bank suspected that the INFONAVIT conditions would not achieve much, it was good that the Bank did not withdraw SAL II, because that would have implied a rejection of the reform for an invalid reason. The Bank also failed, however, to require alternative conditions to ensure a limited transition deficit. Apart from benefit cuts, the Bank could have required that contribution rates increase in a gradual fashion for transition members that did not renounce part of their benefit rights[52] or even for all members[53] if it wished to

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[51] The balance of the INFONAVIT sub-account does not reduce the fiscal cost of the *old* minimum-pension guarantee. The balance of the INFONAVIT sub-account does reduce the fiscal cost of the *new* minimum-pension guarantee, but this affects only the generations entering the labor market after 1997. See Chapter 1.

[52] The constitutional protection of the right of transition generations to the old benefit formula does not prevent the government from raising the contribution rate.

[53] Members that began coverage after January 1, 1997, would have accumulated higher balances in the AFORE.

avoid offering a choice in the politicized pre-electoral climate. This suggests that the Bank chose to trust the government's judgment.

3.19 The Bank believed government statements that benefits under the old IVCM/IMSS plan could not be cut. In 2002, however, another administration believed that benefits could be reduced within the parameters of the Constitution, and it assumed this was the case in its planning a reform of ISSSTE. In one of our interviews, an official stated that the legal advice given in 1995–96 was not adequate.

3.20 On another point of confusion, it was asserted that if transition members chose the IMSS annuity, the fiscal deficit would rise. This reasoning is incomplete, because in such an event, the government would collect the full account balance that transition members had built at the new pension funds, thus *improving* its cash flow in the short term. A more serious problem may be the perverse incentive for a populist government in the future to encourage the selection of the IMSS annuity, in order to attract more immediate cash, regardless of the increase in the effective public debt. Some of the individuals interviewed argued that these problems were already manifest in 2002 with disabled members, who were also allowed to choose between the IMSS annuity (paying the accumulation to the government) and a pension paid by either an AFORE or a private life insurance company (where the government does not obtain a cash infusion).

3.21 In early 1998, when considering SAL II, the Bank was satisfied with an update of the fiscal costs of the transition made by the government (Secretaría de Hacienda y Crédito Público). The government's projection shows a cash deficit that *falls* gradually to 0.30 percent of GDP by about 2036, but then doubles in just 10 years with no explanation offered for the doubling. However, an alternative estimate by Salas, Solís, and Villagómez (also published in 1998) shows total expenditures *rise* gradually to about 3.0 percent of GDP in 2036 and then begin to fall.[54] Despite these contradictory projections, the Bank did not demand an independent projection of transition costs. However, the cost of this was limited, because the complexity of the transition guarantee would have prevented the Bank from using standard actuarial modeling for the Mexican reform. A behavioral model is needed to predict the choices of transition members (at different levels of declared earnings) between the benefit packages of the old and new systems. These packages differ in the shares paid as lump sums and in the degree of annuitization, so personal discount rates and risk preferences play a major role in the choice.[55] Individual data on member choice was not available in 1996–97, suggesting that one more projection would not have been any more reliable.

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[54] See Sales, Solís, and Villagómez (1998, pp. 168–71, figures 4A.1–4A.6). Note that one of these authors, Fernando Solís, was formerly the president of CONSAR.

[55] Given the recognition formula, 70 percent of the AFORE fees charged to transition members are paid for by the government. Some observers question why the government pays a fee of (70 percent x 1.6 percent =) 1.12 percent of the covered earnings of transition members for the service of managing pension funds that are invested mostly in government debt.

Quality of Economic and Sector Work

3.22 Economic and sector work was of low quality on substantive long-term issues such as replacement rates and coverage. However, it was difficult to do such studies in 1996 or 1997 because the required databases did not exist. In addition, good quality economic and sector work would have taken years, as it did in Brazil in 1998–2000. Given the politicization on the eve of the 1997 Congressional elections, it was natural to focus on implementation and not on economic and sector work for the long term.

3.23 The Bank did not devote economic and sector work to assess the effect of the reform on the poor and on income distribution in the long term. This is unfortunate because the 1997 reform included a number of measures with opposing impacts on the poor in the long term. Measures that did help the poor included the creation of pension benefits for members that failed to complete 9.6 years of contributions, the creation of the social quota program (although an excessive share of that expenditure goes to individuals with a high number of contributions, that is, not to the poor), the elimination of the base salary equal to the average of the last 4.8 years of earnings (which does not work in favor of those with flatter age-earnings profiles), and the creation of a subsidy for health insurance for those who are self-employed and who agree to contribute as well. Measures that left the poor worse off were the effective elimination of the minimum pension in the long term (as described in Chapter 1), the elimination of the redistribution replacement rate embedded in the IMSS benefit formula, and the increase in the contribution rate for health insurance demanded of workers earning the minimum salary (increased from 12.5 percent to 13.9 percent).[56] The impact on the poor of transition provisions has not been analyzed by the Bank.

3.24 Despite the fact that improving coverage and reducing evasion were the second and third reasons given by the Mexican government to implement pension reform (the first reason was to increase domestic savings), the effects on coverage (which remains at about 40 percent of employment) and incentives for the poor to participate in covered employment have not been investigated by the Bank. The level of INFONAVIT returns do have a major influence on long-term replacement rates, incentives, and coverage, as shown by the simulations in Chapter 1. In this sense, the Bank's worry about INFONAVIT was on target, but for the long term, not for the transition deficit.

3.25 The description of the Mexican system before reform as described in Bank documents exhibits quality problems. The benefit formula of the old system is not reported. The magnitude of IVCM's pre-reform cash *surplus* (about 0.20 percent of GDP in 1994) was also not reported. This is misleading because it ignores the fact that INFONAVIT returns are likely to be far below market interest rates. It also ignores that low earners have a much lower number of contributions, so they will seldom receive the social quota and are likely to attain the lowest replacement rates. The analysis of the

[56] The change in the effective employer-cost of hiring a minimum salary worker increased less because the employer's share of the contribution increased from 70 percent to 100 percent but increased even more because the government's share (5 percent) disappeared.

impact of the reform on domestic savings reported in Bank documents (and also those estimated by Ayala, 1997) does not compare the no-reform scenario (continuation of the old law) with the reform scenario, but simply reports a "pension policy-related" deficit.

3.26 Contribution rates for old age are low in Mexico, so replacement rates would be modest even if all benefits are taken as annuities. This means that the savings-insurance aim of pension policy may not be adequately served in the long run. The Bank could have required contribution rates for old age to increase gradually.[57] However, the low-rate policy has the advantage of minimizing the distortions introduced by mandates. Even if the policy was to reduce the mandates—offering members that self-finance a pension, equal to 130 percent of a minimum salary in December 1996, to stop contributing—it is likely to be less efficient than reducing gradually the ceiling for taxable earnings. Similarly, the savings-insurance aim may not be well served by the large percentage of benefits that can be taken as lump sums, or by the incentive to avoid the mandate to annuitize by taking an early pension. The Bank has not helped Mexico to identify the appropriate size of these parameters for the long run. These shortcomings confirm that the Bank did not help Mexico design its overall strategy for pension reform.

3.27 Fortunately, the Mexican government needed little help in this area because its officials were extremely sophisticated and well-educated in pension reform matters with the knowledge available in 1995. These officials routinely sought out technical assistance wherever it was available—in U.S. universities, other countries in Latin America and Europe, and the pension experts at the World Bank. Mexican officials designed a reform program that did protect fiscal solvency in the long run, although many of the specific measures could be debated. The government not only absorbed Bank assistance and advice, but it in some areas the Bank absorbed Mexican technological information.[58]

3.28 The Bank also made a number of strategic decisions that proved successful. First, the Bank contributed significantly during 1996–97 to improving the investment rules for pension funds and the regulation of other financial aspects of the AFORE system, as ascertained in interviews.

3.29 Second, the Bank did not make its support conditional upon an immediate extension of the 1997 reform to formal-sector workers in ISSSTE, parastatals, the armed forces, or in 32 public pension plans at the state level. Not stipulating this condition could be criticized because the hidden pension debts in ISSSTE and parastatals, plus the hidden public debt in guaranteed health coverage for pensioners, could be too much for a government whose revenue is heavily dependent on oil prices, and it could increase the risk premium for Mexico. During 1996 and 1997, however, it was reasonable for the Bank not to insist on extending the reform to the above groups because the priority was to ensure effective implementation. Subsequently, the Bank helped Mexico with advice and

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[57] Just as the 1995 law reduced the contribution for health insurance gradually, from 8 percent to 1.5 percent 1997–2007.

[58] According to one interview, the Bank's Pension Reform Simulation Toolkit model for cash-flow projections was based on the projections model built previously by the Mexican Ministry of Finance – SHCP.

loans to assess reforms to ISSSTE and to the pension plan for Mexican government employees (Loan 7043-ME for US$ 500 million).

3.30 Third, the Bank did not make its support conditional upon an immediate relaxation of the two main investment limits on the new pension funds, which prohibit investment in domestic equity and in foreign securities. Both are grossly inefficient because they constrict the risk-return frontier substantially. The prohibition of foreign investment is inconsistent with other Mexican policies, such as an open capital account and a floating exchange rate. Given the limited availability of domestic corporate bonds, these regulations have forced the pension funds into an excessive concentration in government securities, which attracted about 90 percent of the funds initially and about 85 percent in late 2002 (this share varies from 75 percent to 100 percent across AFOREs).[59] The Bank accepted these restrictions because the Mexican banking sector was near insolvency and because the 1994–95 stock market collapse caused a negative political reaction against equity investments. Despite all of this, the Bank's policy position was that legislators and public opinion needed time to be reassured and that these rules would be relaxed sooner rather than later. This expectation turned out well because a new law that relaxed the investment regime somewhat was approved in December 2002. Still, the Bank might have done even better by insisting on a modest positive limit of, for example, 10 percent on the proportion invested in domestic equities and on the proportion invested abroad, gradually introduced between the fifth and tenth years. This would have hastened learning by public opinion, thus helping workers.

3.31 Considering the positive and negative factors just described, the development needs outlined before, and the constraints, the relevance of the objectives of the Bank are rated as modest.

Outcome: Efficacy

3.32 This section analyzes the extent to which the objectives of Bank assistance were achieved, with a focus on implementation and the degree of success. Regarding the first SAL, most of the policy actions that were presumed to have taken place prior to presentation before the Executive Board were indeed implemented. The one exception was the agreed annual publication of the actuarial income and expenses of the IMSS/IVCM plan, to make transition costs explicit. Regarding the policy actions that were to be done prior to putting into effect the first SAL, all were implemented.

3.33 With regard to the second SAL, the policy actions that were to take place prior to presentation to the Executive Board were implemented. Most of these were regulations issued by CONSAR, covering diverse aspects of the AFORE system. For example, at least 60 percent of potential IMSS workers transferred to the AFOREs. At least 20 percent of accumulated assets from the SAR 1993 reform were transferred from the

[59] It must be stressed that these figures do not imply that the shift to funding was financed with public debt; this would depend on the financing strategy for the overall budget deficit. The evidence from interviews and the other data show that by 2000 the transition deficit was being financed with primary fiscal savings.

central bank to the new pension funds. In addition, the Insurance Law was reformed to allow private life insurance companies to offer annuities to disabled members of IMSS. The first actuarial and financial valuation of ISSSTE was finalized, and detailed evaluation of the fiscal cost of alternative reform strategies was started. An agreement between INFONAVIT, the ministry of finance and the Banking and Securities Commission was approved on March 30, 1998, to initiate a major financial restructuring program to restore it to financial health within five years. Regarding the policy actions that were to take place prior to putting the second SAL into effect, they all relate to INFONAVIT; all of these specific actions were completed.

3.34 INFONAVIT's financial performance continued at below expectations during the next few years, so implementation can only be considered partially successful in this area.

3.35 The main success is the elimination of the long-term actuarial deficit of the IMSS/IVCM plan because members joining the plan after January 1, 1997 had no rights under the old benefits formula. In addition, the AFORE subsystem operates efficiently (much better than the 1993 SAR), private-pension-fund managers are supervised effectively, and the initial fiscal transition costs have been consolidated into the baseline fiscal situation, insuring tax financing. The contribution of the reform to increased domestic savings was modest (about 0.34 percent of GDP) but reasonable, given the small relative size of the IMSS/IVCM plan. These objectives of Bank assistance were, therefore, achieved.

3.36 The reform also made advances in reducing labor market distortions for new members who joined after 1997. A tighter benefits-contributions link at the individual level existed, thanks to the defined contributions rule and the new health-insurance contribution structure. Other gains from the 1997 reform included allowing modest mandatory contribution rates to become permanent because there were no enormous benefit guarantees to finance. The creation of an innovative scheme for endowing mandatory savings with partial liquidity (*Ayuda de desempleo*) is an improvement because partial liquidity may help to improve coverage. However, this program has not yet been evaluated in detail. The 1997 reform can be criticized for maintaining mobility barriers for ISSSTE members, despite the fact these barriers can be eased at little fiscal cost by defining appropriate transfer values to and from AFOREs.[60]

3.37 Some features of the Social Insurance Law are likely to distort the labor supply of older workers. First, limiting the right to benefits at age 60 to a single lump sum, to members whose weeks of contributions are below 1,250 creates an inefficient incentive. A few older members may come close to surpassing 1,250 weeks of contributions, but they may value a lump sum above annuities and will prefer not to contribute in order to get a higher share of benefits as a lump sum. Second, the withdrawal of the minimum pension from pensioned members who obtain covered employment, even with a different

[60] The possibility of this reform proves that a reform of the ISSSTE plan is not essential to improving labor market efficiency in Mexico, as many believe.

employer, is an inefficient tax on labor in the context of a defined contribution system. The impact of these distortions has not been measured.

3.38 The social quota has been paid regularly by the government, which is a success by itself. The social quota is paid to all contributors, even those with high earnings, making it similar to a standard universal flat benefit, in proportion to the years of residence. Some interviewees defended the lack of social quota targeting as a function of reported earnings, reasoning that a target based on earned amounts would create an incentive to underreport earnings.[61] The social quota differs from the standard universal flat benefit on five points:

(i) The social quota does not cover individuals working outside of the formal sector.[62] Therefore, the social quota is not targeted at all of the elderly poor. For example, this implies that the VAT-paying population in poor *Chiapas* subsidizes the formal sector workers in the rich *Nuevo León* state.

(ii) The social quota is fiscally cheaper because of the low coverage of contributions.

(iii) The social quota is an incentive to contribute, and thus helps to increase coverage. The flipside is that those with low numbers of contributions, for other reasons, get a smaller subsidy over the working life than those with higher numbers, who are usually those with higher earnings.

(iv) The social quota is paid by the government when the member is active, so the members appropriate the interest earned thereafter. The financing mechanism is, therefore, full funding, not pay-as-you-go as in standard universal benefits.

(v) The social quota raises the replacement rate by an uncertain amount, which depends on the rate of return on investments and on the future number of contributions (defined contribution). This makes the benefit less valued by the elderly poor. The Bank and the government have not studied the social quota empirically.

3.39 Regarding the capital market, total assets in the privately managed pension funds reached US$ 40 billion in early 2004 (5.5 percent of GDP). This accumulation comes from a 6.5 percent contribution rate, the social quota, the transfers from the SAR system (some of them owned by ISSSTE members), and some modest voluntary savings, minus fees. As stated above, regulations require that 100 percent be invested in local fixed income. Average asset maturity rose gradually to almost 800 days (2.2 years). The

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[61] This is not convincing because an alternative design that would avoid that incentive is a subsidy, proportional to the size of the account balance, paid as of age 60, and withdrawn gradually for higher account balances.

[62] It also does not cover women that work at home, as shown by the fact that payments to married individuals do not increase on that account.

AFORE are the most sophisticated participants in Mexican fixed-income markets, so there exists qualitative evidence of a positive effect of the reform on capital market development. However, the contribution has been smaller than expected because the draconian portfolio limits that prevent investment in domestic equity and in foreign securities have remained in force longer than expected. At least 13 life insurance companies are set up to sell CPI-indexed annuities to the disabled and to transition members; they are consistent purchasers of CPI-indexed bonds.

3.40 With regard to occupational plans set up by private firms, a private survey of 238 plans in private firms found that, as of December 2002, they had assets of US$ 10.5 billion (1.6 percent of GDP), and that 87 percent of the plans offered defined benefits, 8 percent offered hybrid benefits, and 6 percent offered defined contributions. The modal pension age of these plans is 65 and 13 percent of the pension funds are managed internally, with the rest managed by banks, stockbrokerages, and insurance companies.[63] Only 13 of these plans, with 14,000 employees and US$ 0.04 billion in assets, chose to register at CONSAR because the incentives to do so are negligible. The Bank failed to improve current third-pillar policy because it focused on CONSAR rather than on the tax law, which holds real incentives for sponsors and is currently too lax regarding disclosures.

3.41 Considering both the successes and drawbacks, efficacy is rated as substantial. Overall outcome is rated as moderately satisfactory.

Institutional Development Impact

3.42 This section assesses the extent to which Bank assistance is helping the country to build its social security capacity, both in government institutions and in private sector firms (the supply side).

3.43 There were many advances in the SAR situation during 1993–96. The new system included a centralized "information collection and database management" service that has worked acceptably well. It is provided by Procesar, as a private monopoly, chosen through a bidding contest, whose commissions are set by CONSAR at the same level as for all AFOREs, thus preventing barriers to entry. The Bank provided assistance in this area. Despite these advances, the multiple-accounts problem reappeared during 1997–2000, although on a much smaller scale than at SAR 1993, apparently because during 1997–2000 employers were allowed to issue CURPs. Since 2000, CURPs seems to be succeeding, because their use in private databases and in other public programs is increasing.

3.44 Privatization of fund management has created new capacity in the Mexican financial sector to provide these sophisticated services. The AFORE fund managers are the leaders in the area of fixed income, as seen by their adoption of the value-at-risk methodology. The reform also increased solvency requirements for life insurance

[63] We thank Isaac Volin, from CONSAR, for this information.

companies that sell annuities. The Insurance Commission created a new division in charge of supervising pension-related products. The solvency requirements on occupational plans that promise defined benefits have also increased, through CONSAR regulations. However, the AFOREs have not developed capacity to invest in domestic equity, nor in foreign securities, owing to draconian portfolio limits. Moreover, the capacity to choose a balanced portfolio and to adapt it over time according to the needs of members with different risk tolerances and risk horizons is not possible in Mexico because of these severe limits.

3.45 As elsewhere, forcing individual members to choose among AFOREs has proven to be too complicated. Members have difficulty comparing commissions and this has induced the AFORE to compete on non-price grounds and to raise their fees to about 1.6 percent of earnings. The "lifetime switch option" implies that fee comparisons are of little interest for the transition generations because the government pays 70 percent of the AFORE fees charged to them. Despite this, Mexico has contributed an important innovation, a rule that allows CONSAR to allocate new members who are undecided about an AFORE—about 200,000 per month—to the two AFOREs with the lowest commissions. This allocation rule has created a new way to enter the industry at low cost. However, this incentive may not be enough to induce medium-sized AFOREs to cut commissions significantly because the cut must be extended to all current members. Current members are more numerous and have a larger numbers of fee payments than the undecided young members. Nonetheless, this technique was copied by Argentina.

3.46 Members have difficulty comparing investment returns across different pension funds because they do not know how to adjust for risk. If investment limits begin to be liberalized and AFOREs offer multiple portfolios, the absence of explicit benchmarks may become an important limitation because each AFORE may find it profitable to engage in product/portfolio proliferation in order to limit comparisons in rates of returns with other fund managers.[64] Moreover, the incentives to choose the AFORE with the best portfolio are muted for transition members, who are entitled to a 70 percent investment guarantee on net returns.

3.47 Corporate governance in Mexico has not been influenced by the 1997 reform directly because the new pension funds are not allowed to invest in domestic equities yet and, therefore, do not vote in shareholders' meetings. However, as the share of corporate bonds in the new pension funds grow, the pressure to improve bondholders' rights may increase.

3.48 The reform only improved Mexico's capacity to formulate pension policies in a temporary fashion. According to interviews, after 2000 the government reduced the priority given to social-insurance policy design, and specialists migrated to other issues.

[64] In other Latin American countries, such a proliferation is prevented by a "relative-rate-of-return band," a regulation that forces each portfolio to choose an asset class. Within that setting, the boards of pension-fund-management companies evaluate the performance of their investment officers by comparing their returns with those of a benchmark, defined as the average of the rival portfolios within the same class.

Still, the wealth of high-quality Mexican experts on pension reform continues to be impressive.

3.49 The IMSS did not receive technical assistance from the Bank either before or after the reform. This may be partially justified because its role in pension policy was eliminated by the 1997 reform. However, IMSS continues to manage the disability and life insurance programs, and assistance programs which could be directed toward the elderly poor. The Bank supported ISSSTE and some state-level pension plans with technical assistance. It cannot be said that the Bank "abandoned" Mexico after the pension reform because local talent is abundant and because the Bank never committed many resources to social-insurance design in Mexico in the first place. The institutional development impact is thus rated as high.

Sustainability

3.50 When discussing sustainability, the issue is whether the reform increased the resilience of the pension system against risk or not. The adoption of the defined-contribution risk allocation rule for second-pillar pensions means that in the long term, the Mexican government will not be directly affected by future demographic shocks (population growth and longevity), or by shocks or trends in labor productivity growth or changes in labor force participation rates. To our knowledge, Mexico has gone further in this direction than any other country because it replaced its minimum pension (through a 33.7-year contribution requirement) with a social quota, which is a defined contribution too.

3.51 However, the transition generations, with their right to the "lifetime switch option," own a defined-benefit guarantee issued by the government. Therefore, the sustainability of this reform depends on future demographic and economic shocks and on future policies regarding the transition generations.[65] Another weak aspect of the 1997 pension reform is that the benefits for the generations that have covered employment since 1997 may drop dramatically, as compared with the benefits earned by the last members of the transition generation, if some negative investment risk (say the end of a bubble) affects the defined-contribution balances of the younger generations. If this happens, experience in other countries suggests that political pressure may force future governments to extend part of the treatment given to transition generations to the next generations, in which case, the fiscal cost of the transition may balloon. The Bank has not assessed this risk with simulations.

3.52 This risk is mitigated by the large-scale devolution of choice to individuals, regarding the benefits-payment age, the mix of lump sums versus pensions, and the degree of annuitization of pensions (scheduled withdrawals versus annuities). Choice allows diversity among members to emerge and is likely to make it more difficult for political entrepreneurs to organize coalitions to demand higher benefits. Still, the risk of

[65] As argued above, the sustainability of the 1997 reform does not depend on INFONAVIT returns in any significant manner, although good returns would be welcomed.

an explosion in spending demands remains, owing to large asymmetries between generations.

3.53 Mexico has not improved its ability to respond to shocks by enacting new legislation regarding the transition generation's benefits. CONSAR is the only institution permanently devoted to pension policy, but it does not have a strong mandate regarding the transition generations, the elderly poor, or occupational plans. This is the reason CONSAR concentrates on the mandatory second-pillar alone (for which it got a new reform enacted in December 2002). There is still much to do regarding the follow-up of the other components of pension policy.

3.54 The fact that the elderly poor are not protected by a defined benefit in the long term (after transition), but only by a social quota which transfers defined-contribution investment risks to members, implies problems for the political sustainability of the first pillar. If poor pensioners are affected by negative shocks, a future government is likely to pick up the bill. In this sense, the apparent end of the defined-benefit guarantee achieved by the virtual elimination of the minimum pension in the long term may be an illusion. The defined contribution nature of Mexico's first pillar goes against the multi-pillar approach advocated in the Bank's 1994 report, *Averting the Old Age Crisis*.

3.55 In the longer term, sustainability of the savings-insurance arrangement for the middle classes is likely to be threatened in two areas. First, many old members who take their benefits as lump sums and scheduled withdrawals are likely to outlive these resources. If "replacement rate poverty" among the old, that is, annuities relative to each one's previous standard of living, becomes widespread in Mexico, solid economic reasons will exist to question the contribution mandate and solid political reasons for those generations to demand government support. Second, a growing number of active members may find it advantageous to escape the contribution mandate by requesting early benefits when their accumulation becomes sufficient to finance a pension equal to 130 percent of the minimum pension (which is falling in relative terms). Any surplus not needed to finance the 130 percent pension can be withdrawn as a lump sum, creating an incentive to claim an early pension. Again, this may imply that in the long term a growing number of old members could suffer "replacement rate poverty."

3.56 Another weak aspect of the 1997 reform is that it has not allowed Mexican workers to access the higher returns and lower risks offered by international risk diversification of their pension funds. Diversification is especially valuable for commodity-exporting countries like Mexico. However, it is still reasonable to hope that as Mexico stabilizes and grows, current restrictions on foreign investment of pension funds will gradually be lifted.

3.57 In summary, despite the shortcomings of the 1997 design, there seems to exist ample time for Mexico to adopt reforms and to recover balance. Sustainability is, therefore, rated as likely.

4. Results

Bank Performance

4.1 Bank performance is the extent to which services provided by the Bank ensured quality-at-entry and supported implementation through appropriate supervision. Regarding quality-at-entry, Bank assistance was consistent with its strategy for Mexico because the announcement of the larger loans helped overcome the 1995 crisis. It was also consistent with government priorities because it accepted the design it chose for reform and concentrated its support on implementation.

4.2 The actual objectives of the assistance were different from the apparent objectives. The ability of the pension reform to raise domestic savings was far below expectations, and the contribution to capital market development was limited by severe portfolio limits that prohibited even modest investments in domestic equity or in foreign securities. The reform did achieve most of its objectives regarding labor market efficiency.

4.3 The long-term aims of pension policy may have been shortchanged by the Bank's unquestioning adoption of the government's pension policy. The situation of the elderly poor may deteriorate in the long term, as the current (old) minimum pension is replaced by the new minimum pension, and as the social quota becomes vulnerable to investment risk. The provision of savings and insurance for the middle classes has been diminished by allowing benefits to be taken as lump sums, by eliminating annuitization requirements, and by providing incentives for members to take lump sums that exempt them from the contribution mandate.

4.4 The basis for the Bank’s conditions was not the best because the authorities’ actuarial projections of the cash flow impact of the reform, especially during the transition, were accepted without question by the Bank. The transition may end up being much more costly than anticipated, putting its sustainability into question because of the reasons discussed in Chapter 3.

4.5 The Mexican government owned its reform fully, but perhaps government ownership was too high. The Mexican government was technically able to absorb Bank assistance and to implement the reform. It is not clear that the reforms were reasonably understood or supported by the Congress though because the December 1995 law was approved in just three months by the legislature, despite its complexity. Moreover, that particular Congress was elected before the Zedillo administration had enacted its reforms to the electoral system. Taking all of this into account, overall quality-at-entry is rated as satisfactory.

4.6 The Bank supported implementation in the financial regulatory area with remarkable effectiveness. The quality of the advice in this area was highly satisfactory, but the broader aspects of the reform were abandoned. Thus, supervision is rated as satisfactory. In summary, Bank performance is rated as satisfactory.

Borrower Performance

4.7 Borrower performance is the extent to which the Borrower assumed ownership and responsibility to ensure quality of preparation and implementation, and complied with covenants and agreements.

4.8 For most loans, Mexico's government took account of economic, financial, technical, and policy considerations in preparing the big SAL loans, so preparation was satisfactory. Implementation, which refers to the extent to which the government supported the implementation of the reform, is rated as highly satisfactory. Government support to the CONSAR team was unwavering, and the political effort made to improve INFONAVIT was substantial, although it has yet to generate market returns. Compliance with loan covenants was satisfactory, because the Borrower met most of the major covenants. The only shortcoming was the failure to publish annually the actuarial income and expenses of the IVCM program so as to make transition costs explicit. This approach, however, may have reduced the political objections to incorporating the transition deficit into the baseline budget and thus may have maximized the positive impact on domestic savings. Overall borrower performance is rated satisfactory.

Other Players and a Counterfactual

4.9 Other lending institutions also supported Mexico's pension reform. There was a US$300 million loan from the Inter-American Development Bank (IADB), in connection with SAL I. The World Bank was the leader for this IADB loan. There were some initial suggestions that IADB might follow up with a second loan if the Bank also made a second loan. In the end, the IADB did not do so, even though the Bank did. The International Labor Organization is active in Mexico but did not compete with the Bank in the pension policy area and did not contribute to the outcome.

4.10 What would have happened if the Bank had not been present? Because the reform legislation was passed in late-1995 to early-1996, before Bank lending, it is clear that the reform would have occurred anyway. However, the quality of the financial regulations issued by CONSAR might have been lower, and the absence of the many expert consultants brought on by the Bank's team would have meant CONSAR would not have developed as strongly.

5. Lessons Learned and an Agenda for Future Action

5.1 This report underscores the importance of making accurate projections for annual cash flow changes caused by the Mexican pension reform, especially for the transition. It is understandable that the Bank did not have an efficacious practical methodology to make independent estimates in the case, as it has now, because this was the first national pension reform endorsed by the Bank with a large loan.

5.2 The Bank should invest more in the development of a cash-flow projection model, because the current Pension Reform Simulation Toolkit (PROST) model is still unable to deal with the complexity of transitions that include measures such as the Mexican lifetime switch option. A behavioral model is needed to predict the choice of transition members at different levels of declared earnings, between the benefits package of the old system and the benefits package of the new system. These packages differ in the share paid as lump sums and in the degree of annuitization, so personal discount rates and risk preferences play a major role in choice. An informed modeling effort to project cash flows is unlikely to have been successful in 1996–97, owing to the lack of individual data on member choice. However, as of 2004 the required data could have been obtained from similar choices made over the previous few years by disabled members. A new modeling effort needs to be done now because Mexico still has time to respond to negative cash flow projections for the transition, for example, with a permanent increase in the contribution rate for old age, levied on the transition generation and on newer generations.[66]

5.3 This may be the right time to adopt legislation to preempt any perverse incentive of a future populist government to encourage the selection of the IMSS annuity during the transition. This may be done by requiring that when a transition member chooses the IMSS annuity, the AFORE must pay the annuity from the individual's account balance until it is exhausted.[67]

[66] The contribution rates to INFONAVIT and FOVISSTE may be cut gradually in compensation, to keep overall payroll tax rates at current levels.

[67] Independent actuaries should also be required to report annually the aggregate increase in the effective public debt that occurs when transition members choose the IMSS annuity.

Appendix: Interviews in Mexico City (November 2002)

Héctor Peña Baca	Scholar, Centro Interamericano de Estudios de Seguridad Social (research institute financed by IMSS)
Luis Cerda	Former reform leader, Ministry of Finance – SHCP
Vicente Corta	Chief Executive Officer, CONSAR
Jozef Draima	Macroeconomic policy expert, World Bank Regional Office, Mexico City
José Antonio González	Leader on pension matters, Ministry of Finance – SHCP
Miguel Angel González	Administrative officer, SHCP
Carlos Noriega	Former reform leader, Ministry of Finance – SHCP
Ricardo Ochoa	Administrative officer, SHCP
Claudia Quintana	Administrative officer, SHCP
José María Rivera	Member of Congress (formerly at SHCP)
Fernando Solís	Former Chief Executive Officer, CONSAR (during the reform)
Alejandro Villagómez	Scholar, Centro de Investigación y Docencia Económicas, Mexico City
Isaac Volin	Vice President of Planning, CONSAR

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