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Public Policies and Private Saving in Mexico

Martin Feldstein*

Abstract: This paper presents a variety of ideas about ways in which the government of Mexico can stimulate a higher rate of saving. These ideas are building blocks rather than an overall plan. Mexico has recently replaced its traditional pay-as-you-go social security system with a system of mandatory individual pension accounts that is likely to increase national saving and capital accumulation. The present paper focuses on other tax, regulatory and government financial policy changes that could increase the reward, the security and the liquidity of savings in ways that would raise the national saving rate. The design of the individual pension accounts (the AFORE program) is discussed in the Appendix to this paper.

Resumen: Este artículo presenta una serie de ideas sobre cómo el gobierno mexicano podría estimular mayores tasas de ahorro. Éstas son ideas separadas y no un plan estructurado en conjunto. México ha reemplazado recientemente su sistema de pensiones de reparto por un sistema obligatorio de cuentas individuales, que al parecer debe aumentar el ahorro nacional y la acumulación de capital. El presente artículo se enfoca sobre otros impuestos y cambios en la política regulatoria y financiera gubernamental que podrían aumentar el premio, la seguridad y la liquidez de los ahorros, de modo que aumente la tasa nacional de ahorro. El diseño del

* Professor of Economics, Harvard University, and President of the National Bureau of Economic Research. I am grateful to Dr. Kathleen Feldstein and Dr. Carlos Sales for their assistance in this project, to the Mexican Bankers Association for sponsoring a 1995 study on which this paper is based, and to officials of the IMF and World Bank, the Mexican government, the Bank of Mexico, and Mexican commercial banks for very helpful discussions. The views expressed here are my own and should not be attributed to anyone else or to any organization.

An earlier version of this paper, "Public Policies to Increase the Private Saving Rate in Mexico", was distributed in 1995 before the introduction of the current Mexican system of mandatory individual pension savings accounts. Although many of the issues discussed in that paper about individual pension savings accounts have now been resolved by legislation, a slightly revised version of that section of the original paper is presented in an appendix to the present paper. Even those issues that now seem settled may be revisited by Mexican policy makers in the future. In addition, the analysis in the appendix is relevant not only to Mexico but to other countries, particularly emerging market countries, that are considering the adoption of such a system of individual accounts.

sistema de cuentas individuales de pensiones (AFORES) es discutido en un apéndice.

Mexico's moderate level of domestic saving limits the country's rate of investment, restrains its rate of economic growth, and makes Mexico more vulnerable than it would otherwise be to international capital shifts of the type that precipitated the December 1994 crisis.¹ Although Mexico can anticipate continued inflows of foreign capital in the years ahead, it needs a higher sustained level of domestic saving if it is to fulfill its potential for raising real incomes and the general standard of living of the Mexican people.

In the long run the level of national output depends not on demand but on Mexico's capacity to produce. Experience around the world reminds us that the countries with high rates of capital accumulation are the ones that grow more rapidly and that a high level of domestic saving is necessary for more rapid growth of the capital stock. Although international capital flows can supplement domestic saving, the segmented character of the global capital market limits the availability of sustained cross-border capital inflows. Only a country with a high saving rate can maintain a high investment rate.²

The precise level of capital inflow that can be sustained in Mexico is uncertain. But experience in other countries indicates that a capital inflow in excess of five percent of GDP for more than a few years is very unusual. The recent crisis in Asia shows that large capital inflows and current account deficits cannot be sustained and are likely to lead to currency crises. If Mexico wants to sustain a higher rate of gross domestic investment, it will have to raise the domestic saving rate. Some of that increase in saving may now occur spontaneously because of the reduced net worth and income expectations of Mexican households and the decreased availability of credit to household borrowers. But additional policy changes are likely to be needed to raise saving by as much as four percent of GDP.

Moreover, a return to the investment rate before the 1994-1995 crisis would still not reflect Mexico's potential. Mexico's current income level and the investment opportunities in Mexico now imply that a substantially higher rate of saving would permit a substantially

¹ My article, "Global Capital Flows: Too Little, Not Too Much", in the June 24, 1995 issue of *The Economist* discusses the relation between Mexico's saving rate and the collapse of the peso.

² For a discussion of the reasons for this segmented global capital market, see M. Feldstein, 1994, pp. 675-697.

higher rate of investment and growth. A higher initial rate of domestic saving would also initiate a virtuous circle in which higher income growth leads to even higher saving and the higher domestic saving rate makes it possible to attract more investment from abroad.

This paper presents a variety of ideas about ways in which the government of Mexico can stimulate a higher rate of saving. These ideas are building blocks rather than an overall plan. Some are mutually exclusive but most are options that could be combined to achieve a higher rate of saving. Many of these ideas have been adopted in other countries. Although the emphasis is on policy options that can be helpful, I will also comment on some current proposals that would be likely to reduce the rate of saving.

This paper does not discuss ways to encourage increased investment in plant and equipment. International experience shows that countries with high saving rates do not have difficulty in absorbing those savings in productive investments. Mexico's own recent experience, especially since 1989, also shows that the problem in Mexico is finding the savings to finance investment rather than stimulating investment to absorb available savings. With a 1994 current account deficit of 7.8 percent of GDP, Mexico's investments were 50 percent higher than it could finance from domestic saving. Although changes in taxation and in other government rules could lead to an improved use of the available savings, that subject lies beyond the scope of this paper.

Individuals save when they have a reason to save, when saving is rewarded, and when the funds that are saved seem both secure and available for unforeseen needs. Government policies affect the reasons for saving in many ways. Providing publicly financed retirement annuities and insurance for health care and for unemployment reduce or eliminate the reason to save for retirement and for the uncertainties of income and expenditure associated with unemployment and ill health. In contrast, providing opportunities to buy quality education at the secondary and university level and to establish new businesses create reasons for higher levels of personal saving.

Mexico has recently replaced its traditional pay-as-you-go social security system with a system of mandatory individual pension accounts that is likely to increase national saving and capital accumulation. The present paper focuses on other tax, regulatory and government financial policy changes that could increase the reward, the security and the liquidity of savings in ways that would raise the

national saving rate. The design of the individual pension accounts (the AFORE program) is discussed in the Appendix to this paper.

Mexico's macroeconomic problems during the past two decades are a reminder of the potential importance for saving of a stable macroeconomic environment. The possibility of very large unanticipated increases in inflation can mean very negative real rates of return for a large portion of the saving public. Even sophisticated investors with substantial funds are hurt when a jump in inflation raises interest rates and depresses the prices of stocks and bonds. The tendency of most individuals to focus on nominal interest rates (rather than real rates) also means that high inflation hides important differences in real interest rates that would otherwise act as an incentive to save. The Mexican government clearly recognizes the importance of achieving and maintaining a stable macroeconomic environment. Consideration of the monetary and fiscal policies that can contribute to such greater macroeconomic stability lies outside the scope of this paper.

1. Tax Reforms to Stimulate Saving

Mexico has a very sophisticated tax system that has continued to be improved. There is now no tax on most investment income at the individual level and the tax rules are designed to eliminate the distorting effects of inflation on the measurement of real investment income.

Nevertheless, the system still does not fully exempt investment income and therefore distorts the intertemporal allocation of income in favor of current consumption. The 32 percent tax on corporate profits reduces the rate of return available to savers. The tax equal to 1.7 percent of fixed income deposits is equivalent to a high rate of tax on real interest when the real interest rates are depressed by inflation. The real interest earned on inflation-adjusted deposits (UDIS) are still taxed at 15 percent. Saving in the form of life insurance gets a low net return because the life insurance companies pay ordinary corporate tax on the portfolio interest that they receive, reducing the return that they can give to insurers. The capital gains tax on unlisted corporate securities and investment real estate distorts the allocation of business investment, reduces the overall return, and may provide an incentive for dividend distributions that reduce total saving. The

favorable treatment of housing (through INFONAVIT and FOVI) also distorts the allocation of the nation's capital stock away from business plant and equipment and toward housing. This section of the paper discusses a variety of options for reducing these distortions and raising the national saving rate.

Much of the structure of the Mexican tax treatment of investment income is motivated by the principle of "tax neutrality". Although tax neutrality is in general a desirable principle (*e.g.*, taxing corporate dividends and corporate retained earnings equally in order not to distort the corporate dividend decision), it may be counterproductive to be neutral in some aspects of the tax law when there are substantial non-neutralities in other parts. Thus if the tax system as a whole reduces saving, this could be balanced by tax rules that tilt the taxation of dividends to favor increased retained earnings and therefore a higher saving rate. Similarly, if political and historic reasons cause government rules to favor investment in housing over investment in business plant and equipment, the tax system would be made more neutral overall if the specific tax treatment appeared to favor business investment in an offsetting way. These ideas will be illustrated in more detail by specific examples.

Although the current paper focuses on policies that could encourage private saving, the structure of the tax system also affects national saving by its impact on total tax revenue. I will discuss the various ways in which the existing structure of marginal tax rates and corporate taxes may reduce taxable income and therefore tax revenue and will indicate some possible alternatives that would raise tax revenue without increasing tax rates.

1.1. The Tax Treatment of Life Insurance

Life insurance is a major component of personal saving in many countries, including the United States. Life insurance provides a discipline on savers. Once the decision is made to purchase life insurance, the individual feels committed to continue making premium payments. The unchanging level of life insurance premiums as individuals age and the increasing difficulty of obtaining insurance in later years (because insurability is based on recent medical history and physical examinations) also causes individuals to want to keep their insurance coverage. Thus, unlike much ordinary saving, saving in the

form of life insurance is likely to be very long-term and the additions to the insurance policies cash value are likely to be reliable.

Life insurance is also a useful way of increasing national saving because life insurance, unlike most other forms of saving, is "sold" to individuals. Insurance company advertising and insurance agents who sell door-to-door create a demand for this type of saving that is very different from the self-motivated decision to save in bank accounts or mutual funds.

Under the current Mexican tax law, individuals buy life insurance with after-tax dollars. When insurance benefits are paid, they are not subject to tax. However, the interest received by the insurance company on its investments is subject to tax at the regular 32 percent corporate tax rate. Since this reduces the implicit return that insurance companies can offer in calculating their premiums, this tax rule discourages the use of life insurance in comparison to other forms of saving and therefore discourages saving overall.

In a neutral tax system, the interest income received by life insurance companies would be taxed as it would be if the interest were paid to individual savers (*e.g.*, a tax of 1.7 percent of assets) rather than at the 32 percent corporate tax rate. Although being neutral in this way would not provide a net incentive to save, it would overcome the relative disadvantage that life insurance now has and permit it to be sold more successfully.

One approach to stimulating life insurance saving, used in the United States, is to exempt from tax most of the investment income of life insurance companies. This so-called "tax-free inside buildup" permits the insurance companies to charge lower premiums and provide a higher real return than would be available on other saving.

An alternative approach, used in several countries, allows individuals to deduct a portion of their life insurance premiums from taxable income and does not tax the benefits of the insurance when they are paid. The premium deduction method of stimulating the demand for life insurance has the advantage of being more visible to the individual and therefore may make insurance more attractive. It is important however to distinguish between premiums for insurance *per se* (the "term" component of the life insurance) and the saving component of the insurance so that the direct premium tax subsidy does not increase insurance rather than saving. Moreover, since individuals with more extensive insurance may save less directly, the effect of the premium subsidy might actually be to decrease national

saving. The reduced tax on the interest income of insurance companies would therefore be a more cost-effective way to encourage saving through life insurance rather than the overall consumption of life insurance services.

1.2. Annuities and Other Non-life Insurance Products

Life insurance is not the only type of insurance product that can increase the national saving rate. Annuities provide insurance against "living too long" rather than dying at an early age. Many life insurance policies pay their benefits in the form of an annuity or combine life insurance during preretirement years with an annuity (or double life annuity) after retirement age.

Tax neutrality implies that all such arrangements would be given at least the same tax treatment that is now given to ordinary saving by individuals. But saving through this route, which has the same advantages of persistence and explicit selling as life insurance, could also be encouraged explicitly.

Long-term care insurance is a form of conditional annuity policy in which payments are made to an individual who requires long-term nursing or institutional care. This too involves a substantial saving component.

Property and casualty insurance also adds to the national saving rate as insurance companies accumulate reserves and equity against future unpaid claims. Some countries, most notably Japan, combine property and casualty insurance with explicit tax-favored saving. Individuals who buy these policies commit to make premium payments for several years and, at the end of that time, receive a cash sum from the insurance company independent of whether or not the insured risk occurred. These policies effectively pass through a pretax return to Japanese households who commit to a multiyear insurance-saving policy. This has been a very effective vehicle in Japan for encouraging the marketing and purchase of a saving product.

1.3. *Cuentas Especiales de Ahorro* (Tax Favored Individual Saving Accounts)

The *Cuentas Especiales de Ahorro* (CEAS) permit tax deductible saving and then tax the funds when they are withdrawn from the account.

The analogous tax-favored saving accounts in the United States (the Individual Retirement Accounts) and in Canada (the Registered Retirement Savings Plans) have been very popular and appear to have increased national saving substantially. In contrast, CEA accounts in Mexico are virtually unknown and little used. One reason for the lack of interest in CEAs may be that government rules restricted the investment options and required that a substantial portion of the assets be invested in government bonds. But even with these restrictions dropped, the CEAs may not in their current form be an effective way of stimulating private saving.

In general, saving in the form of CEAs does not yield a higher net of tax return than ordinary saving unless the individual expects to have a lower marginal tax rate in the future than in the present. More specifically, since dividends and the capital gains on stocks listed on the Bolsa are already tax free, there is no advantage in holding such assets in CEAs. Interest on government bonds is also untaxed, or, more accurately, because government bond interest rates reflect this tax free status, the yield on government bonds is effectively taxed at a single rate with withholding at source. Again there is no advantage in holding such bonds in CEAs since they have the same yield in CEAs as they do if held directly. Interest income from nongovernment liabilities like bank accounts and fixed income funds is the only form of portfolio income that is taxed and the tax rate on such income is less than the tax rate for other income. It is only for such taxable investments that the CEAs provide a higher return than ordinary saving.

The most obvious way that the current tax rules could be modified to encourage more saving in CEAs is to reduce the tax on withdrawals of funds that are kept in CEAs for a substantial period of time or that are used for certain designated purposes like home purchase or education. For example, consider an individual in the 30 percent marginal tax rate who deposits 100 pesos in a CEA and withdraws it after five years. Exempting half of such withdrawals from income tax is equivalent to raising the interest rate in the CEA by approximately 4 percent.³

Although such individual tax favored saving accounts may increase national saving in the long run, during the early years they may

³ If the effective interest rate in the CEA is r under current law, a 100 pesos deposit grows to $100(1+r)^5$ at the end of five years and therefore to an after-tax income for someone with a 30 percent marginal tax rate of $70(1+r)^5$. Excluding half of that income from the income tax raises the net amount to $85(1+r)^5$. This is equivalent to raising the pretax interest rate from r to s where $70(1+s)^5 = 85(1+r)^5$ so that $(1+s) = 1.04(1+r)$.

encourage individuals with existing assets to transfer them into the tax favored accounts. Such individuals would immediately pay less tax but do no additional saving. Since government saving would decline (because of the reduced tax collection) while private saving did not increase, national saving would decline. There are several ways that could reduce this problem and increase the likelihood that the tax favored account will cause a net increase in national saving in the short term as well as in the longer run:

1) Shift from an immediate tax deduction of the deposited amount to an incentive at the time that the funds are withdrawn. For example, instead of allowing a deduction for income deposited in the CEA, the deposit could be non-deductible but receive more favorable treatment on withdrawal. Consider again the example described above. The individual in the example deposited 100 pesos in the CEA and thereby saved 30 pesos in tax. The individual's foregone consumption was therefore a net 70 pesos. At the end, the funds were taxed at 15 percent to yield net consumption of $85(1+r)^5$. The same incentive could be achieved by allowing the individual to deposit *after tax* income and then reward it when it is withdrawn by a tax credit of 21 percent (*i.e.*, by giving a net withdrawal equal to $85/70$ times the deposited amount). If the individual deposits 70 pesos of after-tax income, it grows to $70(1+r)^5$ at the end of five years. If it is withdrawn at that time and the individual receives a tax credit of 21.4 percent of the withdrawn amount, the individual has $85(1+r)^5$ to consume.

Although this does not change the present value of the government's foregone taxes, it does postpone the government deficit. Moreover, if the incentive does induce an increase in total private saving during these five years, some of that saving will be invested in the corporate sector where it generates profits that are subject to the corporate profits tax. The extra corporate tax payments may exceed the individual tax credit that the government provides at the end of the five years. If so, there is an increase in government saving as well as in private saving.⁴

2) Have a high ceiling on the amount that can be deposited to the CEA. This is already true in Mexico with an annual limit of 46 000 pesos

⁴ On the importance of this incremental corporate tax revenue, see M. Feldstein, 1995, pp. 475-494.

per person. The effective limit would be even higher if the CEA deposits are not tax deductible (*i.e.*, are in after-tax pesos) as described in the previous two paragraphs. Without a high annual limit, it is more likely that the individual will receive a tax advantage for saving that would already be done without facing any incentive at the margin for a higher rate of saving. This is unlikely to be a problem with the Mexican limit.

3) Restrict the tax incentive to deposits in excess of some threshold amount. For example, the individual might be required to deposit at least 10 percent of annual income to receive favored treatment and the favored treatment might only be on amounts in excess of that 10 percent. Like the high limit, this type of rule reduces the risk that an individual will be rewarded for saving that would otherwise occur.

The maximum incentive effect from the modified CEAS will be obtained if there is no restriction on the type of portfolio asset that can qualify for CEA treatment, including bank deposits, mutual funds, and separate individual brokerage accounts.

1.4. Other Tax Favored Individual Savings Accounts

The basic idea of encouraging saving through the Cuentas Especiales de Ahorro could be extended in a variety of ways:

1) Giving more favorable tax treatment to voluntary deposits in the new mandatory individual pension accounts (AFORE). This would have the advantage of using an account that already exists. Funds would have to remain until retirement or job loss. The tax advantage could come in the form of a government matching contribution to the AFORE account. Although it would technically be an increase in the budget deficit, it would essentially be self financing.

2) Encouraging employer-based voluntary additional individual saving contributions to the AFORE accounts. In the United States, the 401k plans give employers and employees a tax deduction for funds deposited in retirement accounts. Participation is voluntary for the individual but employers generally match individual contributions up to a limit in order to increase participation. Employers are encouraged to do this not only by the tax deductibility of such matching contributions (treated as deductible wages to the employer but not taxed to the employee) but also by the fact that senior managers can

contribute a similar share of their income (and therefore a much larger dollar amount). Since 401k plans receive this favorable treatment only if a high fraction of lower wage employees participate, senior management has an incentive to educate, encourage and subsidize such participation. The dollar limits on contributions were much higher when the program began than they are today, providing a stronger incentive for managements to establish 401k programs.

3) Permitting medical saving accounts. Health insurance policies in the United States generally reduce the cost to the patient at the time of care to 20 percent of the market price of the service or less, thereby greatly increasing the demand for care. Tax deductions for health insurance premiums stimulate demand for this type of distortionary insurance. Mexico has avoided the problems created by such incentives but may not be able to do so indefinitely as the existing health care system is overhauled. An alternative option that could reduce the pressure for favorable tax treatment of health insurance, yet help individuals with large medical bills and contribute to national saving is the creation of tax favored medical saving accounts. These accounts would be like CEAS but would be used to finance medical expenditures. If pretax pesos are contributed to the medical saving accounts (and deductible from taxable income) and funds that are withdrawn to finance health care are not subject to tax, individuals would have an incentive to accumulate funds against the possibility of a large future medical expenditure. Although this effectively lowers the cost of medical care by the same percentage as the individual's marginal tax rate, the distortion in the demand for care is much less than it would be with insurance policies that reduce the cost of medical care to the patient at the time of care by 80 percent or more. At the cost of some additional administrative complexity, withdrawals from the medical savings accounts could be made tax free only to the extent that they exceeded a certain fraction of income, thereby imposing a deductible in the implicit insurance policy and encouraging individuals to keep funds in the medical saving account until very large expenses are incurred.

4) Giving special tax treatment for the existing profit sharing bonuses if they are saved in AFORE accounts or CEAS. The 10 percent mandatory bonuses that individuals receive are a natural target for a saving incentive since these are irregular and lumpy payments. Individuals cannot count on them to finance ordinary spending in the same way that they spend wages.

1.5. The Differential Taxation of Dividends and Retained Earnings

Current Mexican tax rules aim at neutrality between dividends and retained earnings. Corporate profits are taxed at 32 percent. No further tax is paid by taxpayers with a higher tax rate. Taxpayers with lower tax rates can gross up the dividend that they receive, include the grossed up dividend in taxable income, but receive a credit for the tax paid by the firm. For the majority of shareholders who face marginal tax rates of 37.5 percent, this method is neutral between retained earnings and dividends. For shareholders with lower marginal tax rates, it provides an incentive for companies to pay dividends since retained earnings are taxed at the higher rate until the funds are distributed, *i.e.*, the company provides an interest free loan to the government of the additional tax that will later be given back in the form of a credit to lower marginal tax rate shareholders.

Evidence from other countries suggests that private saving would probably be increased by taxing retained earnings at a lower rate than dividends. That experience shows that differential taxation increases retained earnings; this is likely to be particularly true in Mexico since the capital gains that result from increased retained earnings are not subject to tax for either listed or unlisted companies. Statistical studies of other countries also show that a shift from dividends to retained earnings reduces current consumption.

A differential taxation of dividends and retained earnings can be done in a revenue neutral way by reducing the tax on retained earnings and increasing the tax on dividends. Such revenue neutrality on this type of income is obviously not necessary for overall revenue neutrality. The discussion of the corporate tax in section 1.7 suggests that a revenue neutral reduction of the total burden on the corporation is another way to increase total saving.

The current method of treating the corporate tax payment as a withholding of the individual tax on corporate profits, to be recognized at the individual taxpayer level by a gross up and credit calculation, is not currently extended to the Cuentas Especiales de Ahorro. Doing so would mean crediting the corporate tax to the individual CEAS, providing a substantial additional incentive to save. A similar corporate tax rebate could be given for dividends received in AFORE accounts.

1.6. Capital Gains Taxation

The current method of not taxing capital gains on stocks listed on the Bolsa while taxing capital gains on shares in unlisted companies and in real estate creates an anomalous distortion between the two classes of assets. It is likely to distort investment in favor of exchange listed companies and to encourage unlisted companies to distribute more of their earnings than they otherwise would. To the extent that such distributions rise, total saving is likely to be depressed.

The current method of adjusting the basis of the capital gains tax for unlisted companies (adding retained earnings and adjusting the resulting basis for the increase in the general price level) is only a partial remedy. A general increase in the price to book ratio of all companies would cause a taxable capital gain on the sale of an unlisted company but no tax liability on the sale of a listed company. The avoidance of such taxes may have kept investors locked into the shares of their unlisted companies, reducing market efficiency.

A further difference between listed and unlisted companies is in the treatment of capital losses. An individual who invests in an unlisted company can offset a capital loss only against capital gains for other unlisted companies. If some investors in unlisted companies have net capital gains while others have equally large net capital losses, there will be a net capital gain tax liability even though there is no aggregate capital gain. This biases investments away from unlisted companies and, more generally, reduces the rate of return on saving.

Since the avowed purpose of the capital gains tax on unlisted companies is not to raise revenue and since the capital gains tax currently raises relatively little revenue, there would be a correspondingly small direct revenue loss in the shift to a more neutral capital gains tax rule.

1.7. Pension Funds

Voluntary corporate pension funds are a major source of saving in most countries but are hardly used at all in Mexico. One reason for this is probably the restriction that 30 percent of tax deductible pension funds must be invested in government bonds. Eliminating this restriction, in parallel to eliminating the restriction on the investments in Cuentas de Ahorro, might make pension investing substantially more attractive.

Allowing pension funds to use the gross-up-and-credit method to obtain the corporate tax paid on the dividends they receive would be a further incentive for the expansion of corporate pension plans.

The German method of book reserving pensions might also stimulate the introduction of pensions by companies that have limited capital and a high cost of external funds. In contrast to the current system in Mexico and in the United States, which grant a tax deduction only for employer contributions to a separate pension fund that must be invested almost completely in securities issued by other companies, Germany gives a tax deduction to a company that grants a pension benefit to its employees if it reserves for that obligation on its books. In effect, this permits the company to invest its pension contribution in its own company instead of in other firms and still get the tax advantage.⁵

1.8. The Corporate Tax Rate

The 32 percent corporate tax rate is an anomaly in a tax system that excludes most other types of capital income or taxes that income at lower rates than other income. The corporate profits tax discriminates against equity in favor of debt and against corporate investments in favor of other activities like housing and foreign investment. More generally, it reduces the return on capital and therefore the incentive to save. Reducing the corporate tax rate and substituting a higher rate of value added tax, payroll tax or personal income tax would increase the incentive to save.

The higher tax on corporate profits also shifts capital and economic activity from the formal sector where profits and labor incomes are taxed to the informal sector where no taxes are paid. To the extent that the high rate of corporate tax shifts activity to the informal sector, the government may lose more revenue from the reduced tax base (including lower personal income tax and payroll tax collections as well as reduced profits tax and value added tax revenue) than it gains from

⁵ Although this is effectively an unfunded pension system, it differs in a fundamental way from an unfunded public system. The company's unfunded obligation to pay future pension benefits reduces the market value of the company and therefore the wealth of its shareholders. Statistical studies of US corporations show that the market value of a company is reduced essentially dollar for dollar by such unfunded liabilities. The lower market value of the shares reduces consumption of shareholders and therefore increases saving.

the higher tax rate. A lower corporate tax rate might therefore raise total tax revenue and therefore national saving. Although this would be a very unusual conclusion in many countries, the very large untaxed informal sector in Mexico makes this a significant possibility that deserves careful analysis.

1.9. Income and Payroll Taxes

The high current rates of personal income tax, payroll tax and value added tax may also drive economic activity from the formal sector into the informal sector. The combination of a 35 percent marginal rate of personal income tax (reached at a relatively low level of income) and a substantial payroll tax implies a high combined effective tax rate on wages earned in the formal sector that are not paid on wage income in the informal sector. The 15 percent value added tax reduces the demand for the products of the formal sector relative to the informal sector.

This situation, like the effect of the corporate tax described in section 1.7, implies that reducing the tax rate may actually increase tax revenue by drawing employment and therefore taxable income from the informal sector to the formal sector. The traditional labor supply elasticities are less relevant here than the extent to which workers shift between the taxed and untaxed sectors in response to differences in the tax rate.

There are three possible types of policy actions that could reduce this distortion, thereby increasing tax revenue and national saving:

1) Reducing the *effective* marginal rate of payroll tax by relating *incremental* benefits to *incremental* taxes. The AFORE reforms convert a substantial portion of the previous payroll tax into benefits that are proportional to the amount of AFORE contribution paid. If this is fully communicated to employees, what appears to typical employees in the old system as a tax would now be seen as a way of creating personal wealth. All of this would change if individuals understood the personal wealth character of the retirement AFORE accounts, if those accounts pay a high rate of return, if the death and disability benefits are related to the individual's contribution, and if the Housing AFORE provides a rate of return comparable to the return on the retirement AFORE.

2) Changing the nature of the health insurance financing to reduce the marginal tax rate beyond the reductions enacted at the end of 1998. There is still a major payroll tax devoted to financing health care. Although the individual who pays this tax (either directly or through foregone wages) is entitled to some health services that are not available to those who work only in the informal sector, the tax is proportional to wages above a floor while the benefits are unrelated to the amount of tax that is paid. These health care costs could be financed by a different combination of taxes, employer contributions, and personal charges. A greater reliance on the value added tax would reduce the discrimination against employment in the formal sector. Over time, the financing of health care might be directed to greater individual responsibility (through copayments financed out of pocket or from a medical saving account) or to an employer based premium system that is not proportional to wages.

3) Shifting the mixture of taxes from payroll and income taxes to the value added tax. The payroll and income taxes are collected only from those who work in the formal sector. The value added tax is borne by anyone who buys products that embody the value added tax. A shift to a value added tax would therefore shift some of the burden from individuals employed in the formal sector to those in the informal sector. Greater reliance on the VAT would therefore raise total tax revenue without increasing taxes on those who currently pay income and payroll taxes. Reducing the advantage of working in the informal sector would also shift employment and income from the informal sector to the formal sector, thereby raising the income and payroll taxes.⁶

2. Reform of Financial Regulation

The Mexican financial system provides a wide range of financial products and institutions. Legal reforms in recent years and the introduction of inflation-adjusted UDI accounts have created improved opportunities for saving. Commercial banks provide large nationwide branch networks and actively promote saving by a variety of products including saving accounts with relatively small minimum balances, electronic payroll deposits, debit cards, inflation-adjusted accounts

⁶ The traditional pro-saving case for a value added tax (that a VAT exempts saving) is less relevant in Mexico since the Mexican tax system already exempts most of the income from saving.

and a range of mutual funds. This section describes some further reforms that could stimulate additional saving by increasing the reward for saving and the liquidity of saving deposits.

2.1. Enhancing the Liquidity of Long-term Saving

Most financial deposits and fixed-income assets have very short durations. Although individuals can obviously do long-term saving using these short-term assets, the absence of longer term assets makes it impossible to obtain fixed long-term real returns. Individuals might be willing to save more if they could invest those savings in long-term assets that provide an attractive real return and that are protected from the risks of unpredictable inflation. Today the longest such inflation-adjusted assets are three year UDI deposits that pay real yields of varying size, depending on the size of the deposit. Most time deposits are actually much shorter than this, with one month and three month deposits the most common form of time deposit.

The absence of longer term UDI time deposits and the preference for very short deposits do not appear to reflect an unwillingness of banks to supply longer term assets with relatively attractive real rates of return. Instead, their absence in the market seems to be due to an unwillingness of individuals to commit funds for longer periods of time despite the UDI inflation adjustment and the existence of government guarantees of bank deposits. Individuals apparently value liquidity and are unwilling to place funds beyond reach for long periods of time in order to get a predictable rate of return.

Although banks could in principle offer a product that combines a long-term guaranteed real rate with the option of early withdrawal at a penalty (as banks do in the United States), they are currently prevented from doing so by financial regulations. Government regulations could be modified to permit such products to be issued.

Any rules that currently prevent the creation of tradable long-term UDI bank certificates of deposit (backed by UDI denominated mortgages, long-term corporate UDI loans or government UDI bonds) and corporate UDI denominated bonds could also be eliminated. Doing so would permit individuals to have a guaranteed real fixed rate if they hold the asset to maturity while retaining the liquidity of being able to sell the certificate of deposit or bond if funds are needed before then.

2.2. Reducing Asset Restrictions

The government's decision to remove the requirement that 30 percent of the funds in Cuentas Especiales de Ahorro (CEAS) be invested in government bonds will increase the attractiveness of those accounts.⁷ Other restrictions on the assets in these accounts could also be removed, particularly the restriction precluding investments in equity mutual funds.

Similar restrictions on other types of accounts could also be eliminated, including the rule requiring company pensions to invest in government bonds.

Banks are currently permitted to offer dollar and other foreign exchange accounts only to business customers. Some individuals may feel that deposits denominated in dollars or other foreign currencies would be more secure or would provide a useful hedge as part of an overall portfolio. Banks could be permitted to create such deposits, subject to appropriate capital requirements if those foreign exchange liabilities are not hedged in the futures market.

2.3. Avoiding Excess Credit

Recent experience suggests that banks may have a tendency to take considerable risks by giving large amounts of credit to consumers in the form of credit card balances and mortgages. Risky lending practices do not raise the bank's cost of deposit funds because depositors know that the government guarantees the nominal value of their deposits. Borrowers may even borrow with the belief that they will be able to restructure their debts if macroeconomic conditions or personal circumstances make loan repayment particularly burdensome.

Although the internationally agreed risk based capital standards for banks (the Basel standards) relate each bank's capital requirement to the composition of its assets, the classification does not distinguish between a high risk credit card or other consumer loan and a business loan to a corporation with a strong credit rating. Mortgage loans actually require less capital than high grade corporate loans.

⁷ See section 1.3 for other changes that could enhance the attractiveness of the Cuentas Especiales de Ahorro.

The Mexican government could introduce higher capital requirements on consumer loans and home mortgages than are called for by the Basel agreement. Higher capital standards would cause banks to raise the cost of such loans, restricting their overall use. Capital standards for mortgages might be related directly to each bank's average loan to value ratio, thereby inducing banks to raise the cost of mortgages with high loan to value ratios. That in turn would induce mortgage borrowers to save more before obtaining a mortgage and to pay down mortgage debt more quickly. These changes would not only increase the stability of the banking system but would also reduce the amount of consumer borrowing and would thereby raise net saving.⁸

2.4. Encouraging Small Savers

Although commercial banks are already reaching out to small savers in a variety of ways, the minimum deposits required to open certain types of accounts may deter lower income individuals from beginning a program of saving. Time deposits with reasonably attractive rates of return may require a minimum deposit of 2 000 pesos and mutual fund accounts that pay market rates of return may require balances as high as 300 000 pesos. Banks set these minimum deposit amounts to balance their desire to attract deposits and their cost of servicing small accounts. But if there is a public policy goal to increase saving, it may be worthwhile to require banks to offer these products with smaller minimum deposits. Banks in turn could reduce the cost of servicing these accounts by higher charges for withdrawals and other specific services.

2.5. Encouraging Larger Home Mortgage Downpayments

Mexico could raise the national saving rate by encouraging larger downpayments by mortgage borrowers. An interesting example of how this can be done is the practice in Germany where the accumulation of downpayment balances for home mortgages is an important compo-

⁸ Between 1988 and 1994, the outstanding volume of consumer and mortgage loans rose from 2 percent of GDP to 12 percent of GDP, an increase that reduced net saving per year by about two percent of GDP.

ment of household saving. German savings banks offer individuals the opportunity to write a contract that specifies the amount of a future house purchase and the fraction of that purchase price that the individual will accumulate as a downpayment. Downpayments must be 50 percent or 60 percent of the purchase price. The individual agrees to receive a low rate of interest on the balance in the housing account while the downpayment is being accumulated. After the downpayment is accumulated, the individual can obtain a mortgage for the rest of the amount at a low interest rate. This has the advantage of providing a commitment to accumulate and a reward for reaching the prespecified goal, with a greater net reward the more quickly the goal is reached. It would be desirable to see if any banking regulations in Mexico preclude or hinder experiments with this type of contract.

3. Government Debt Management

Although domestic government debt is now officially only about 20 percent of GDP, the government can manage its debt in ways that contribute to higher personal saving by providing assets that make saving more attractive. The government can also initiate securities that private issuers can copy after the financial markets and household savers become comfortable with them. If increasing national saving is an explicit goal of national policy, the government's debt management should consider that goal and not just seek to minimize the cost of servicing the debt.

3.1. Taxable and Nontaxable Long-term Indexed (UDI) Debt

One example of a new pro-saving instrument would be a range of longer term bonds that are indexed to the general price level, *i.e.*, that are denominated in UDIs. These could in principle include maturities of up to 20 years. The relative volume of longer maturities might increase over time as the market for such securities develops; in the United States about 15 percent of the government debt has a maturity of 10 years or more.

Since such securities do not currently exist in Mexico, the likely shape of the yield curve is uncertain. The market might pay a premium for the certainty of an inflation-indexed long term saving vehicle.

Alternatively, there could be a "normal" upward sloping yield curve so that the government might have to accept a higher total cost of debt service than it could achieve with shorter maturity debt. But even if the yield is 200 basis points higher on a quarter of the government debt, the resulting increase in government outlays would be less than one-tenth of one percent of GDP. This could be more than offset if the availability of these government securities leads to increased saving and therefore to increased corporate tax revenue.

The current method of issuing government bonds that are not subject to tax is effectively equivalent to imposing a withholding tax on government interest payments. Market yields on government paper are lower than they would be if the yield were taxable. Issuing only tax exempt bonds has three disadvantages:

- 1) Lower income savers are charged the same implicit rate of tax as higher income individuals. A taxable bond which carried a higher interest rate might provide almost the same net yield to taxpayers with a 35 percent marginal rate as they receive today but would provide a substantially higher net yield and greater saving incentive to individuals with lower marginal tax rates.

- 2) Tax free bonds are not a desirable investment for tax-free accounts like AFORES, CEAS and corporate pensions. The current method works against the basic purpose of creating tax free accounts: permitting individuals to receive ordinary pretax market yields free of tax. Taxable corporate debt would dominate comparable government securities if the government securities have a tax-free yield. If the only long-term indexed debt is issued by the government its attractiveness for tax favored saving accounts would be diminished by the lower tax-free yield.

- 3) Issuing taxable government bonds would permit foreign buyers of Mexican government debt to receive a higher yield than they do today at no greater cost to the government of Mexico. Although the interest on Mexican government bonds is not taxable to Mexicans, it is taxable to American individuals. If the Mexican government issued a taxable bond with a higher interest rate and withheld tax explicitly, the cost to the government of Mexico would be the same as it is with the current lower yielding tax free bonds but the American investor could claim a tax credit for the tax paid in Mexico and therefore receive a higher net of tax yield. This would increase the foreign demand for Mexican debt and permit a lower overall cost of servicing the Mexican debt.

3.2. Lottery Bonds

The British government has used moderate denomination "lottery bonds" to increase the demand for its public debt among small savers. A lottery bond is like an ordinary bond except that bond serial numbers are drawn randomly each week and those individuals whose bonds match the selected numbers win substantial money prizes. Lottery bonds carry a lower interest rate than similar maturity and denomination ordinary government debt. In addition to lowering the cost of debt service, such bonds may induce additional saving by individuals who are attracted by the potential for a large gain.

3.3. The Postal Saving System (PAHNAL)

Although a postal saving system might seem like a natural way to accumulate savings from low income households, the Mexican postal saving system (PAHNAL) has failed to tap this market. Despite some 240 offices and 45 years of experience, the system now has only 200 000 accounts. That is less than one percent of Mexican households and a remarkably inefficient low ratio of less than 1 000 accounts per office. Any government resource cost used to operate this system could probably be better deployed in raising saving in other ways.⁹

3.4. Special Purpose Government Bonds

Although economists generally view saving decisions in purely self-interest terms, some individuals might be motivated to save if they believed that their saving would directly help to accomplish some public purpose that they favor. Such sentiments motivate a wide range of charitable contributions and were used by the US government to motivate saving and the purchase of government "war bonds" during World War II.

The Mexican government might consider issuing special bonds that finance environmental projects, or the building of schools and hospitals, or infrastructure in particular regions. Although govern-

⁹ The PAHNAL has recently been reformed so there remains a possibility that it will now be more successful than it was before the reforms.

ment funds obtained by borrowing are fungible, individuals may like to think of their savings as going to activities that they particularly favor.

4. Public Education Campaigns and Government Advocacy

Saving and long-term accumulation are socially conditioned forms of behavior. Individuals learn to save by watching the behavior of their family and their friends. Government programs to educate people about the need to save and about the benefit from saving can change attitudes and raise national saving rates.

Many of the high saving countries have made a high rate of saving a primary national goal. Education campaigns and simple but widespread advertising have reinforced the advantages of favorable tax rules and financial regulations. Important government departments have been given responsibility for developing policies, programs and advertising to raise saving.¹⁰

Most individuals do not understand the existing saving opportunities in Mexico, especially the UDI denominated assets, Cuentas Especiales de Ahorro, AFORE accounts, and mutual funds. It is difficult for them to see through the high and volatile nominal interest rates to understand the underlying real rates and to appreciate the substantial cumulative effect of a personal program of long-term accumulation.

There are too many individual financial institutions for any one of them to benefit sufficiently from undertaking a general advertising campaign aimed at raising the personal saving rate. This is an activity that the government might do or may carry out in conjunction with private institutions that are more accustomed to advertising and marketing activities.

¹⁰ In Japan, the Savings Promotion Department of the Bank of Japan was created in 1946 and the Saving Promotion Center of the Ministry of Finance was established in 1957. Germany used large scale public campaigns during the 1950s to stimulate saving.

Appendix Reform of the Retirement Saving Account System¹¹

The reform of the system of Retirement Saving Accounts (*Sistema de Ahorro para el Retiro* or AFORE) is the most important policy initiative for raising the Mexican saving rate in the long-term. An unfunded pay-as-you-go program like the previous Mexican social security retirement system administered by the IMSS (*i.e.*, the Mexican National Social Security Administration) reduces national saving by discouraging private saving without doing any public saving. In contrast, the substitution of a funded program for an unfunded program can eventually raise national saving by nearly the full amount of the mandatory saving.

The short-run effect on savings of the shift from the IMSS pay-as-you-go system to a funded program (in addition to the previously existing 2 percent of payroll AFORE contribution) depends on how the benefits of current retirees and of those who will retire in the near future are financed. If the government raises taxes or reduces other government spending in order to finance these existing benefit obligations (as Chile did when it made a similar transition), national saving can rise by nearly the full amount of the mandatory AFORE contributions. If, however, the government borrows to finance the existing benefit obligations, the government borrowing in the short-run may absorb all of the mandatory AFORE contributions, leaving no net short-run increase in national saving.

Even if the existing benefit obligations are financed by government borrowing, the shift to a funded social security retirement system will substantially raise the long-run saving rate. Over time, the aggregate annual AFORE contributions will grow with the size of the labor force and the average level of wages while the benefits to existing retirees will decline as those who earned benefit rights under the previous unfunded system die. In the end, the shift from an unfunded system to a fully funded AFORE program with equal annual contributions adds nearly the full amount of the AFORE saving to the national saving rate.¹²

¹¹ A version of this appendix was written in the 1995 paper before the legislative decisions about the existing AFORE program. The appendix is included because all programs evolve over time and because the issues discussed here may be of interest to social security reformers and designers in other countries.

¹² I say "nearly" because the higher yield on AFORE contributions than on the unfunded social security taxes has an "income effect" that increases consumption.

In addition to the mandatory AFORE savings, the AFORE system may increase saving by permitting more individuals to plan an earlier retirement than they otherwise would have. The planned increase in retirement years will induce individuals to want to accumulate more savings per year while they are working because they have a shorter working life and a longer retirement period.

This Appendix now discusses several important practical issues about the AFORE reform that can affect how much the shift contributes to national saving in both the short-run and the longer term.

A.1. Public Understanding of the AFORE Program

The previous system of AFORE accounts that channeled 2 percent of each employee's wages from the employer to the government via the Bank of Mexico left little public understanding of the proposed role of AFORE accounts in the future. Because of past administrative problems, individuals generally did not know the balance in their own accounts and each individual typically had more than one account. Employers and employees could easily regard the AFORE as just another tax.

Achieving the full benefit of the new AFORE system requires that the public be educated about the nature and value of their accounts, about their investment options, and about the contribution that their savings make to national capital accumulation and growth. A firm understanding that the funded accounts offer a substantially higher real rate of return than the implicit return of an unfunded pay-as-you-go system can counter political pressure to slip back to an unfunded system, a retreat that could create a windfall gain to existing retirees and older workers but that would hurt younger employees as well as long-term saving and growth.

A widespread understanding of the high return available on AFORE accounts and of the direct link between individuals' AFORE contributions and their subsequent retirement incomes would also have the advantage of eliminating (or at least attenuating) the perception that the mandatory contribution is "just another tax". If individuals recognize their personal gain from additional AFORE contributions, the mandatory contributions will not discourage work effort and encourage movement to the informal sector in the way that payroll and income taxes do.

The government and private financial institutions could usefully undertake a public education campaign designed to promote an understanding of the AFORE accounts among the general working public. More generally, all aspects of the design and administration of the AFORE program are not only important in themselves but also because of their impact on the public's perception of the AFORE system.

A.2. The Magnitude of the AFORE Contributions

Early discussions of the AFORE reform assumed that after the transition from the current system, the AFORE retirement benefits would be funded by a combination of the current 2 percent AFORE contribution and the portion of the IMSS payroll tax currently designated for retirement (3 percent). It is not clear that this shift of the existing IMSS tax plus the current mandatory AFORE contribution will be sufficient to fund a level of retirement benefits that policy officials regard as desirable. Some simplified calculations suggest that a higher level of contribution would be necessary to provide a benefit equal to 50 percent or more of the individual's preretirement wage.

Consider an individual who works and contributes 5 percent of his wage (the existing 2 percent mandatory AFORE contribution plus the 3 percent that now goes to the IMSS for retirement) to an AFORE for 40 years. If his real wage increases at a 3 percent per year and the funds in the AFORE account earn a real return of 6 percent,¹³ the funds accumulated at the end of 40 years will equal 3.7 times his final year's wage. With a real return of 6 percent, each 100 pesos of accumulated assets can generate an annual retirement benefit of 8.7 pesos for 20 years. The accumulated fund of 3.7 times the final year's wage can therefore provide a 20 year annuity equal to 32 percent of the final year's wage. To provide an annual benefit equal to 50 percent of an individual's final wage would require an AFORE contribution of nearly 8 percent with these same assumptions (a 6 percent real yield; a 3 percent annual rate of wage growth; a 40 year working life; and a 20 year retirement).

A lower real rate of return, a shorter working life or a faster rate of wage growth would require an even higher rate of AFORE contribution to achieve the same ratio of benefits to final year's earnings. For

¹³ A 6 percent real return is a reasonable assumption if AFORE funds can be invested in a combination of equity and debt.

example, if the AFORE rate of return were limited to 4 percent real rate and the individual's wages grew at 4 percent, it would require a 17 percent AFORE contribution rate to achieve a retirement benefit equal to 50 percent of the individual's final year wage.

The rate of contribution required to achieve any desired replacement rate depends on the likely rate of wage increase, the expected mortality table and the rate of return that the AFORE can earn. The rate of return to be assumed will of course depend on the types of assets in which the AFORE funds are invested. To avoid an impossibly high AFORE contribution rate, funds must be invested in a way that can be expected to earn a relatively high rate of return. I return to this subject in section A.5.

A.3. Death and Disability Coverage

The social security institute (IMSS) currently collects payroll taxes of 3 percent of covered wages for death and disability insurance in addition to the 3 percent that it collects for retirement benefits. Shifting the death and disability insurance from the current pay-as-you-go IMSS program to individual funded accounts could increase the saving rate in the same general way as shifting to funded retirement accounts.

The traditional "whole life" type of life insurance policy accumulates a fund to pay future death benefits in much the same way that a retirement fund accumulates assets to finance benefits during retirement years. A group of "whole life" policies will have relatively little payout to individuals before retirement age and will therefore accumulate a substantial fund. In contrast, pure term insurance provides death benefits with no capital accumulation. Term insurance premiums are much lower for younger workers and rise with age. A variety of intermediate forms exist, typically utilizing an accumulation of funds to slow the age-related rise in premiums.

The key point is that these are actuarially equivalent approaches that will have the same effect on national saving if the difference between the whole life premium and the lower premium on other policies is explicitly saved as an addition to the AFORE Retirement Account. There are however administrative differences that may affect the preferred form of insurance. It might be possible, for example, to reduce any self selection problems by requiring employers to buy group term insurance for all employees (instead of making payments to the

IMSS), adding the balance of the life insurance funds to the regular AFORE retirement account of the individual's choice.

Similarly, the disability insurance could be a term policy or could involve accumulation to maintain a level annual premium. An employer based term policy would be one way of avoiding the selection problems associated with individual demand for disability insurance. Again the excess funds could be added to the regular AFORE retirement account.

Shifting the current social security death and disability programs from the IMSS to private carriers is likely to provide greater cost and service efficiencies as a result of competition as well as a more innovative process that offers new insurance options. Private insurers are also likely to do a better job than a public agency like IMSS of monitoring and controlling the moral hazard problems that are always present in disability insurance programs.

A.4. *The Transition Process*

A critical aspect of the AFORE reform is the treatment of current retirees and of employees who have been contributing to the existing unfunded IMSS retirement program. There are two separate issues: the benefits that these individuals receive and the way that those benefits are financed. How these issues are resolved will affect the national saving rate for many years and may also affect the political viability of the funded AFORE approach.

Existing retirees could continue to receive their current real benefits from the IMSS as long as they are alive or they could receive compensation related to the present actuarial value of those benefits instead of a future benefit stream. That compensation could be in the form of negotiable "recognition bonds" (as in Chile) or could be deposited to the individual's AFORE account. Similarly, existing workers could receive future IMSS benefits based on their work experience to date (in addition to the AFORE benefits that they will accumulate in future years) or they could be compensated with an appropriate addition to their AFORES.

A recognition bond or AFORE deposit would be a substantial administrative simplification since it would eliminate the need for continuing the IMSS bureaucracy that would otherwise make retirement benefit payments. This is particularly true for current pre-re-

tirement employees for whom benefits would be a blended combination of the AFORE retirement benefits and the IMSS benefits. Moreover, any system that continues the IMSS retirement benefits runs a greater risk of political pressure at some future date to return to an unfunded system with a lower national saving rate.

The financing of the transition benefits is a separate problem. If the transition is done by providing compensating deposits to the AFORE accounts (or recognition bonds), the funds needed to provide that compensation can be obtained by a combination of higher taxes and lower government spending in some other part of the budget or they can be borrowed.¹⁴ If the compensation is financed with additional current taxes and cuts in current spending, all future AFORE contributions will be available to finance additions to the national capital stock. If, however, the compensating deposits are financed by issuing new government bonds, the government will need to raise future taxes or to borrow a portion of future AFORE savings to pay the interest on those government bonds. If future taxes are not raised, the borrowing to finance these interest payments will at first absorb all of the new AFORE contributions. Over time, however, the AFORE contributions will grow while the interest payments remain constant, permitting a net contribution to national saving.

The effect is similar in principle if the transition involves continued IMSS payments (instead of explicit issuance of new government debt to finance compensatory contributions to the AFORE accounts).¹⁵ If the government does not increase taxes or cut other spending, the AFORE contributions (that are diverted from IMSS taxes) will initially all have to be borrowed by the government to finance the ongoing IMSS payments. Over time, however, the IMSS payments will eventually decline while the AFORE contributions will grow.

Thus, in the long run the shift to the AFORE method will increase national saving and capital formation but, in the near term, the effect on saving of the shift to a funded system will depend on how existing retirees and employees are treated. An end to the IMSS benefits with compensation financed by increasing some other tax or reducing some other form of government spending would be most favorable to saving.

¹⁴ Only because of the relatively small size of the compensation now required in Mexico it is possible to contemplate financing this over a few years by tax increases or spending cuts.

¹⁵ Although the two approaches are formally equivalent, using explicit recognition bonds instead of continued IMSS payments reduces the risks of diverting funds from retirement to health and of returning to a pay-as-you-go system.

Moreover, the very young age of the Mexican population and the extensive "informal" sector of the economy where individuals do not participate in the existing social security program, imply that such a tax-and-spending-cut approach to financing the transition payments would be relatively small, currently less than one percent of GDP per year for the retirement program and just about one percent when death and disability benefits are included as well.¹⁶ Any delay in making such a shift will only make it more costly as the population ages and the size of the formal sector grows. But even a debt financed payment of compensation or continuation of the implicit debt in the form of IMSS obligations to pay future benefits would mean a gradual and permanent increase in national saving over an extended period of years.¹⁷

A.5. AFORE Investment Policy

The increased private capital stock that results from AFORE savings is likely to earn a real pretax rate of return of at least 10 percent. Because the returns earned in AFORE accounts are not taxed,¹⁸ the individual investors would be able to obtain most of this pretax return. Even allowing for a 34 percent corporate tax on the profits accruing to corporate equity, the real net rate of return available to AFORE accounts that invest in a mix of debt and equity similar to the corporate financing ratios should exceed 7 percent.

The calculations reported in section A.2 show that a relatively high yield on AFORE accounts is needed to permit the combination of an acceptable replacement rate at retirement and an acceptable AFORE contribution rate during working years. Although it is important to avoid excessive risk in the AFORE investments, a broadly diversified mixture of debt and equity could provide an appropriate combination of good yield and acceptable risk. Since the investments are very long term, the year to year volatility should not be a primary consideration.

¹⁶ In 1994, the IMSS paid 9.2 billion pesos in pension benefits and an additional 4.6 billion pesos in death and disability benefits. GDP in 1994 was 1 253 billion pesos.

¹⁷ For an explicit analysis of this type of transition, see the appendix to my introductory chapter in M. Feldstein, 1998.

¹⁸ Withdrawals are currently taxed only if they exceed nine minimum wages. However, since employers contributions are deductible (like wages) but are not taxed to the individual, the effective rate of return when withdrawals are taxed is equivalent to a tax-free return on savings out of after-tax wages.

The typical US corporate pension fund investment of 60 percent equity and 40 percent debt is a useful benchmark.¹⁹

The government might encourage investing in such a diversified debt-equity portfolio by providing a guarantee that the value of each AFORE account would not be less than would have occurred with a two percent real return on contributions. Although short run market volatility might make this guarantee operative in the early years of an AFORE account, over time the value of the AFORE account would almost certainly become so much larger than the guaranteed amount that the guarantee would become irrelevant.

AFORE investments in Mexican equities would gradually help to deepen the capital market, encourage the listing of stocks, and reduce the cost of equity funds. The effect on these financial markets in the short run would not, however, be very large and would certainly not destabilize the equity market. Even an AFORE contribution of 7 percent of wages would only add about one percent of GDP a year to AFORE accounts.

Over time, the AFORE investment funds could offer a broader array of options that increase yield or reduce risk. For example, diversification into US and other foreign securities, hedged into pesos, can probably reduce risk without lowering expected return. Moreover, such diversification would not alter the funds available for domestic investment since the hedging would be effectively equivalent to borrowing abroad those funds that are invested in foreign securities.

The nature of the investments that are allowed in AFORE accounts is important for promoting public understanding of the nature of the AFORE program. Continuing the practice of require (or even of just offering) deposits with the Bank of Mexico that provide a low real yield convey the wrong impression that AFORE contributions are still just a tax taken by the government to finance government deficits. The real yield on inflation indexed accounts (UDI accounts) exceeds the return currently paid by the Bank of Mexico on AFORE accounts.

Similarly, restricting AFORE accounts to investing wholly or partly in government bonds would also create the impression that the mandatory AFORE contributions are just a disguised form of taxation and that nothing has really changed from the original pay-as-you-go retirement system.

¹⁹ On the risk aspects of an investment based system like the AFORE, see M. Feldstein and E. Rangelova, 1998.

The fact that the government has to borrow during the transition (unless taxes are raised or other spending reduced) to finance retirement benefit obligations to existing retirees and to employees with past IMSS contributions is not a reason for the government to require that government bonds be purchased by the AFORE accounts. AFORE purchases of corporate debt and equity would release funds that could then be used to purchase the government bonds. In a debt financed transition, these purchases are at first just an offset for government borrowing but over time the private equity and debt purchases by AFORE accounts directly finance a net addition to the capital stock.

A.6. Administration of the AFORE Accounts

The proposed administrative system requires employers to select an account administrator to whom the AFORE contributions are paid. Each individual employee can then tell the account administrator the name of the fund manager (Sociedad de Inversión) to which that employee's funds should be sent. It is currently contemplated that each employee will have only a single fund manager. This general structure seems will reduce record keeping burdens on employers, reduce the risk of underpayment by employers, and permit a wide range of choice by employees. Competition among account administrators will encourage cost reduction and quality of service to employers and employees. Competition among fund managers will encourage product innovation, cost containment, and the quality of service to employees and retirees.

An official regulatory body like CONAFORE will approve fund managers and their products. Each fund manager would eventually be permitted to offer a variety of individual products so that an employee can select a mixture of investments (stocks, bonds, money market instruments) within a single fund manager and shift among types of investments without the additional administrative expense of changing fund managers. The restriction on a single fund manager for each employee could be reexamined in the future as account balances grow.

The CONAFORE or other agency would presumably require fund managers to provide the public with comparable information on such things as historic yields, variability, administrative costs, turnover, etcetera.

A variety of proposals have been made to provide a role for the IMSS in the AFORE administration process. An extreme proposal would

give the IMSS a monopoly on collecting funds from employers and choosing the fund managers (instead of allowing each individual to choose his own fund manager from the approved list.) An IMSS monopoly as account administrator would eliminate the competitive pressures that would otherwise lead over time to lower costs and better service. It would also blur the message that the AFORE accounts are private investment vehicles that are fundamentally different from the existing IMSS pay-as-you-go system. An IMSS monopoly as account administrator would thus increase the probability of returning to an unfunded system.

Allowing the IMSS to select fund managers instead of permitting the individuals to do that would have even more serious adverse effects. Fund managers selling to a government bureaucracy would not have the same incentives for product innovation, individual client service, and administrative efficiency that they would have if they were competing for the business of the individuals themselves. Having the IMSS select fund managers increases the likelihood of investing to achieve "social" goals (*e.g.*, geographic distribution, industry distribution, etc.) rather than getting the best risk-adjusted returns for the AFORE participants. Selection of fund managers by government bureaucrats may also be more likely to lead to corruption.

The same arguments against granting a general monopoly to the IMSS are also relevant to proposals to give IMSS a monopoly for certain classes of employers or employees (*e.g.*, temporary employees or employees in particular high-turnover industries.)

Allowing the IMSS to compete with private account administrators (to receive funds from employers who select them and forward funds to the investment managers chosen by individual employees) has also been suggested. Although the need to compete with other account administrators in order to be chosen by employers would normally act to reduce costs and maintain quality of service, the IMSS could choose to cross-subsidize the AFORE account administration business in order to obtain a larger share of the market (since the cross-subsidy would come from the non-AFORE business where IMSS has no competition.) This would permit a more costly administration. More significantly, it could lead to a large role for IMSS in the AFORE program, causing confusion among employees about the nature of the AFORE program.

A.7. Payment of AFORE Benefits

When employees reach retirement age, withdrawals from AFORE accounts would presumably be restricted so that individuals do not spend their accumulated savings too quickly either in error or in order to take advantage of means tested benefits available to older persons without financial means. A variety of alternative annuity options and other payout schemes are possible, with different likely effects of self-selection by individuals and of adverse selection by insurers.

Although annuities are an appealing option, the national saving rate will be higher if individuals choose a limited withdrawal schedule instead and continue to be able to transfer balances in AFORE accounts at their death to the AFORE accounts of spouses or children.

A.8. Voluntary Contributions to AFORE Accounts

Since the required AFORE contributions will finance only a partial replacement of preretirement wages, individuals and employers could also be encouraged to make voluntary contributions to the AFORE accounts. These could be made directly by individuals or by employers in connection with company defined contribution pensions or with voluntary individual saving plans (similar to the US 401k plans). These possibilities and the use of tax rules to encourage them are discussed in more detail in section 1.4 of the text.

A.9. Miscellaneous AFORE Issues

Providing increased protection for the population in old age and increasing national saving would both be enhanced by expanding participation in the AFORE program on a voluntary basis to individuals who are currently working outside the formal structure. If in the process of contributing to the AFORE accounts they could also be induced to join the formal sector, their payments of taxes and other IMSS contributions would significantly increase government revenue and therefore national saving.

Some individuals with low lifetime earnings or low earnings in the formal sector will inevitably reach retirement age with too little in their AFORE to finance even a minimal level of consumption. The

government safety net for these individuals could be either a means tested program that provides a flat benefit financed like other welfare programs or part of a universal flat benefit for all individuals beyond a certain age. A universal pay-as-you-go benefit (rather than a means tested benefit) would encourage higher income individuals to save less and could create political pressures to reduce the standard required AFORE contribution.²⁰

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²⁰ The AFORE system is linked in practice with the INFONAVIT system of housing finance. A variety of alternative changes could lead to a more productive use of those funds: 1) Adding the current annual Housing AFORE contribution (five percent of payroll) to the individual's Retirement AFORE, to be used wither for downpayments in the purchase of a home or for additional retirement income. 2) Eliminating the Infonavit's role in funding individual mortgages while continuing its other funding activities, with the Housing AFORE contributions that now fund individual mortgages going instead go to the Retirement AFORE and therefore to the general capital market. 3) Continuing to give all of the Housing AFORE funds to INFONAVIT but shifting Infonavit's role with respect to individual mortgages from an originator of mortgages under the current complex point system to a financier of mortgages in the secondary market that are originated by banks and other private mortgage lenders. 4) Shifting the indexing of mortgages from the minimum wage to some average market wage or to the price index used for UDI calculations in order to reduce the randomness of the current subsidy. Raising the real return on Housing AFORE accounts and charging the mortgage borrowers a correspondingly higher rate to finance that return would also increase overall national saving and reduce the bias in favor of housing. The incentive to save would also increase if individuals could make voluntary contributions to the Housing AFORE accounts and if the point system used to qualify borrowers for Infonavit mortgages gave more weight to the funds accumulated in the Housing AFORE.