

Social Security Reforms in Latin America: What Can the US Learn?

Indermit S. Gill and Radu Tatucu*

December 26, 2005

Both authors are at the World Bank. This paper was prepared for the 2006 American Economics Association Meetings in Boston. It is based in large part on a book co-authored by Indermit Gill with Truman Packard, Juan Yermo and Todd Pugatch, *Keeping the Promise of Social Security in Latin America*, Stanford University Press, 2004. The views expressed here are those of the authors, and should not be attributed to the World Bank, its executive directors, or the countries they represent.

Abstract

More than ten countries in Latin America have enacted reforms that have some things in common with what is being contemplated for the US—the partial privatization of social security. But these countries are very different from the US, and it is not easy to draw meaningful lessons for US social security reform from the experience of countries such as Chile, Argentina, and Mexico. Public pension systems in these countries became bankrupt before their populations aged mainly because of mismanagement. In contrast, the well-managed US system faces problems that are long-term in nature and have been brought about by an aging population. The experiences of these countries do, however, offer some general lessons. These relate to changes in labor market incentives accompanying such reforms and how workers have reacted to them, government actions that have met with success in managing the transition to funded pensions, and the expectations of individuals from social security systems. In summary, the lessons seem to be: keep payroll taxes low, keep governments solvent, and keep social security systems focused on providing reasonable insurance against poverty in old age.

1. Introduction

As the US deliberates reforms to its social security system, people engaged in policy debates correctly seek to learn from relevant experiences abroad. Among the more widely discussed experiences with social security reform have been those of Chile, Argentina, Mexico and other countries in Latin America. Since the early 1980s, and especially during the 1990s, about a dozen Latin American countries have attempted to radically reform their social security systems. These experiences have been analyzed, among others, by Gill, Packard and Yermo (2004), with the objective of informing pensions policy in Latin America. This paper tries to use this work to draw lessons for the US.¹

It is not easy to draw useful lessons for the US from the experiences of countries in Latin America. These countries are very different from the US, and differed even more at the time when these reforms were initiated. The average Latin American country examined in Gill, Packard and Yermo (2004) has a per capita income of less than \$3,000 dollars; US per capita income today is close to \$38,000.² These countries were still young and are still relatively youthful; the US has an older population that is rapidly aging.³ Social security systems in most Latin American countries were badly run and bankrupt when they initiated reforms; the US social security system is well-run and still solvent, and will likely remain so for another three or four decades. The typical unreformed pension system in these countries covered about a quarter of the workforce; the US social security system is nearly universal.⁴ These countries had relatively undeveloped financial markets; the US is the global financial market hub.

The most important difference, perhaps, is that social security crises in most Latin American countries preceded the aging of populations. These crises were generally the result of gross mismanagement and wildly generous benefits. While populations were indeed aging in these countries, the systems would have run into trouble even if this were not so. The reforms accordingly reflected a loss of faith in governments to act responsibly in ensuring income security for the elderly. In contrast, the US social security system is well-managed, and the debate is driven by the objective of ensuring solvency for the next 75 years. The problems in the US are the result of an aging population and, consequently, a climbing system dependency ratio.⁵

¹ The study is summarized in Gill, Packard, Pugatch and Yermo (2005).

² Put another way, the average American has a higher per capita income than the sum of the per capita incomes of these twelve countries combined. World Development Indicators (2005).

³ The share of population above 60 years in Peru, Mexico, and Colombia in 2005 is about 7.5 percent, while that in Chile and Argentina is about 11.5 and 13.5 respectively. This ratio is about 17 percent in the US. In Latin America, only Uruguay has a ratio that is similar to that of the US.

⁴ Baker and Weisbrot (1999).

⁵ Brown, Hassett, and Smetters (2005) write that while in 1950, there were more than 16 workers per beneficiary, today there are between 3 and 4, and by 2040 there will be just 2 workers for each beneficiary.

Such large differences in ‘initial conditions’ should discourage US social security experts from trying to learn too much from these experiences. But it does not appear to have dissuaded all such attempts. The Congressional Budget Office (1999), the Government Accountability Office (2005), for example, both survey the Latin American experience with the aim of informing the debate in the US. These and other efforts do recognize that there may be other countries, such as Sweden and the UK, whose reform experience is more informative.

In this paper, therefore, we should begin by listing the aspects where the Latin reforms are largely uninformative for the US. First, the failure of Latin American countries to raise social security participation rates seems quite irrelevant for the US. While less than a quarter of the elderly receive public pensions in Latin America even today, this ratio is closer to 95 percent in the US. Second, the Latin American experience may have little to inform the US debate on the financial market implications of social security reform. From a financial sector lens, the reforms may have helped Latin American countries provide a boost to capital markets by introducing individual accounts and by setting up a private pension fund industry to manage them. On the other hand, Latin American regulators have found it difficult to keep the industry competitive and ensure low management fees for the contributors. But the US has no need to boost capital markets, there is no need to set up a new industry in the event that private accounts are introduced, it is unlikely that regulating private pension funds will be difficult, and it is likely that the administrative costs will be low and the fees reasonable.⁶ Finally, while some young US workers appear to be losing faith in the social security system, the system still runs a current surplus and will be able to pay between 70 and 80 percent of promised benefits for the next 75 years even without reforms. This was hardly the case in Latin America—reforms were usually initiated when their systems were bust and running current deficits.

These caveats notwithstanding, the experience may provide some useful information for social security reforms in the US. This information is about the behavior of (rational) workers, the responses of (profit-seeking) firms, and the responsibility of (fiscally constrained) governments. The relevant lessons are general, but may be worth considering:

First, keep governments small by keeping payroll taxes low. In all the reforming Latin American countries except Chile and Uruguay, the introduction of private accounts was accompanied by higher payroll tax rates. Despite the individualization of social security, the new systems have not generally proved to be popular, and the big policy challenge in Latin America today is to increase the participation of workers of all ages in formal social security systems. While participation in social security systems is not the problem in the US, this experience may be relevant for raising labor force participation of older workers

⁶ Especially if the management fees are based on what pension fund managers currently charge TSP, the US Federal Government’s pension plan for its employees.

in the US. The Latin American experience suggests that what may matter more for participation is the overall payroll tax rate, and less how much of this rate is personalized through private accounts. This distinction may be important in the US as well.

Second, keep governments focused on insuring people against poverty. In Chile and Peru, the earliest reformers in Latin America, surveys reveal a preference by workers for governments to provide insurance against old age poverty. That is, while much of the debate in Latin America has been focused on mandatory savings instruments aimed at consumption smoothing, the more important role of governments may be in insuring against poverty in old age. This has received considerably less attention in the countries that instituted private systems. There is a danger of this happening in the US as well.

Third, keep governments fiscally responsible. Latin American countries that have done well in reforming social security are different in many ways but seem to share one characteristic: fiscal responsibility. Countries such as Chile that combined a strong fiscal effort with well-implemented social security reform did well; countries such as Peru that combined a strong fiscal effort with partial social security reforms also did quite well. On the other hand, countries such as Bolivia and Argentina which failed the fiscal responsibility test despite implementing decent pension reforms have not succeeded in providing old age income security to their citizens. There is reason to believe that fiscal responsibility should be a concern in the US as well.

This paper provides a quick and selective overview of the reforms in Latin America with the objective of informing the social security debate in the US. The next section summarizes the Latin American reforms. Section 3 provides a short discussion of the main effects of these reforms. Section 4 discusses the aspects of this experience that may be relevant for the US. Section 5 concludes.

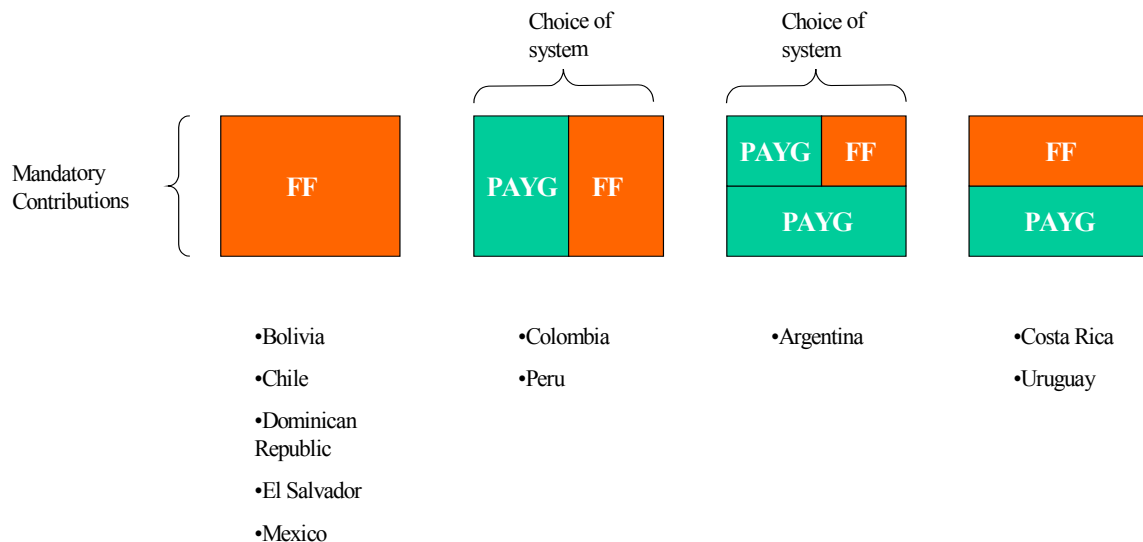
2. What Latin American countries attempted

Structural reforms to social security were begun by Chile in 1981, continued in the 1990s by Peru, Colombia, Argentina, Uruguay, Mexico, Bolivia, and El Salvador, and Costa Rica, Nicaragua, the Dominican Republic and Ecuador followed after 2000. The notable exceptions are Brazil and Venezuela.

The details of the reforms vary across countries. What is common, however, is that a publicly mandated and administered PAYG component operated on a *defined benefit* basis was retained, and a publicly mandated but privately administered system of *defined contribution* personal accounts was added. There were generally attempts by government to increase voluntary saving through *defined incentives*. (See Annex Tables 1 and 2)

But the headline item has been the new system of personal accounts, and this is also the reason why the reforms are seen as relevant for the US. In World Bank terminology, mandatory personal accounts constitute the second pillar. Second-pillar reforms can be classified into one of three categories. The first is the “Chilean model”, which made the private accounts mandatory for all new workers; the other countries that followed this model were Mexico, Bolivia and El Salvador. The second is what might be called the “Peruvian model”, which Colombia also adopted, where new workers have a choice between a downsized PAYG pension and a private account. Under the third approach, which can be termed the “Argentine model”, new workers have a PAYG tier combined with private account tier; this approach was also adopted by Uruguay and Costa Rica. The US reform conforms most closely to the Argentine model. (See Figure 1 below, and Gill, Packard, and Yermo, 2004, and Gill, Packard, Pugatch and Yermo, 2005, for more details).

Figure 1: Proposed US reforms resemble those of Argentina and Uruguay

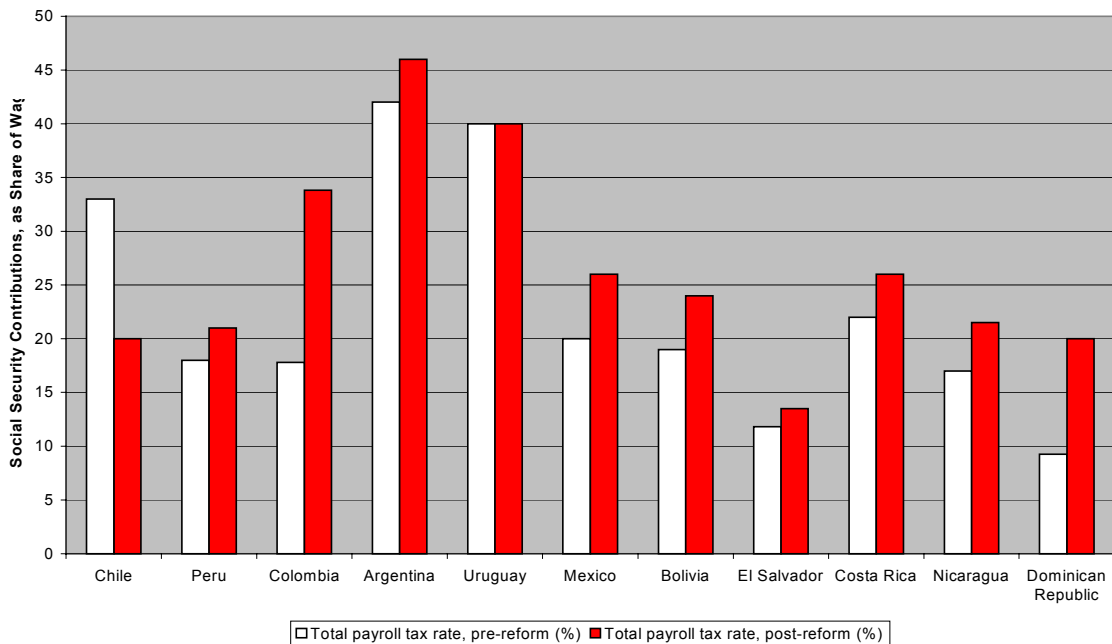


Until the early 2000s, Latin American countries were inclined to adopt some variant of these three approaches, with a tendency for later reformers to opt for the Chilean model, where new workers were given no choice but to opt for personal accounts. Since that time, pension reforms are as likely to eschew privatization entirely. Thus, for example, Brazil has chosen to reform its PAYG pensions, and Nicaragua and Ecuador have decided to postpone reforms.

The main feature worth noting is that payroll tax rates increased significantly after the reforms in all countries, except Chile where it went down, and Uruguay, where it has remained the same (See Figure 2). The proposed reform in the US, which stipulates that the payroll tax rate of 12.8 percent should remain unchanged, therefore conforms most closely with that of Uruguay, though payroll tax rates in the US about a third of those in Uruguay.

Figure 2: Payroll tax rates generally rose after reforms

Except in Chile and Uruguay, Government Got Bigger in Every Country's Labor Market



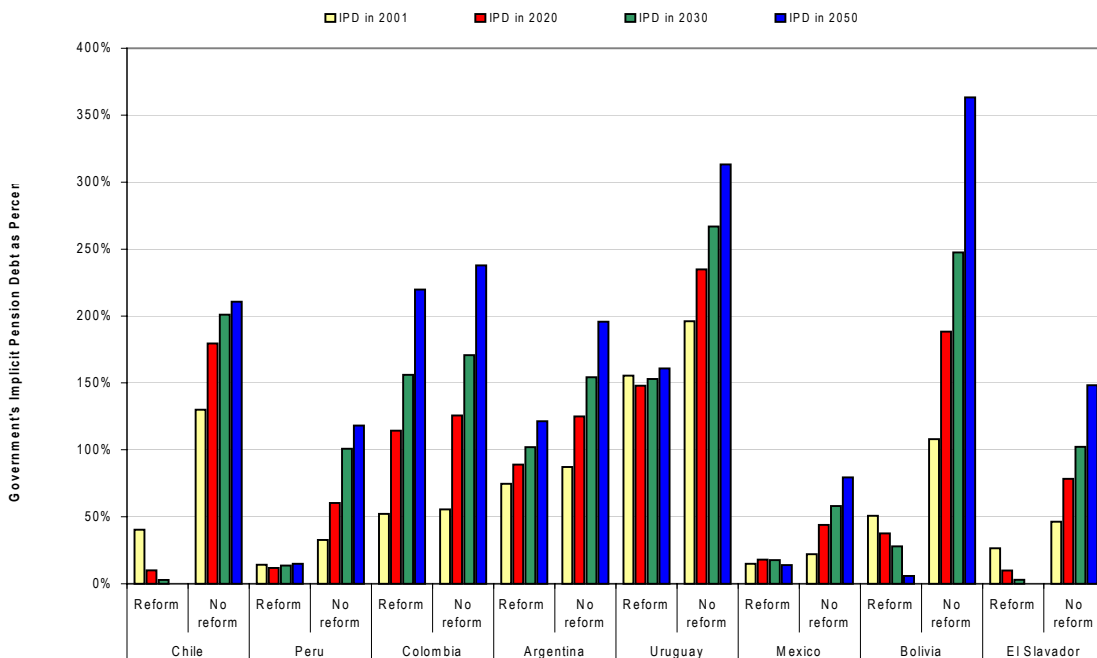
3. What actually happened

An assessment of the fiscal, financial and labor market effects of the reforms yields mixed results.

System balances were improved, but reliance on governments remains high

Fiscal imbalances were the primary motivating factor for the reforms, just as they appear to be the main concern in the US. The Latin American reforms seem to have had some success. Simulations in Gill, Packard, and Yermo (2004) for eight of the reforming countries indicate that the rate of accumulation of pension debt fell sharply in most countries as a result of the reform (See Figure 3). In Bolivia, for example, pension related debt would have been almost 160 percent of GDP in 2030 without reforms, but less than 50 percent of GDP with reforms. In Uruguay, the pre-reform and post-reform ratios for 2030 are about 150 percent and 70 percent respectively.

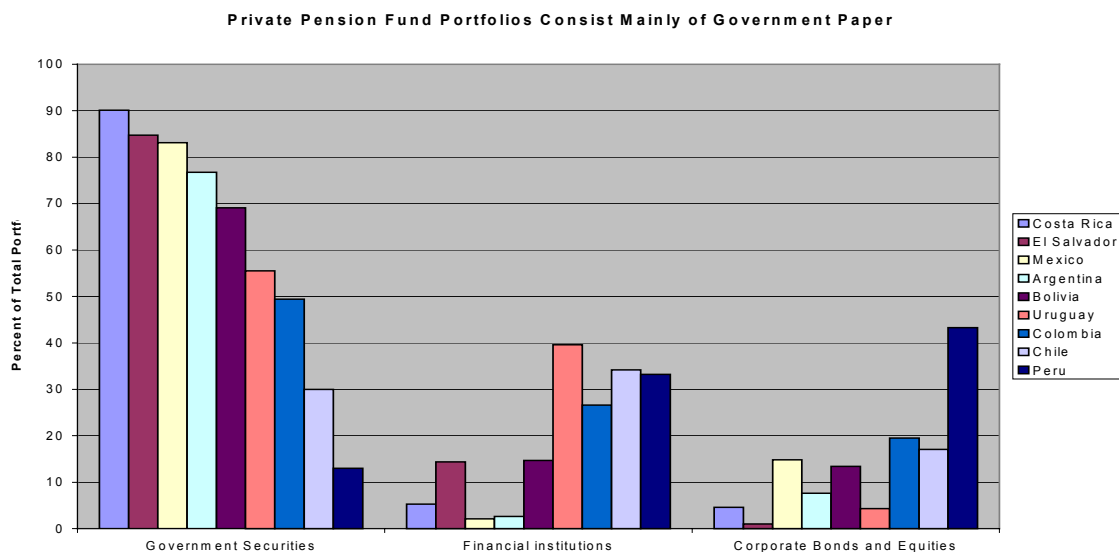
Figure 3: Pension-related deficits fall after reforms



These are the long-term effects. In the immediate aftermath of reforms, however, these countries have to deal with the transition costs of financing the diversion of contributions from paying benefits to the elderly to private accounts of workers. In some countries these transition costs have, for a variety of reasons, proved to

be higher than anticipated at the time of the reform. In Bolivia, for example, the pension related deficit has been rising instead of falling as projected. But more importantly, many of these countries had to finance the transition through increased government debt. The newly created pension funds held some of this new debt. With the investment regulations favoring government debt and the thin capital markets in much of the region, Latin American workers essentially swapped PAYG debt for government bonds. Fully two-thirds of the average investment portfolio consisted of government securities (see Figure 4). While a case can be made that this debt is more secure, the case of Argentina—where the government wrote down its debt by more than two-thirds—showed that this is a matter of degree, not certainty. And with less than 20 percent of these funds going to corporate bonds and equities, the growth effects of the reform were also likely weak.

Figure 4: Government bonds dominate private account portfolios



System equity was improved, but participation has remained low

The reforms aimed at improving labor market efficiency by strengthening the links between contributions and benefits, and to reduce the regressive transfers that characterized the previous social security systems. The reforms appear to have been successful in doing the latter (see Figure 5). Though the reforms have addressed within-system equity concerns, the most inequitable aspect of unreformed social security systems in Latin America was that they excluded large shares of the population from even a semblance of income security. The reforms have been less effective in addressing this problem. While the improved links between benefits and contributions may have helped increase participation (see Packard, Shinkai, and Fuentes, 2002), the effect was small. Participation rates in most countries have essentially flatlined at levels ranging between one-tenth and two-thirds of the active workforce (see Figure 6).

Figure 5: Reforms improve within-system equity

(Percentage Point Difference Between Wealthier and Poorer Workers in Internal Rates of Return Earned from National Retirement Security System)

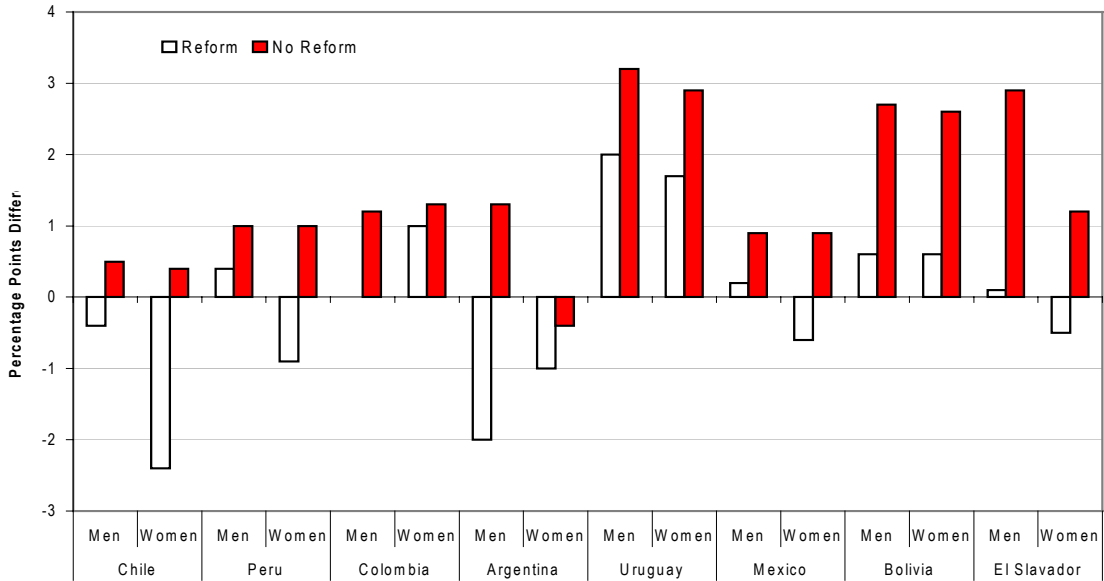
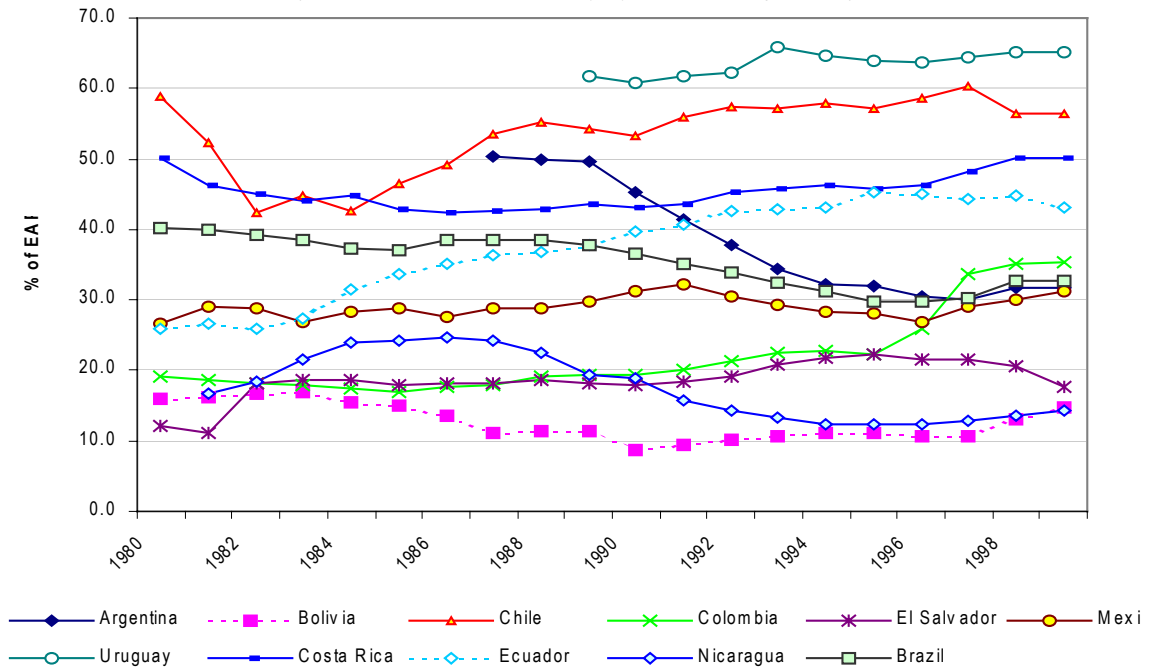


Figure 6: Participation rates show no systematic increase

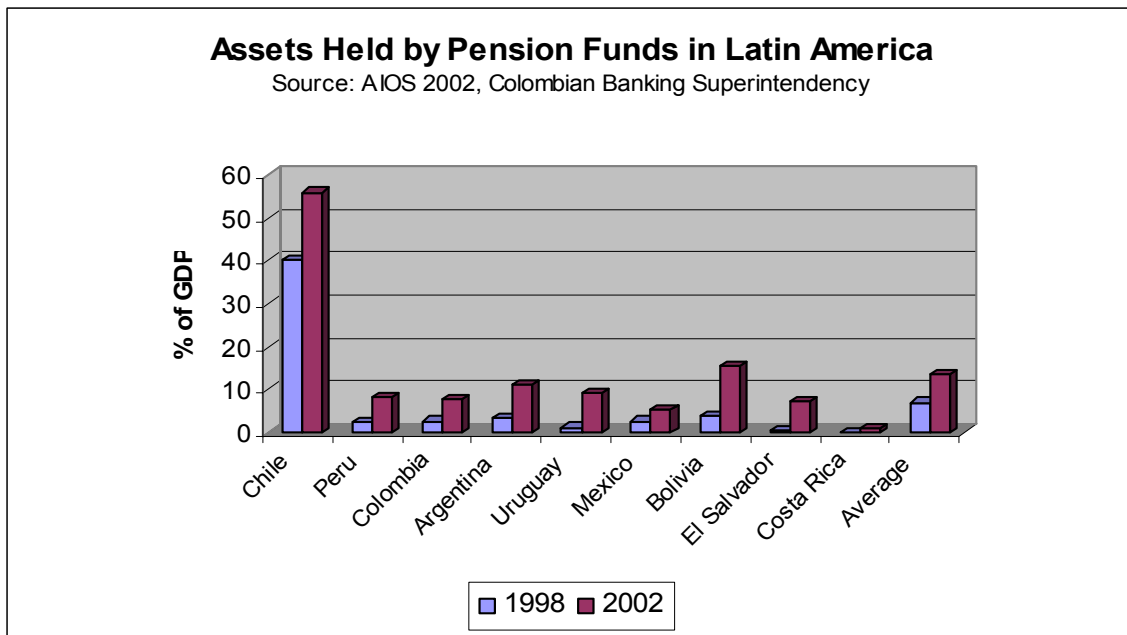
(Contributors to Retirement Security System, Percentage of EAP)



Financial markets were stimulated, but often at a high price for contributors

This lackluster performance—in the face of better links between contributions and benefits—can be attributed to the high (and rising) payroll taxes discussed above. But some of it must also be due to the high management and insurance fees charged by private pension providers. The evidence indicates that ensuring a captive clientele for these pension funds has led to the growth of a new industry in the reforming countries; assets held by pension funds more than doubled as a share of GDP between 1998 and 2002 (see Figure 7).

Figure 7: Pension fund assets have grown quickly



But while financial market development has been hastened, affiliates have generally paid a high price. This was especially true in the early days of the reform in countries such as Chile, and so an accounting of these costs for workers who have contributed for a decade or longer would indicate that more than a quarter of the contributions could go towards management and insurance fees. Even today, between 15 and 20 percent of contributions go to management fees, and workers also have to pay insurance fees on top (see Figure 8). Administrative costs may be even higher for low-wage workers in some countries (see Figure 9, which reports the share of commissions in total contributions in Chile). Low wage workers often did not participate in the pre-reform systems because of weak links between benefits and contributions, but may now find the new systems unattractive because of higher payroll tax rates and onerous administrative fees.

Figure 8: Costs to workers can be high

Between 15-20 Percent of Worker Contributions to Private Funds Still go to Management (December 2002)

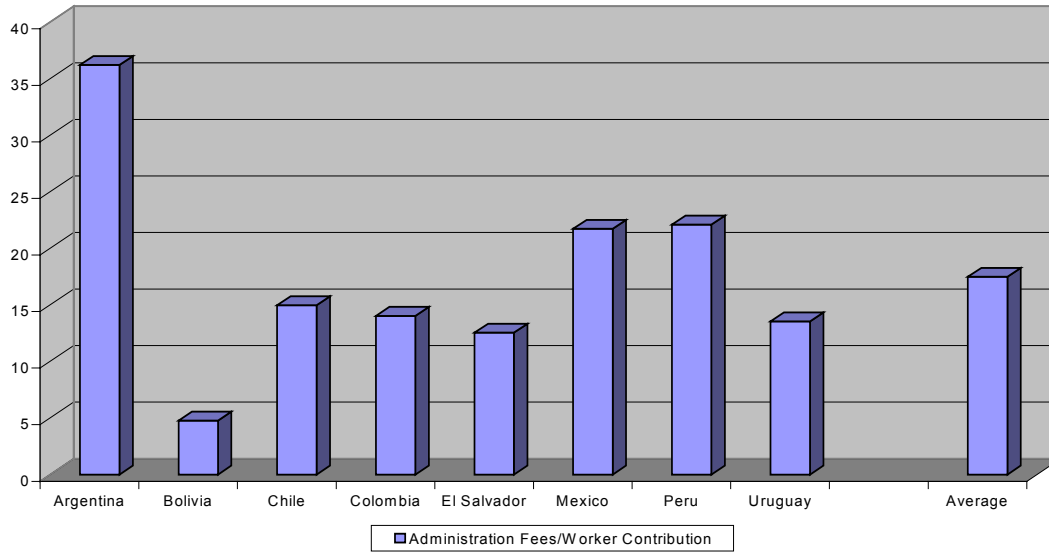
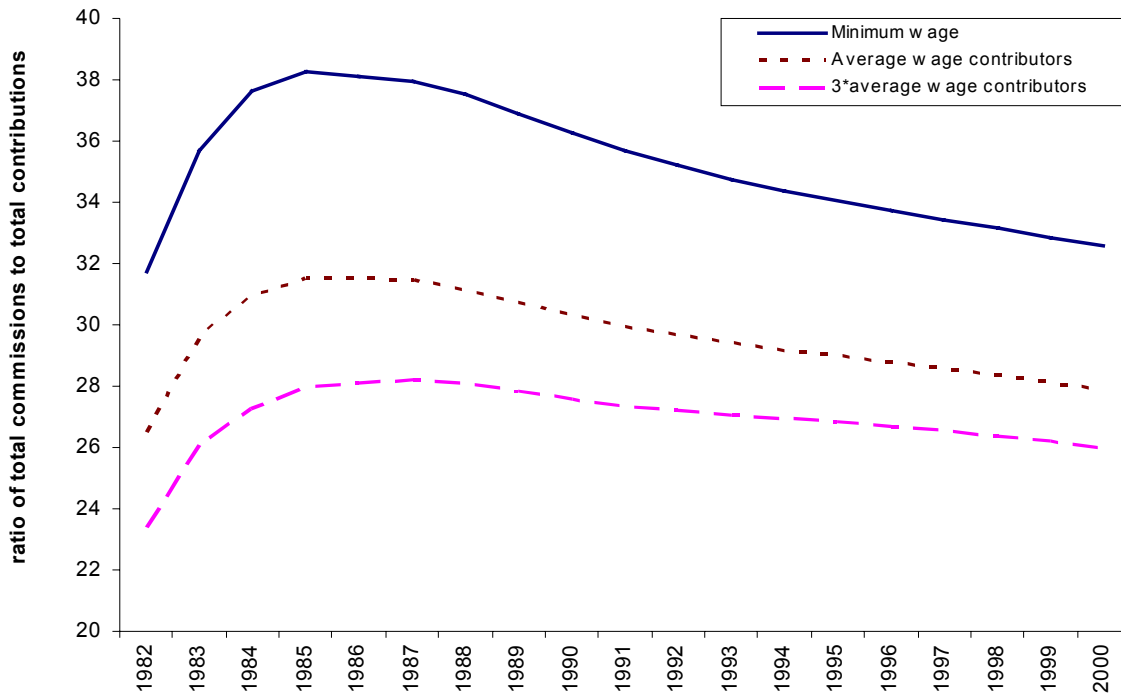


Figure 9: Fee structures for private accounts are regressive in Chile



Administrative costs have generally come down as these industries have matured, but in some countries such as Peru, this has not meant that the fees charged to contributors have fallen commensurately. This has meant high profits for the fund managers. In Peru, for example, recent estimates indicate that between 1998 and 2002, the share of workers' contributions going to fees has remained steady while fund expenses have fallen. As a result, profit rates have skyrocketed (see Figure 10). Chile's recent experience appears to be similar (see Figure 11). Even capable Latin American governments appear to find effectively regulating these oligopolies difficult.⁷

Figure 10: Pension funds in Peru—falling costs, steady fees, rising profits

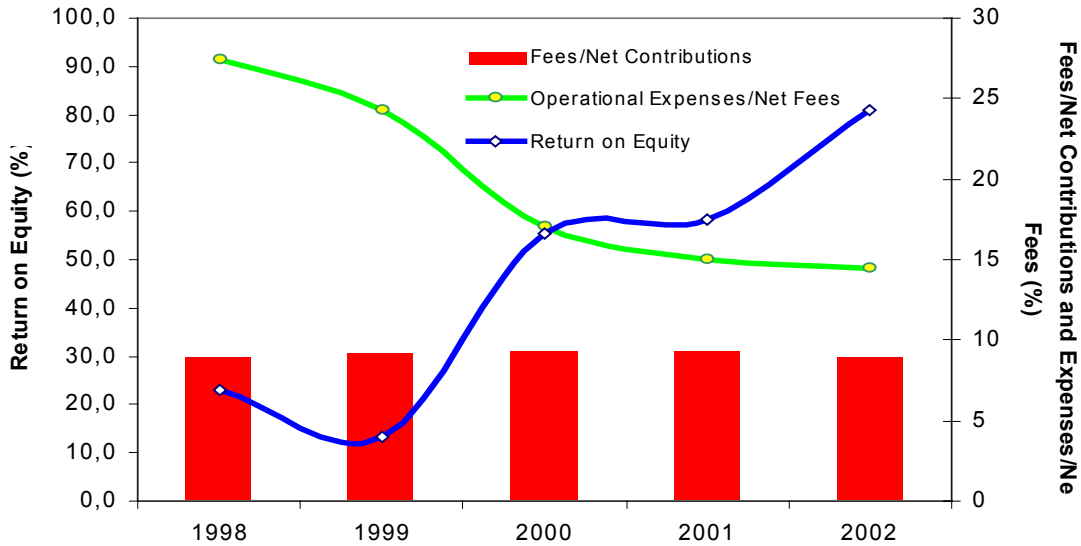
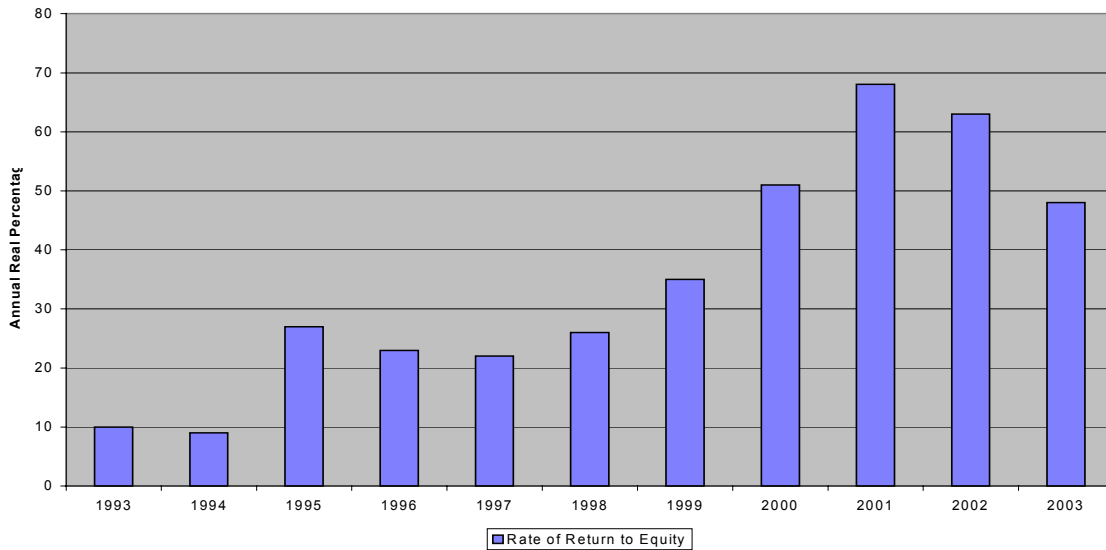


Figure 11: Pension funds in Chile are highly profitable

Chile: Rate of Return to AFP Equity, 1993-2003
Source: Valdes and Marinovic (2004)



⁷ These numbers are contested by the pension fund industry.

4. How much of this is relevant for the US

Not all of these findings imply lessons for the US, because the countries and the social security issues being debated are different. However, if there are any lessons, we think they might be categorized into three groups: What the experience has taught us about labor market incentives and what it reveals about the behavior of firms in an industry influenced by a government mandate; how the experience points to the importance of fiscal health for the ability of governments to keep social security systems robust; and, perhaps, some clues as to what constitutes the core social insurance objective.

Payroll tax rates seem to matter more than individualization of accounts for labor market incentives

The pertinent labor market incentive issue in Latin America concerns the effects of the reforms on participation in public social security systems. The main finding in this regard is that participation has not grown noticeably after the reforms. There is also evidence that while there is a positive but small effect of the move to private accounts on participation, the negative effect of higher payroll taxes may be greater (Packard 2001).

With near universal coverage of social security in the US, the discussion is focused on the incentives to work, rather than to contribute to social security. In particular, the concern is about the distorting effect of social security on the age of retirement. Martin Feldstein's 2006 AEA Presidential Address, for example, emphasizes the disincentive effects of social insurance on work and savings (Feldstein, 2005).

The Latin American experience appears to support those who argue against raising the payroll tax rate. If personal accounts were to be adopted, the Latin experience would indicate support for "carveout" rather than "social security plus" accounts. Two findings should be reiterated. The first, as discussed above, is that there is little evidence from Latin America that individual accounts lead to noticeably stronger labor market incentives, as evidenced in participation rates. The second is that diverting payroll contributions from PAYG systems to individual accounts appears to have adverse fiscal implications that are far more potent. This is what we discuss below.

Privatization may be an expensive way to individualize retirement saving

The pension debate in Latin America has revolved around two costs associated with the move to private accounts—the administrative fees charged by the special pension funds set up to manage these accounts and the costs of annuitizing the accumulated funds, and the fiscal costs associated with the

transition to private accounts. For reasons mentioned at the beginning of this paper, the Latin experience with fiscal costs may be more relevant for the US.⁸

The cases of Chile and Argentina provide contrasting experiences of the interaction of pension reform and fiscal effort. In Chile, a strong fiscal effort characterized the lead-in to the pension reform—fiscal surpluses averaged more than 5 percent of GDP in the years prior to the 1981 reform, so that Chile’s post-reform fiscal deficits were mild and short-lived. In contrast, Argentina did not substantially bolster its fiscal situation in the years leading up to the 1994 reform. Though it ran small fiscal surpluses in the two years before the reform, there is reason to believe that the pre-reform fiscal stance was worse than shown by published figures. Payroll tax deductions reduced revenues, and worsened pension system deficits. About half of the deterioration of the consolidated public sector fiscal deficit between 1994 and the crisis in 2001 was due to the worsening social security balance.

The degree of protection against policy risk offered by privatizing a portion of mandated pensions may also be exaggerated. The experience in countries such as Argentina illustrates how any government-organized social security system—whether directly administered or simply mandated—can fall prey to politicians. Since the start of the system, about half of the privately managed assets were invested in government bonds. During the crisis in 2001, the government forced the pension funds to swap dollar-denominated government bonds for peso debt, and the share of government bonds in the private funds’ portfolio rose to above three-quarters. Argentina is not unique in this high concentration of portfolios of private pension funds. In Mexico, for example, several years after the reform, the share of government bonds in pension fund portfolios is the same as it is in Argentina.

The Latin American experience supports those in the US who argue against privatizing social security during a time of large fiscal deficits. It also appears to support those who advocate general fiscal discipline rather than social security privatization as a way to ensure a stable environment for private saving and as a way of preparing for the retirement bulge as baby boomers begin to leave the workforce. The experience in some Latin American countries also raises questions regarding what individuals actually expect from their governments. Fiscal stability appears to be necessary for governments to fulfill these expectations; we turn now to what may be sufficient.

⁸ There may also be a lesson for the US from the experience with ensuring that private accounts to which payroll taxes are diverted are managed efficiently and equitably. The difficulties faced by Latin American regulators of pension funds in ensuring that falling costs for fund managers are passed on to contributors to individual workers are not irrelevant. Management fees will be lower in the US than in countries such as Chile and Argentina, but what is more important is that the fees charged are competitive. As seen in section 3, it is clear that even capable governments in Latin America have had difficulty ensuring that falling costs of managing these funds translate into lower management fees for workers.

What workers seem to want from governments is insurance against poverty in old age

In Chile and Peru, where the results of analysis of surveys designed to get at questions of how households manage economic risk are available, we can learn something about what workers expect from governments.

In Peru, at the time of the survey, the government had not instituted a minimum pension guarantee, and the survey also revealed that private financial institutions are trusted more than all three branches of government. The survey revealed that workers who are more averse to risk chose private funds over the reformed but still risky government PAYG option.⁹

In Chile, the survey results were more revealing. Two decades after the reforms, workers seem to be using a system intended to act primarily as a vehicle for savings—with a small pooling component—mainly as a risk-pooling mechanism. Each cohort of workers that completes the minimum contribution requirements appears to be content with qualifying for the government's guarantee of minimum pension—a modest means-tested amount of about 80-90 percent of the minimum wage. This has been attributed by some researchers to moral hazard associated with low-income workers realizing that any contributions beyond this as a pure tax. In fact, this behavior is seen less among the working poor and more among middle and higher income groups, and is more consistent a desire to purchase some insurance against old age poverty. The switch to other savings instruments after they have qualified for this insurance also indicates that workers see the mandated private accounts as relatively expensive or risky compared with other investments.

In the US, where government is generally viewed as reliable (i.e., more like Chile's government than like Peru's), one could make the case that workers see social security system more as a mechanism for insurance against poverty and less as a vehicle for saving to smooth consumption. To someone who is not an expert in matters related to US social security, the implication may be that the social security benefit structure should incorporate stricter means-testing and/or the system should be made even more progressive than it is currently.¹⁰

⁹ Barr and Packard (2002, 2003).

¹⁰ Feldstein (2005) points out that a new retiree who earned more than the maximum taxable amount of \$87,900 in 2004 and contributed for at least 35 years gets a benefit of almost \$22,000. Someone with low earnings (about half the average wage) would get less than \$9,000 per year. While the benefit to lifetime earnings ratio is designed to fall as earnings rise, Feldstein points out that this apparent redistribution may be offset by the higher life expectancies of higher income individuals, their higher use of spouse benefits, and the later age at which they begin earning and paying taxes.

5. Conclusion

At the time that they enacted social security reforms, Latin American countries such as Chile, Peru, Mexico, Colombia and Argentina were at a different stage in the demographic transition than where the US is today. Their pension systems were in trouble more because of mismanagement and less because of a design mismatch. Latin American systems were overly generous, regressive, and poorly managed, and these countries felt the need to radically change their social security systems to make them more resilient to governments who had a poor track record in ensuring old age income security. But this is not altogether relevant for the US. The US government has done rather well in ensuring the elderly are kept out of poverty. An aging population is the main reason for the problems faced by US social security today. And the changes contemplated to the US social security system are appropriately mild in comparison.

With such major differences in background and motivation for the reforms, is there anything the US could learn from the experience in Latin America? We propose in this paper that there are general lessons from the Latin American experience, but perhaps not too much in terms of specifics. The experience provides some insights into how workers and firms react to such changes in how social security is organized, and what workers expect from their governments and how these governments can meet these expectations. For the US, the pertinent pointers appear to be:

- *Keep taxes low.* Strengthening the links between contributions and benefits can improve labor market incentives somewhat, but higher payroll tax rates will offset these benefits.
- *Keep benefits frugal.* Public pension benefits should be small and secure, so as not to unduly discourage saving for old age, while providing insurance against poverty in old age.
- *Keep governments solvent.* Fiscal prudence is the most important rule for governments that wish to provide both a safe environment for private saving and reliable insurance against old age poverty.

While these axioms emerge from the experience in Latin America, we believe that they are also consistent with fundamental principles of the economics of insurance. We are persuaded by Ehrlich and Becker (1972) and others that optimal insurance implies that rarer and more idiosyncratic losses are better pooled, while frequent and more systemic losses should be saved for. This principle can be applied to the losses associated with old age. The blessing of rising longevity implies that losing the capacity to earn while living is an increasingly frequent loss for individuals. The blessing of falling poverty rates implies that being poor in old age is becoming an increasingly rare loss. Rising longevity necessitates a shift to self-insurance or saving as the way to smooth consumption over one's lifetime, while falling poverty implies a shift to market

insurance or pooling. The role of governments is to facilitate these actions actions by individuals to insure, self-insure, and self-protect. But since there are relatively few serious impediments to the ability of individuals to save for old age, the role for governments in encouraging saving for old age should be secondary and become smaller. But in the case of poverty, because of the “social” nature of the loss being insured against, and because of well-known problems with insurance markets, the role for governments is primary.

Figure 12: Latin Americans are living longer lives

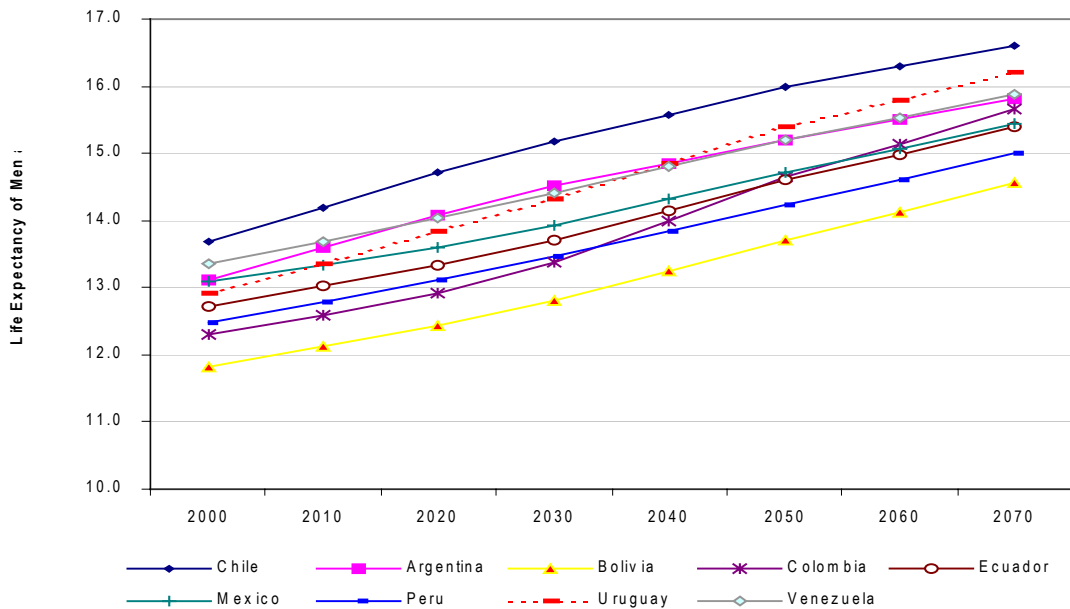
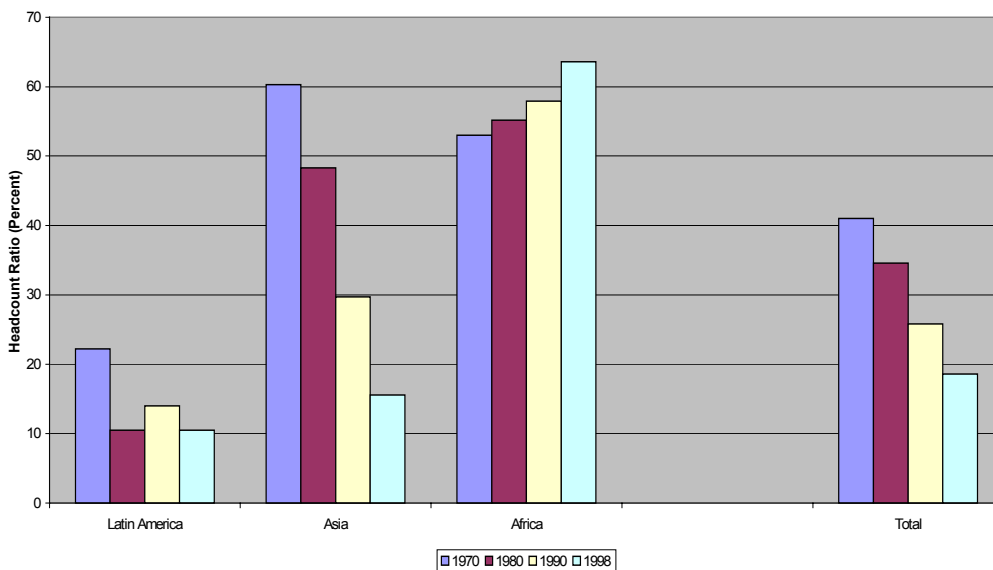


Figure 13 Poverty in Latin America has fallen

Declining Poverty in Latin America, 1970-2000

(Source: Sala-i-Martin, 2002)



Like the US, Latin America is now experiencing rising life expectancies (see Figure 12). This necessitates a shift to saving as the mainstay of old age income security, i.e., consumption smoothing should be an individual's responsibility, not that of the society. The general direction of the reforms in Latin America may therefore be appropriate. Again, as in the US, Latin America has seen poverty rates fall (see Figure 13). This implies the need for an instrument for pooling these losses. To the extent that this implies moral hazard, there can be arguments for governments to make saving compulsory. But it also implies that the size of the mandatory savings component should be smaller than what has been contemplated in many Latin American countries, and what some observers seem to think is necessary for the US.

We should emphasize that we are not experts in matters related to the US social security system. What we are more sure of, however, is that much of the discussion in any country should revolve around these two functions of government—the role of governments in helping people save and smooth consumption over their lifetimes, and the need to help them insure against the losses associated with becoming destitute in old age. While it is clear that the mainstay for consumption-smoothing should be individual saving, it is less clear what should be the role of the government in getting people to save. In case of destitution in old age, however, the role for governments is clearer—providing an instrument for insurance against the increasingly rare loss associated with falling into poverty.

For various reasons, social security systems have historically bundled these two functions. The implication is that as the role of government in saving is scaled down, the insurance function becomes more, not less, important. Lindbeck and Persson (2003) conclude their recent survey of social security reforms around the world as follows:

“Reforms do not diminish the need for basic, or guaranteed, pensions. Quite the contrary; growing reliance on quasi-actuarial and actuarially fair systems which in themselves do not encompass any systematic intra-generational redistributive elements, makes it even more imperative to maintain a safety net to prevent poverty in old age.”

We agree. And we believe this conclusion applies as much in the US as it does in Latin America.

References

Baker, Dean and Mark Weisbrot. 1999. *Social Security: The Phony Crisis*, University of Chicago Press.

Barr, Abigail, and Truman Packard. 2002. "Revealed and Concealed Preferences and Self Insurance: Can we Learn From the Selfemployed in Chile?" Background paper for *Keeping the Promise of Social Security in Latin America*.

Barr, Abigail, and Truman Packard. 2003. "Preferences, Constraints, and Alternatives to Coverage Under Peru's Pension System" Background paper for *Keeping the Promise of Social Security in Latin America*.

Brown, Jeffrey, Kevin Hassett, and Kent Smetters. 2005. "Top Ten Myths of Social Security Reform." CRR WP 2005-11, Center for Retirement Research, Boston College.

Congressional Budget Office. 1999. *Social Security Privatization: Experiences Abroad*. CBO Paper, January.

Diamond, A. Peter. 2005. "Risk Sharing and the Welfare State." Talk presented at the Toulouse Roundtables on Economic Policy at the Conference in Tribute to Jean Jacques Laffont, July 1, 2005.

Diamond, A. Peter, and Peter R. Orszag. 2003. *Saving Social Security: A Balanced Approach*, Brookings Institution Press.

Ehrlich, Isaac, and Gary Becker. 1972. "Market Insurance, Self-Insurance and Self-Protection," *Journal of Political Economy*, 80: 623-48.

Feldstein, Martin. 2005. "Rethinking Social Insurance." Presidential address to be presented at the American Economic Association 2006 Annual Meeting.

Feldstein, Martin, and Andrew Samwick. 2001. "Potential Paths of Social Security Reform," *NBER Working Paper 8592*.

Government Accountability Office. 2005. *Social Security Reform: Other Countries' Experiences Provide Lessons for the United States*. GAO-06-126.

Gill, Indermit, Truman Packard, and Juan Yermo. 2004. *Keeping the Promise of Social Security in Latin America*, Stanford University Press for the World Bank.

Gill, Indermit, Truman Packard, Todd Pugatch, and Juan Yermo. 2005. "Rethinking Social Security in Latin America," *International Social Security Review*, Volume 58, Number 2-3.

Lindbeck, Assar, and Mats Persson. 2003. "The Gains from Pension Reform," *Journal of Economic Literature*, 41(March): 74-112.

Packard, Truman, Naoko Shinkai, and Ricardo Fuentes. 2002. "The Reach of Social Security in Latin America and the Caribbean." Background Paper for the Regional Study on Social Security Reform, LAC Region, World Bank, Washington, DC.

Annex Table 1: Summary of Structural Reforms to Social Security Systems in Latin America, 1990s

	Chile	Peru	Colombia	Argentina	Uruguay	Mexico	Bolivia	El Salvador
Year of reform	1981	1992/1993	1994	1994	1996	1997	1997	1998
Contribution-related PAYGO system?	closed	remains	remains	remains	remains	closed	closed	closed
Total payroll tax rate, pre-reform (%)	33	18	17.8	42	40	20	19	11.8
Total payroll tax rate, post-reform (%)	20	20.5/22 ^a	33.8	46 ^b	40	26	24	13.5
Participation of new workers?	mandatory	voluntary	voluntary	voluntary ^c	voluntary ^d	mandatory	mandatory	mandatory
Participation of self employed?	voluntary	voluntary	voluntary	mandatory	mandatory	voluntary	voluntary	voluntary
Fees & insurance premia (% of wage)	2.31	3.73	3.49	3.28	2.68	4.48	2.50	3
Pay-out options	Annuity or scheduled withdrawal	Annuity or scheduled withdrawal	Annuity or scheduled withdrawal	Annuity or scheduled withdrawal	Annuity only	Annuity or scheduled withdrawal	Annuity only	Annuity or scheduled withdrawal
Minimum return on investment?	relative to average	relative to average	relative to average	relative to average	relative to average	unregulated	unregulated ^g	relative to average
Minimum contributory pension?	yes	yes (only for affiliates born before 1945)	yes	yes	yes	yes	no	yes
Social assistance pension?	yes	no	no	yes	yes	no	yes	no

Source: Gill, Packard and Yermo (2004).

Annex Table 2: Summary of Structural Reforms to Social Security Systems in Latin America, 2000s

	Costa Rica	Nicaragua	Ecuador	Dominican Republic
Year of reform	1995/2000 ^h	2000, as yet unimplemented	2001, as yet unimplemented	2001 ⁱ
Contribution-related public PAYGO system?	remains	closed	remains	closed
Total payroll tax rate, pre-reform (%)	22	17		9.25
Total payroll tax rate, post-reform (%)	26	21.5	Varies, but no more than 20	20
Participation of new workers?	mandatory	mandatory	mandatory	mandatory
Participation of self employed?	voluntary	voluntary	mandatory	mandatory
Fees & insurance premia (% of wage)	(j)	2.5	4.0	2.0
Minimum return on investment?	unregulated	unregulated	relative to average	relative to average
Minimum contributory pension?	yes	yes		yes
Social assistance pension ?	yes	yes	yes	yes

Source: Gill, Packard and Yermo (2004).