



The Impact of Pension Reforms

Pension reforms require decades of implementation before a complete evaluation is possible. For most reforming countries, too little time has elapsed to evaluate the outcomes of Bank-supported reforms, but indirect indicators can be used to gain insight into the development outcomes.

The first section of this chapter uses such indicators to evaluate whether old-age income security has been achieved. While only implicit in *Strategy*, *Averting* and *Perspective* indicate that, when appropriately implemented, multi-pillar systems ought to offer greater retirement income security than PAYG systems by: (1) earning higher rates of return from diversified investments and (2) spreading political and systemic risk between the public and private sectors. In order for the pension system to provide retirement income security, the system also has to be fiscally sustainable. The second section reviews improvements in the financial balance of PAYG systems and the transitional deficit resulting from multi-pillar reforms.

The third section reviews whether secondary objectives from multi-pillar reforms were achieved, including increased national savings, capital market development, and labor market flexibility.¹ Finally, the last section of this chapter reviews the Bank's activities from the in-depth IEG case studies to provide a full assessment of the development outcomes within countries, taking the entire reform process into account, rather than each indicator individually.

Based on existing evidence, multi-pillar reforms in many countries, as implemented, have not improved old-age income security. In many cases, investments in the mandatory funded pillar are not well diversified, and instead are concentrated in government bonds. While in many cases the government bonds offer high rates of return, the high returns often reflect high levels of macroeconomic and investment risk.

Evidence on savings and capital market formation is also mixed. But this could be, in part, a result of poor fiscal policy undermining the potential for better outcomes. Finally, linkages between contributions and benefits do not appear to have improved the efficiency or formalization of labor markets, because coverage has remained stagnant in many countries.

Income Security Outcomes

Has risk been diversified?

Multi-pillar pension plans are expected to hold a variety of securities, including higher-yielding equities and lower-risk international assets,² but many pension portfolios are primarily invested

Table 4.1: In Latin America and the Caribbean, Only Some Funded Pension Portfolios Are Well-Diversified (percentage of holdings as of December 2002)

	Government securities	Financial institutions	Corporate bonds	Equities	Investment funds	Foreign securities	Other
Argentina	76.7	2.6	1.1	6.5	1.8	8.9	2.4
Bolivia	69.1	14.7	13.4	0.0	0.0	1.3	1.5
Chile	30.0	34.2	7.2	9.9	2.5	16.2	0.1
Colombia	49.4	26.6	16.6	2.9	0.0	4.5	0.0
Mexico	83.1	2.1	14.8	0.0	0.0	0.0	0.0
Peru	13.0	33.2	13.1	31.2	0.8	7.2	1.5
Uruguay	55.5	39.6	4.3	0.0	0.0	0.0	0.5

Source: Gill, Packard, and Yermo (2005), based on data from AIOS, FIAP (data for Colombia).

Note: Information for Colombia refers only to the mandatory pension fund system.

Private pension funds need to diversify risk through varied investments.

in government debt.³ Undiversified portfolios are a result of government-imposed investment guidelines, a lack of domestic investment opportunities, and/or economic crisis.⁴ While the expansion of the demand for government debt can improve market efficiency and lead to the development of longer-duration instruments, a strategy of concentrated investment in government debt fails to yield the benefits provided by diversification.⁵ From the point of view of macroeconomic policy, pensions invested primarily in government bonds are little different from PAYG systems.⁶

In Latin America and the Caribbean, except for Chile and Peru, pension portfolios for reforms supported by the Bank are heavily concentrated in government securities (table 4.1).⁷ Colombia and Uruguay have more diversified portfolios than other countries in the Region, but still maintain a majority share in government securities. In some countries, the domestic bond market was

Many private funds in Latin America and the Caribbean are concentrated in government bonds.

not developed at the time of multi-pillar reform. Ironically, the diversification of Peru's portfolio partly results from poor debt management. During the early 1990s, there was no domestic bond market in Peru, and the government had to borrow entirely offshore and use ad hoc financing measures for its spending.⁸ The combination of tight investment guidelines

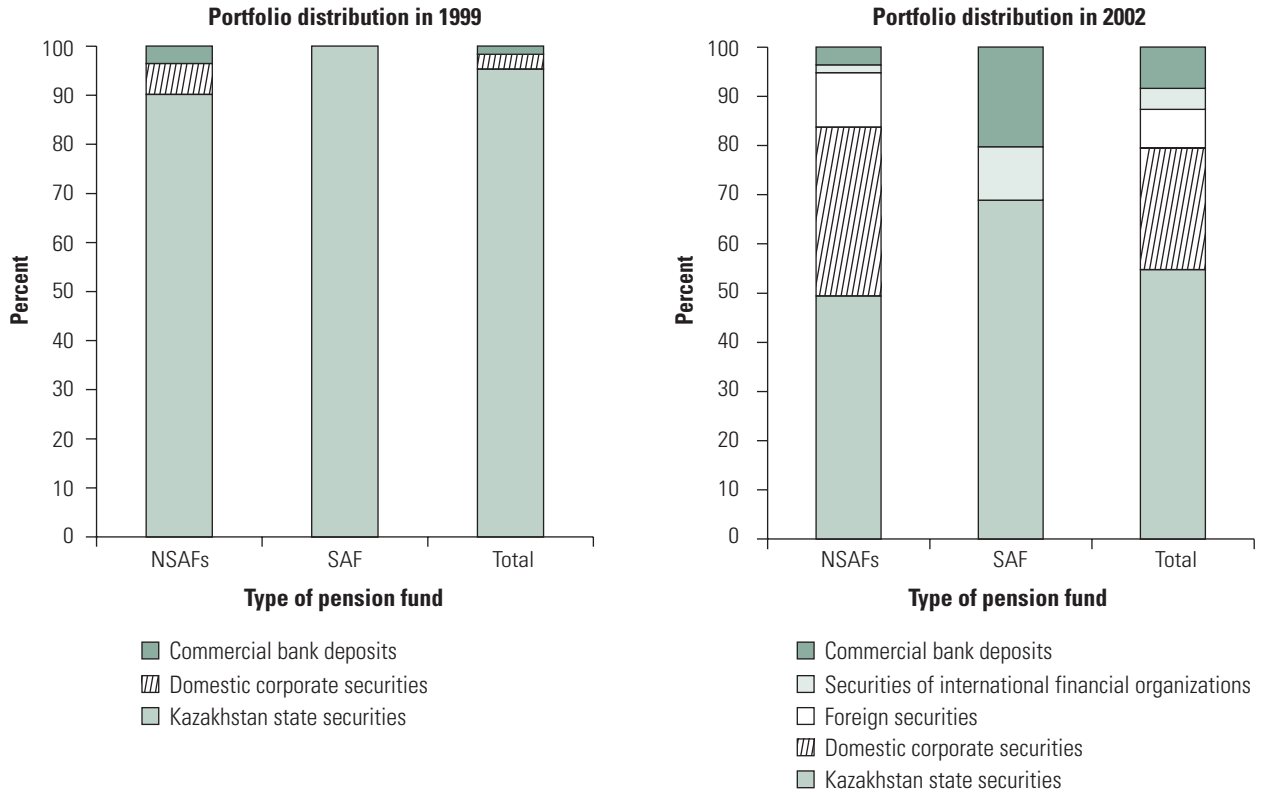
and the still illiquid market for government debt has led to greater portfolio diversification into capital markets.

Diversification in Europe and Central Asia is also limited. Hungarian pension funds invested roughly 70 percent of their assets in government bonds in mid-2003, only somewhat lower than the 80 percent share at inception. While slightly more diversified, Polish and Croatian funds were still invested at roughly 60 percent in government bonds in 2002.⁹ Kazakhstan pension funds have diversified considerably since 1998, when the reform began (figure 4.1). This diversification has been, in part, a result of a donor-assisted drive to develop new financial sector instruments.

Are rates of return higher?

The long-term stability of the returns to funded pillars is difficult to evaluate because of sovereign credit risk, capital market volatility, and management costs. Gross rates of return for the funded pillars of many multi-pillar systems, however, have been favorable compared to wage growth—a proxy for the implicit rate of return to the PAYG system (table 4.2).¹⁰ In all countries except Kazakhstan, wage growth since the start of the multi-pillar system has been less than the rate of return on assets. But gross rates of return do not account for the administrative costs of managing the funds. If a reduction of 1.5 percent is assumed for managing the funds (a fee structure found in some countries), then the positive wage–interest rate

Figure 4.1: Pension Funds Have Become More Diversified in Kazakhstan



Source: National Bank of Kazakhstan.

Note: NSAF = non-state accumulation fund; SAF = state accumulation fund.

Table 4.2: Real Returns Have Outpaced Wage Growth for Funded Pensions in Most Countries

Country	Real rate of return (since reform)	Real wage growth (since reform)	Different between rate of return and wage growth	S&P Sovereign Debt Rating (1999)
Argentina	11.7	-0.8	12.5	BB
Bolivia	16.2	8.8	7.4	BB-
Chile	10.5	1.8	8.7	A-
Colombia	11.8	1.4	10.4	BB
El Salvador	11.3	-0.2	11.5	BB+
México	10.6	0	10.6	BB
Peru	5.7	1.8	3.9	BB
Uruguay	9.5	3.6	5.9	BBB-
Poland	7.5	3.5	4.1	BBB
Kazakhstan	5.8	8.4	-2.6	B+

Source: International Federation of Pension Fund Administrators (2003) and Hammer, Kogan, and LeJeune (2004).

Note: Based on a subset of countries with available data. The S&P debt ratings ranged from AAA for many OECD countries to CC for Pakistan on a scale of 18 ratings.

It is difficult to determine whether private funds will enjoy high rates of return in the long run.

High returns in private funds are sometimes the result of investing in high-risk government debt.

differential is reduced to around 2.5 percentage points for Peru and Poland.¹¹

In many countries, high returns are a result of high interest on government

bonds and, as such, are related to the risk profile of the country's sovereign debt. Among the countries listed in table 4.2, the 1999 Standard & Poor's Sovereign Debt Rating for Chile was the highest, at A-, the sixth-highest category of 18 alphabetical ratings.¹² Poland had the next highest rating, at BBB, the eighth of 18, and Kazakhstan was ranked the lowest, at BB, the thirteenth.

Sixty-nine countries were included in the ratings. Only 5 countries were rated lower than Kazakhstan; 26 were rated higher than Chile.

Funded pensions are proposed to reduce the demographic and political risks of PAYG systems. But pensions from funded pillars, even in countries with mature, well-regulated, and highly efficient capital markets, are subject to other risks, such as capital market volatility. This can lead to fluctuations in replacement rates across cohorts, depending on the conditions of the market at the time of labor-force entry until retirement. For example, with equity investments, pensions will be quite sensitive to the exact year of retirement.¹³ Even with investments in government bonds, replacement rates can vary considerably if the authorities do not predict long-term trends in returns accurately when they set contribution rates for the funded part of the pension system.¹⁴

Government interference

One underlying motivation for a multi-pillar system is to limit government interference in retirement-

Private funds are not necessarily protected from government interference.

income security. But Bank-supported pension reforms have not always been effective in controlling government interference, especially during economic crises. For instance, during the Argentinean crisis, the government forced pension funds to take up government debt.¹⁵ Similarly,

following the Russian crisis, the Kazakhstan government "encouraged" pension funds to exchange government bonds held before the currency devaluation for new issues, effectively reducing the rate of return. Government interference took place in Bolivia by forcing pension plans to accept Bonosol bonds.¹⁶

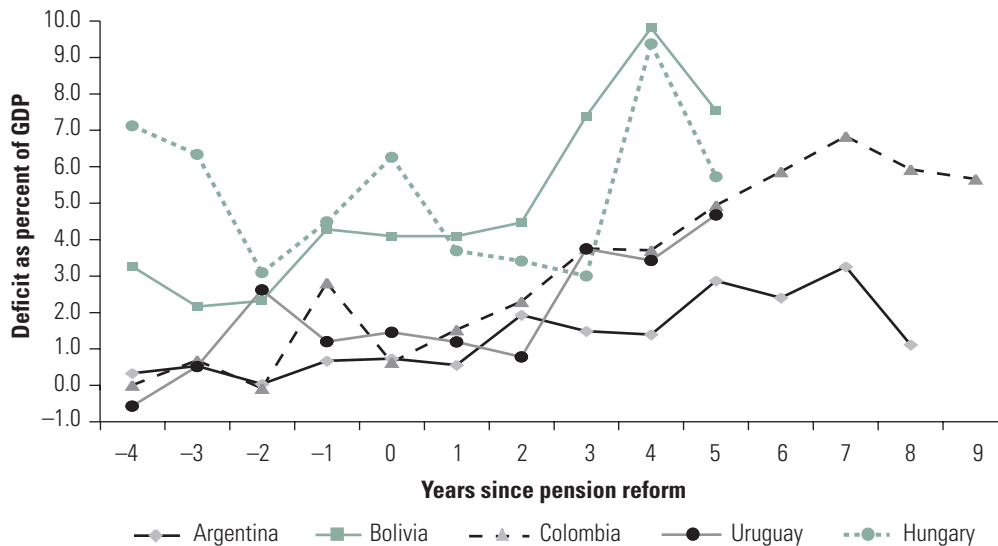
Fiscal Sustainability

Fiscal sustainability is a long-term target related to the extent to which parametric reforms have reduced unfunded pension liabilities and the degree to which the funding of the transition costs of multi-pillar reforms has been fiscally responsible.¹⁷ A thorough analysis of the financial sustainability of pension reform requires an evaluation of the actuarial projections of the PAYG system made before and after the reforms. Equally important to fiscal sustainability is the fiscal stance, independent of the pension system and associated transition cost (figure 4.2).

The World Bank assisted many countries in implementing parametric PAYG reforms to strengthen their system's fiscal balance. With Bank support, Brazil improved its fiscal position significantly over 1998–2003, which allowed it to survive two serious lapses in investor confidence. The cuts in pension expenditure achieved in the reform, while temporary, were a positive step toward more permanent stability. The Bank's assistance to the Kyrgyz Republic reduced pension costs by one-half as a percentage of GDP by 2002, compared with 1995. The reform helped balance the budget by 2003. In Kazakhstan, the fiscal deficit declined as a percentage of GDP, but was bolstered by the receipt of significant oil revenues, an event exogenous to pension policy.

In a number of Latin American countries, including Argentina, Bolivia, Mexico, Peru, and Uruguay, insufficient parametric reforms in civil service pensions and other PAYG plans created unsustainable pension deficits.¹⁸ In Argentina and Bolivia, payouts increased more than expected because of fraudulent claims and a lax interpretation of rules (Ramachandran and Kissedes 2005). In Europe and Central Asia, the private sector evaded both first- and second-pillar contributions when tax rates were high. In these countries, the Bank focused more on developing multi-pillar sys-

Figure 4.2: Fiscal Deficits Have Grown in Many Countries with Second Pillars



Source: World Development Indicators (World Bank 2005).

tems than on implementing the complementary parametric reforms.

The World Bank did not make actuarial projections of the fiscal expenditures required to meet minimum guarantees provided by some multi-pillar systems for pensioners whose calculated pensions, based on their accumulated assets, would be lower than legislated minimums. This is an issue in a number of countries in Europe and Central Asia and Latin America and the Caribbean. Minimum guarantees and intermittent coverage will lead to higher general revenue expenditures whenever workers fail to accumulate sufficient resources in their individual accounts beyond the minimum pension. Projections are needed to assess whether this problem is imminent, especially in Chile and Kazakhstan. In addition, pensions in multi-pillar systems can gradually fall below the minimum if the guarantee is indexed and the full pension is not, which may pose a problem for Poland.

Savings and Capital Market Development

Have savings rates increased?

The impact of multi-pillar reform on savings is inconclusive (figure 4.3). Savings rates in Kazakhstan, Latvia, and Peru increased after multi-pillar

reforms, but in Kazakhstan, growth in oil revenue is more likely than pension reform to have improved gross domestic savings. By contrast, savings rates in Bolivia and Uruguay remained virtually unchanged, while rates in Colombia, Hungary, and Mexico declined. Argentina, Colombia, and Peru still have savings rates of less than 20 percent of GDP, and Bolivia and Uruguay have savings rates under 15 percent.¹⁹

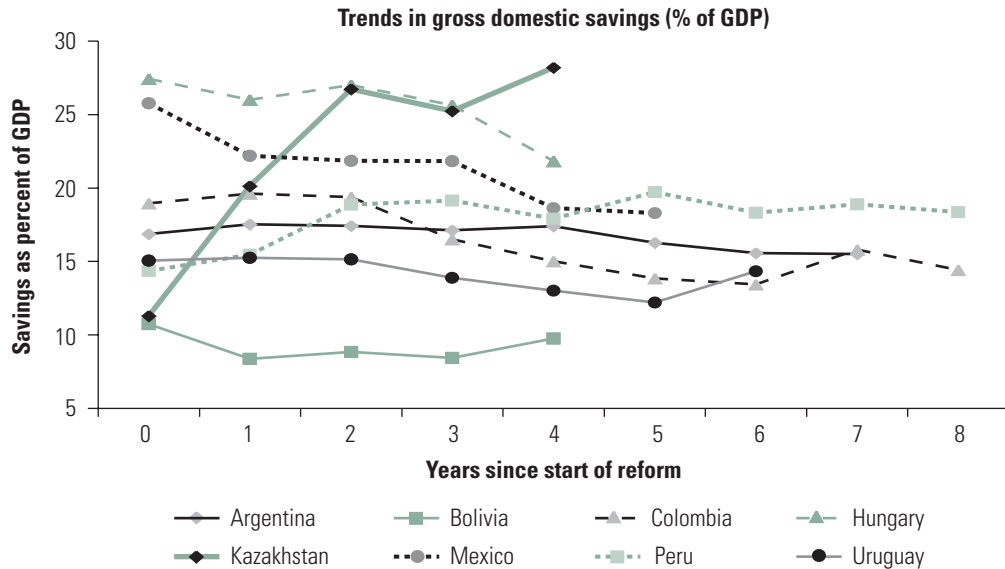
The relationship between pension reform and savings is complex. It depends on the way in which the fiscal deficit has been financed, the reaction of financial markets, and the reactions of workers.²⁰ In Kazakhstan, the fiscal deficit declined as a percentage of GDP, and the savings rate increased. In Colombia, Hungary, and Uruguay, savings rates are highly correlated with fiscal deficits, suggesting that poor fiscal policies could reduce possible positive gains to savings from multi-pillar reforms. Savings and the fiscal deficit have been uncorrelated in Peru, however,

In some countries in Latin America and the Caribbean, insufficient parametric reform has led to unsustainable pension deficits.

The effect of multi-pillar reforms on savings is unclear.

Pension reform and savings are not always correlated . . .

Figure 4.3: Savings Rates Increased Only in Kazakhstan



Source: World Development Indicators (World Bank 2005).

Note: The most recent data for Argentina was omitted, because it likely resulted from a reduction in GDP rather than an increase in saving.

where savings increased. In Mexico, both the savings rate and the deficit declined.

Have capital markets developed?

So far, most capital markets have not developed significantly as a result of multi-pillar pension reform, even when financial sector and capital market regulation has improved.

... This may be attributed to the predominance of government bonds in pension portfolios.

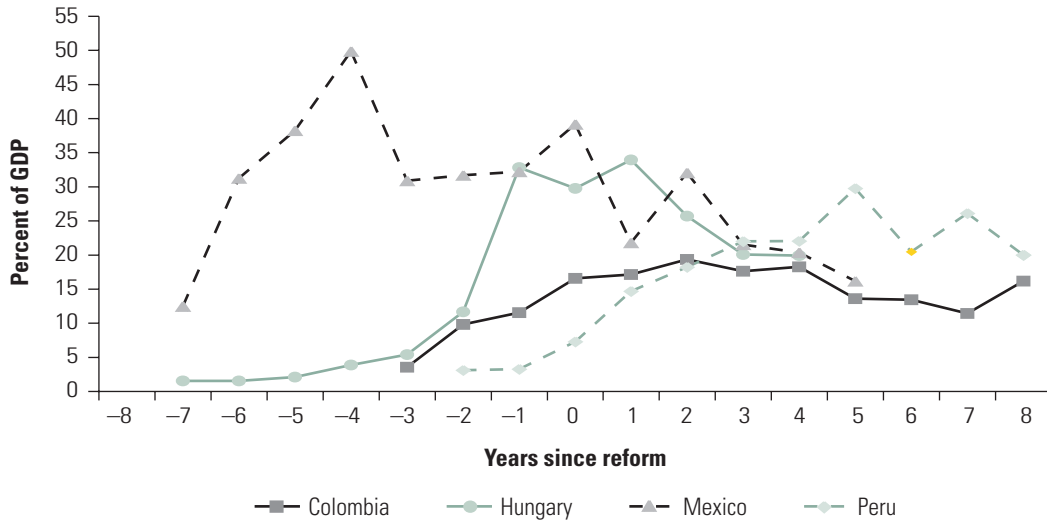
While government bonds lengthened their maturities in some countries in concert with the needs of pensioners and pension plans, this has been an inadequate substitute for diversification, particularly in countries viewed as poor sovereign credit risks. Nor did pension plans diversify toward corporate securities or bank deposits, both capital market alternatives with which to finance business expansion and development.

Initially, hopes for pension-stimulated capital market development relied on equity-market development, although this emphasis has shifted in recent years. The equity market impact of multi-pillar reform has not been strong (figure

4.4).²¹ But like savings, equity markets are influenced by myriad unrelated factors. Still, equity market development has not proceeded in Colombia or Hungary, although there has been growth in Peru. Colombia has had a limited and fragmented equity market for years, with trading concentrated in 10 stocks and no new issues. The Mexican equity market declined in the post-reform period from being one of the strongest in Latin America. While equity markets expanded in Peru, they accounted for only 25 percent of GDP after nearly a decade of reform.²²

Of course, with significant shares of pension portfolios in government bonds, equity markets are unlikely to grow as a result of pension reform. An important question is whether the lack of equity market development is a cause or a result of the concentration of investments in government bonds. The development of equity markets may require more than a potential pool of funds, if companies are not ready to capitalize by issuing shares on the open market. For example, as the banking system became stronger in Hungary, Banks began to provide capital for expanding

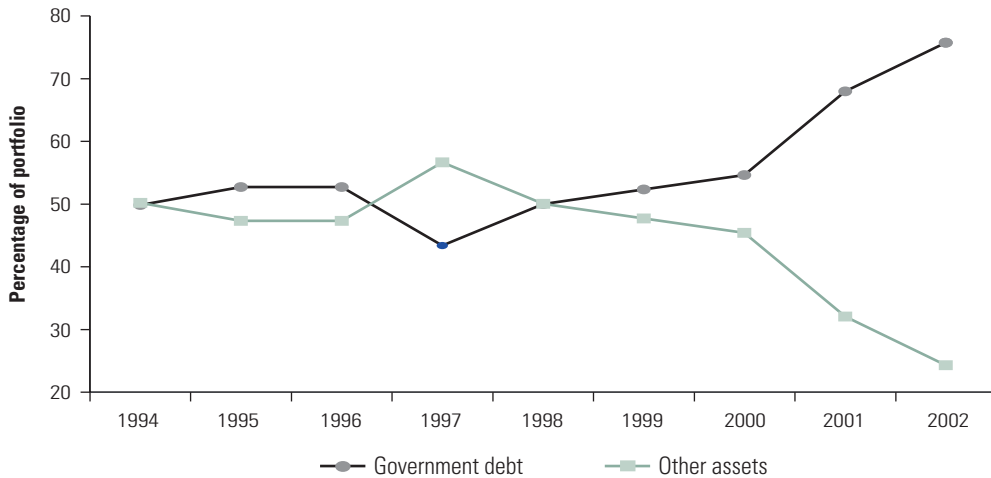
Figure 4.4: Market Capitalization Remains Quite Low



Source: World Bank data.

Note: Kazakhstan is not included because market data were extremely unstable, no doubt reflecting a very small market and, possibly, changes in oil stock listings.

Figure 4.5: Post-Crisis Pension Portfolios in Argentina Fled to Government Bonds



Source: IEG Argentina Case Study.

businesses through loans, which reduced the need for companies to go to the equity market.

Economic conditions play a role in asset allocation as well. Countries that had high fiscal deficits, such as Colombia and Hungary, are unlikely to

experience capital market expansion. Trends in asset allocation in Argentina illustrate how financial crises can affect multi-pillar pension systems. Argentina's pension funds had been moving toward greater diversification until 1998, when the econ-

omy entered a depression that eventually led to a crisis in 2001 (figure 4.5). After that, government bonds took up the lion’s share of investments—in part, because of government pressure.

Countries running a current account surplus could have diversified by investment in foreign markets, but most developing countries run current account deficits (Ramachandran and Kissedes 2005). In addition, in small capital markets, such as that of Peru, pension funds would affect the prices of assets, and may have to invest heavily in bank debt instead (Hanson and Ramachandran 2005).

The Formalization of Labor Markets

Strategy argues that a multi-pillar system should “interfere less in individual labor supply and saving decisions.” One measure of a more efficient

The impact of multi-pillar reforms on labor market efficiency in Europe and Central Asia is inconclusive.

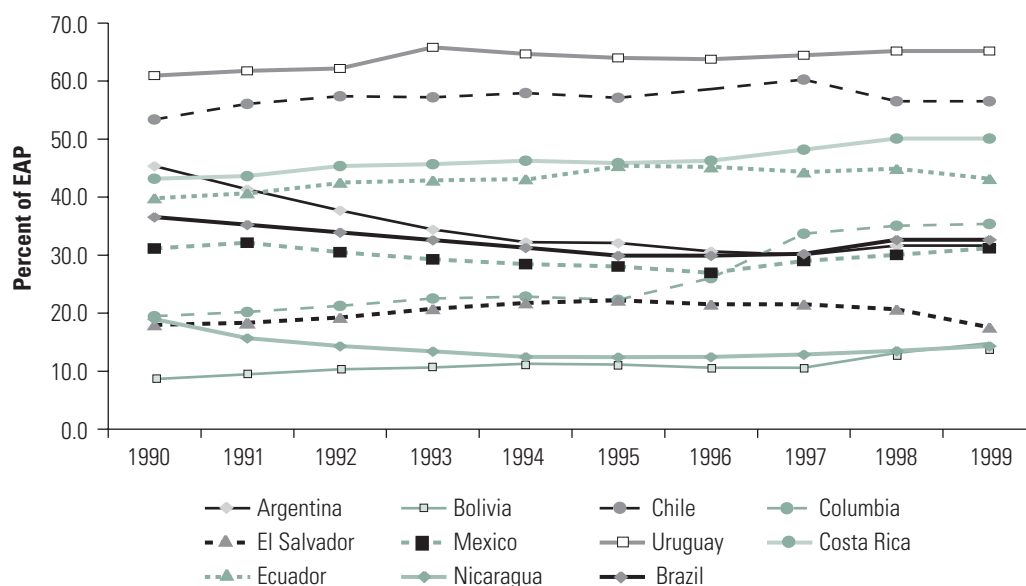
labor market would be the degree of formalization, as reflected in the pension coverage rate, since pension coverage is only important in the formal economy. Multi-pillar pension reforms supported by the World Bank,

however, have not achieved higher participation (figure 4.6).²³

Post-pension reform participation increased somewhat in Chile and Colombia, but plummeted in Argentina. Small gains in Bolivia are associated with the pension reform. One explanation for the stagnation of coverage rates could be the presence of minimum guarantees, which may encourage low-income workers to limit their years of contributions in the formal system. Others are high contribution rates and lack of economic growth. Whether this is because workers mistrust social security or simply evade the payroll tax is unclear.²⁴

The impact of the Bank’s support of multi-pillar schemes on labor market efficiency in Europe and Central Asia is still unclear. As a result of the socialist legacy of virtually full formal-sector employment, the Region’s pension coverage rates are considerably higher than those of countries at similar levels of per capita income (adjusted for purchasing power parity). Latvia has witnessed greater labor market formalization, however, with pension coverage increasing by about 3 percent between 1995 and 1999—after the pension reform became effective, but before the funded

Figure 4.6: Pension Participation Rates Have Not Changed in Latin America and the Caribbean



Source: Gill, Packard, and Yermo 2005, p. 100, figure 5.4.

Note: EAP = Economically active population.

Table 4.3: Outcome Ratings Varied Considerably, as Did the Reason for the Ratings

Country	Type of reform	Outcome	Sustainability	Pension component (\$ mm)	Reason for outcome rating
Bulgaria	Multi-pillar	Highly satisfactory	Highly likely	56	The Bank assessed the impact of adequacy and financial stability. The reform was highly successful in institution building.
Latvia	Multi-pillar	Satisfactory	Likely	38	Bank assistance focused on restructuring an outmoded pension system and on payment of social assistance. Actuarial modeling capacity is in place. Implementation was generally on schedule.
Kyrgyz Republic	PAYG	Satisfactory	Highly likely	34	The problems were diagnosed well, but technical support was too short in duration to affect capacity. However, the pension reform was a major achievement and is financially sustainable.
Kazakhstan	Multi-pillar	Satisfactory	Highly likely	324	The Bank's assistance was timely and relevant, but the long-term objective of providing adequate benefits needs to be revisited. The accomplishments of introducing a totally new system are substantial.
Hungary	Multi-pillar	Satisfactory	Highly likely	212	The policies and measures to implement the new pension system and create an institutional structure were timely and relevant. But the plan to develop a database that would provide an efficient record system for the first and second pillars was scrapped.
Korea	PAYG	Satisfactory	Highly likely	502	The objectives were consistent with needs and development priorities and sequenced to facilitate Korean proposals for reform. But reforms fell short of Bank recommendations for a multi-pillar system.
China	PAYG	Satisfactory	Likely	20	The Bank's assistance was consistent with initial conditions and development priorities. Performance in relation to the Bank budget was outstanding. Compared to smaller nations, progress has been slow.
Argentina	Multi-pillar	Moderately satisfactory	Likely	801	The Bank's assistance identified the main obstacles for the development of the pension system, and the PAYG pillar was unified. However, fiscal problems continued to plague the system.
Brazil	PAYG	Moderately satisfactory	Likely	1,326	The Bank's assistance supported many diverse objectives, but did not reduce inequality, reform rural pensions, or reform government compensation. Fiscal savings were less than anticipated.
Mexico	Multi-pillar	Moderately satisfactory	Likely	605	The Bank did not assess the effect of the reform on the poor or on coverage. The reform was not extended to the civil service or parastatals, where the implicit pension debt is high.

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Table 4.3: Outcome Ratings Varied Considerably, as Did the Reason for the Ratings (continued)

Country	Type of reform	Outcome	Sustainability	Pension component (\$ mm)	Reason for outcome rating
FYR Macedonia	Multi-pillar	Moderately satisfactory	Unlikely	26	The Bank provided a comprehensive approach including pension and social assistance reform. But a more tailored approach would have been advisable. The initial schedule for the second pillar was too fast, however. Minimum conditions were not in place; these are being improved.
Albania	PAYG	Moderately satisfactory	Unlikely	8	The Bank attributed the right priority to the pension reform in recognizing the deficiencies of the first "emergency approach." The question is whether the system can deliver adequate pension benefits.
Peru	Multi-pillar	Moderately unsatisfactory	Unlikely	364	Developing a fiscally sustainable pension system is a valid objective, but since it only covers 10 percent of the population, the relevance of the overall strategy is questionable.
Uruguay	Multi-pillar	Moderately unsatisfactory	Unlikely	150	The Bank's approach was ad hoc, reacting to events rather than having a clear-cut strategy, but the objective of financial stability was relevant. The Bank stuck to an ideological approach initially, which was not consistent with country conditions.
Bolivia	Multi-pillar	Moderately unsatisfactory	Unlikely	17	The Bank's assistance on the Bonosol failed to devote resources to implementation. The Bank did not clarify the fiscal impact of the pension reform. Assistance for supervision of the old system was ineffective.
Russia	Multi-pillar	Moderately unsatisfactory	Unlikely	300	The Bank failed to convince policymakers that a good social security and social assistance system was essential. Pension reform proceeded along a very discontinuous path as Bank advice was inconsistent over time.

system was introduced in 2001. In Kazakhstan, despite a relatively large informal sector, the number of covered workers has increased since 1998, but this is likely to be related to renewed wage gains and growth stimulated by oil revenues. In contrast, the number of contributors to the Hungarian pension system remained virtually constant.

Development Outcomes of World Bank Assistance

IEG commissioned independent consultants to conduct case studies that would provide a more comprehensive look at the Bank's involvement in complete pension program activities over time

(see table 4.3). The ratings indicate a range of success regarding the influence of the Bank's activities on development outcomes, and expectations that these reforms will be sustainable in the future. In Argentina and Uruguay, the Bank was perceived as pushing reforms that were not adapted to country conditions. In Argentina, Bolivia, Brazil, and Mexico, insufficient assistance or attention was given to long-run projections. The highly satisfactory rating for Bulgaria reflects the Bank's concern for all the factors involved in a reform, including financial sector readiness, political will, and institutional readiness. The common themes in the satisfactory ratings for the Bank's activities for Eu-

Europe and Central Asia and East Asian countries are a focused reform agenda (albeit with some failures in implementation in Latvia and Hungary) and good operational advice (although with little input into policy in Kazakhstan). The use of experts exposed Korea to international best practice, and the effectiveness of policy advice in China contributed to the success of its reforms. The Bank gave sound advice in the Kyrgyz Republic by advising against the institution of a multi-pillar system in the absence of appropriate fiscal and financial sector preconditions.

No easy formula explains why the impact of the Bank's activities on development outcomes in some case study countries is better than in others. World Bank support has varied by loan amounts, investment-adjustment mix, and funding for project preparation. Bulgaria had relatively few formal ESW studies, but the Bank's contribution to development outcome was highly satisfactory. Russia had a dozen ESW studies, and the Bank's contribution to development outcome was rated moderately unsatisfactory. With only two loans and credits, the Bank's assistance to China's development outcome was satisfactory, as was Brazil's, with nine loans and credits. Latvia received only \$26 million in loans, and the Bank's assistance to development outcome was satisfactory, compared with Peru, which received \$364 million and had a development outcome of moderately unsatisfactory.

Summary and Conclusions

A positive impact of the Bank's activities on development outcomes for multi-pillar pension re-

forms requires that a combination of measures work together, including effective fiscal policy, cost-reducing parametric reforms, and encouragement of capital markets.²⁵ The full effect of the Bank's activities in pension reform on development outcomes can only be evaluated if the program is assessed in its entirety, in combination with a set of indicators, rather than by the performance of the pension components of individual loans, or even groups of loans.

The outcome of the Bank assistance to multi-pillar reform falls short of achieving the objectives identified in *Strategy*. To some extent, this reflects the short time since the inception of reform. But pension portfolios in many countries are concentrated in government securities. Only the Chilean, Colombian, and Peruvian pension portfolios are relatively well diversified. While parametric and multi-pillar pension reforms have improved the financial balance of PAYG systems, additional reforms are often needed. Multi-pillar systems remain open to political influence, especially in times of economic crisis. Multi-pillar pension reforms have not yet increased savings or substantially developed capital markets. High rates of interest on government bonds and regulatory limits on domestic equity investments may have stifled capital market expansion. By contrast, countries with low coverage need to expand their safety nets to improve the welfare of the elderly by other means, such as noncontributory options.

Development outcomes for case study countries do not show a clear trend.