

The Limits of Pension Privatization: Lessons from Argentine Experience

CAMILA ARZA *

Latin American School of Social Sciences, Argentina

Summary. — The paper studies the operation of the mixed pension system established in Argentina in 1994. It points to the limitations that the new system has encountered to achieve some of the most important objectives of pension policy and pension reform. The analysis looks at the mechanisms affecting pension system performance, with particular attention to the way in which the new pension rules have interacted with the local macroeconomic, social, and political context. The empirical analysis of this experience is oriented to provide lessons for Argentina's future reforms, as well as for many Latin American countries with similar pension arrangements.
© 2008 Elsevier Ltd. All rights reserved.

Key words — privatization, pension reform, social security, three-pillar model, Latin America, Argentina

1. INTRODUCTION

Over the past two decades, major transformations of social security systems have taken place worldwide. Ten Latin American countries have privatized part or all their pension arrangements, and similar processes can be found in nine Central-Eastern European and ex-Soviet Union countries. Other Western European countries (such as Sweden, Denmark, and Italy) have also created individual funded accounts as a new layer of their dominantly public system of old-age income protection. Nowadays there are roughly 23 countries which have mandatory systems of private individual accounts and many others where private arrangements are voluntary.¹ Although many countries have ruled out pension privatization due to the transition costs involved, most continue to promote the expansion of voluntary private pensions as a means to counteract the fall of public pension benefits resulting from recent cost-containment reforms. But while about a decade or so ago, there was little information on the outcomes of the operation of private pensions in developing countries (with the only exception of Chile), it is now possible to make some preliminary evaluation of the results of pension system privatization in countries where sufficient time has passed from the moment in

which these systems were first implemented. This paper provides evidence on the operation of private pensions in Argentina, one of the first countries to privatize pension administration, shifting from a public pay-as-you-go (PAYG) to a mixed (public-private) system which includes funded and privately administered individual accounts. The analysis evaluates reform outcomes and studies the factors affecting pension system performance over the past one and a half decades.²

2. THE OBJECTIVES OF PENSIONS

As with most wide-ranging and complex public policies, the objectives of pension systems are broad and diverse. Priorities may differ across countries: some privilege insurance over redistribution, income replacement over poverty prevention, and equal treatment over equality of outcomes, and others do precisely the opposite. The policies effectively applied in

* I would like to thank Martin Abeles and Laura Goldberg for comments on an earlier version of this manuscript, as well as three anonymous referees. Any remaining errors are my own. Final revision accepted: March 19, 2008.

each country, and the aims underpinning design features, are the result of political compromises and reflect the ideas that prevail at a given moment of time as well as the balance of power in the political process (see Castles, 1982, 1993; Esping-Andersen, 1990; Korpi & Palme, 2003; Mesa-Lago, 1978, among others). Structural pension reform in Latin America was also part of a process in which new policy ideas emerged, gained force among political elites, and were advocated as better policy tools to achieve some long-standing objectives of pension policy while simultaneously bringing in new ones. Most of these new objectives referred to the impacts of pension systems on economic performance,³ while others (with which we are concerned in this paper) were more specific to pension policy. These included (1) augmenting the returns to contributions, (2) reducing political risks, (3) eliminating perverse redistribution, (4) boosting individual choice, and (5) introducing competition. Studies advocating reform considered that fully-funded programs could provide greater returns in a context in which rates of wage growth were lower than returns to capital: “a mandatory (defined contribution) saving scheme . . . allows workers to increase their returns” (World Bank, 1994, p. 244, see also Feldstein, 1996). It was also thought that private pensions could be less susceptible of political manipulation, due to property rights and private management: “political pressures for poor design features – such as early retirement, non sustainable pension levels, and hidden redistribution to influential groups – are avoided because each person’s contribution determines the benefits that person ultimately gets” (World Bank, 1994, pp. 229–230, see also James, 1996; Mitchell & Zeldes, 1996). Funding was also expected to overcome regressive redistribution in PAYG systems: “If they want to be distributionally neutral, fully funding is preferred.” (World Bank, 1994, p. 89). Competition and choice were two additional elements attached to funding and private management. Competition between administrators was expected to increase efficiency in capital allocation (World Bank, 1994, p. 230), while individual choice would make the competitive system work better by encouraging firms to be more efficient. The introduction of choice in previously centralized systems (even without privatization) had for some time been regarded as a promising policy tool to increase efficiency and

responsiveness in social policies (see Barlett, Roberts, & Le Grand, 1998).

The new pension system could be also evaluated with regards to some long-standing objectives of pension policy, which have affected (in greater or lesser degree) both pre-reform debates and reform design. Among these, we include (1) financial sustainability, (2) poverty prevention, (3) universal coverage, (4) old-age income security, and (5) efficient administration. Most of these aims have been considered among the key principles for the development of social security worldwide (Mesa-Lago, 2004). Beveridge’s plan for social security in the United Kingdom is a case in point. The influential Beveridge Report showed a major concern with financial sustainability, and envisaged the development of a social security system essentially thought as a poverty-prevention device with comprehensive coverage: a system that should “cover all citizens” and be aimed at the “abolition of want,” as Beveridge put it (Beveridge, 1942, pp. 7, 9). Back in 1948 the Universal Declaration of Human Rights also established that every person as a member of society has a right to social security, thus consolidating the idea of universal coverage well before most systems could actually provide for it. Income security (in the sense of “adequate benefits”) has also been a long-standing objective of pension policy, which guided the creation of income-replacement pillars in most countries, crucially in those with Bismarckian traditions. Although greater attention to administration efficiency (in the sense of “reducing costs”) came later, a concern over the type of administration and the representation of different interests (state, workers, pensioners, employers) in the management of the pension schemes has always been present. So at the time of reform, most of these objectives were well grounded principles of social security. The new system did not deny them but came up with new tools for their fulfillment. Financial sustainability was probably the greatest worry at that time. The maturation of existing schemes, population ageing, and increasing strains on public finances augmented pressures for sound pension accounts, and put sustainability at the top of the reform agenda. Most international organizations included financial sustainability as a key objective of reform (European Commission, 2006, pp. 80–135; ILO, 2001, p. 4; World Bank, 1994, p. 98, among others), and Parliamentary debates in Argentina show that, at least discursively,

reformers did likewise. On the other hand, in order to achieve the long-standing aim of poverty prevention, the new system proposed the separation of pension schemes in different pillars: poverty prevention motivated the maintenance of a basic public pillar in the new system.⁴ Coverage would be dealt with *via* the introduction of incentives, mostly based on the property rights created for individual contributions. In the new system income security in old age was not regarded as an issue of replacement rates and benefit indexation (as in the old system), but related to the way in which workers' funds were managed and invested. Security would be thus achieved by the diversification of investment and the reduction of political risks (James, 1996). Finally, administration efficiency was no longer considered a matter of how well different interests were being represented, but a matter of choosing the best conditions for efficient management: private administration, in a decentralized and competitive system under state regulation was the answer given by reformers.⁵ Efficiency would be a byproduct of competition and individual choice, against the limited incentives prevailing in public bureaucracies, and not the result of political bargaining.

To what extent have these objectives been met by recent reform experience? The remainder of this paper offers an assessment of the Argentine case aimed at drawing lessons for future policymaking in this and other countries with similar pension arrangements.

3. LIMITS OF PENSION PRIVATIZATION: THE ARGENTINE EXPERIENCE

The original pension system in Argentina followed the Bismarckian model of initially funded schemes which shifted to PAYG when they matured, were financed by wage contributions, and allocated benefits according to employment position and previous wage levels. With particularistic origins as most Latin American countries (Mesa-Lago, 1978) the Argentine pension system was centralized in the late 1960s (Arza, 2006a). By then, most workers in the formal economy were included and easy-to-meet eligibility conditions made effective coverage grow more rapidly: in 1970, 45% of the elderly population received some kind of pension from national insurance.⁶ The PAYG system started to get into financial difficulties already in the early 1980s (actuarial

imbalances appeared even before)⁷ and demanded increasing budget resources to finance deficits. By the late 1980s, in the context of a fiscal crisis of the state, the situation became unsustainable. The "social security crisis" unfolded when pensioners started to massively sue the state for unpaid benefits. As judges favored pensioners' demands, public pension liabilities grew exponentially. Most observers then agreed that the system required deep restructuring, but no consensus existed on the type of reform better suited to guarantee sustainable and equitable pensions for the future. After a change of government and in a context of major economic transformation (including a redefinition of the roles of the state and the market in key economic sectors), a structural reform was passed in 1993, radically changing the model of resource administration, benefit allocation, and distribution. The reform included a paradigmatic shift from a public PAYG defined-benefit (DB) model to a system of individual accounts, where most of the income-replacement function is left to the private sector under a funded defined-contribution (DC) system, the so-called "three-pillar model" (World Bank, 1994). Pension contributions acquired the status of a "property right" and benefit entitlements ceased to be based on previous earnings, to largely depend on individual contribution records. When reform was passed, the discussions around whether a system of individual accounts should be adopted were largely based on broad conceptions of the principles, objectives, and theoretically inferred impacts of this model, but there was no way to contrast and compare its operation on the ground because there was insufficient international experience. So while the failures in the operation of the public system could be well documented, the private system could not be evaluated on the same grounds. Almost one and a half decades have now passed since the implementation of the new system, and although a comprehensive assessment of performance may require a longer experience, it seems already possible to start evaluating some of the outcomes of this major international application of the three-pillar model and the likely reasons for failure or success in a particular socio-economic and political environment. This is especially relevant in the context of the important revisions approved in 2007, which reversed some key aspects of the pension system established in the mid 1990s, but left some structural issues untouched.⁸

(a) *Achieving financial sustainability*

One of the central objectives of reform was to improve the financial prospects of the pension system. As mentioned above, the financial situation of social security in Argentina had been weak for some time when reform started to be discussed. The lack of adequate actuarial basis for the pension schemes set up over the first half of the century led to financial imbalances as soon as systems matured. From the 1980s pension benefits could no longer be financed with revenues from social contributions alone, and required increasing budget transfers. Financing problems were not just the result of system maturation. The elimination of employer contributions in 1980,⁹ the fall of real wages and the rise of labor market informality, unemployment, and tax evasion over the end of the century were some other key contributing factors. Reform was directly aimed at tackling these financing problems.¹⁰ Needless to say that transition to a funded system brought in further short and medium-term pressures on pension finances, as part of the resources previously allocated to pay benefits started to be accumulated in individual accounts. From 1994 to 2005, revenues from contributions fell from an already low 66% of total pension spending to 43%, and the primary deficit¹¹ rose from 2.4% to 3.1% of GDP, with a peak of 4.6% in 2001 (Table 1). The challenge set out by reformers was to pass the transition process and consolidate a sustainable system for the long term. This entailed two connected expectations, which can now be partly tested: (1) that such a reform was financially viable and (2) that after transition enduring financial sustainability could be achieved.

The first claim was based on projections carried out over the pre-reform period. But long-term projections of fiscal accounts are often rather tentative, especially in unstable and unpredictable economies like the Argentine.¹² In fact, projections made before reform turned out to underestimate future financial deficits. *Schulthess and Demarco* (1993) originally estimated that transition would end in 2011, but assuming a completely private system as envisaged in the first government proposal for reform. After the reform was passed, *Posadas* (1994) estimated deficits would last until 2006, and *Schulthess and Demarco* (2000) revised their projections estimating the end of transition in 2005. These studies included non-genuine resources (tax transfers) which made

Table 1. *Pension system financing*

	Primary deficit (% GDP) ^a	Revenues from contributions (% of social security spending)
1994	2.4	66.2
1995	3.0	59.0
1996	4.1	46.4
1997	3.6	48.6
1998	3.8	46.6
1999	4.4	42.1
2000	4.4	41.0
2001	4.6	38.9
2002	4.0	39.0
2003	3.7	35.8
2004	3.4	38.9
2005	3.1	43.1

Source: Own elaboration based on *MTSS* (2001), National Social Security Administration (ANSES), and *Ministerio de Economía* (2007).

^a Social security spending minus revenues from social security contributions.

deficits look smaller. Including only genuine resources, *FIEL* (1995) estimated equilibrium for 2014. A few years later, *Gurshka* (2002) forecasted a much longer transition process, lasting up to 2035, and the same result was obtained by an official report a few years later (*MTESS*, 2005). Reform transition was more painful than initially thought. Not only were fiscal costs higher, but the macroeconomic context also changed and public accounts were less able to cope with deficits. The effect on public finances was indeed so substantial that some observers have even blamed social security reform for the fiscal crisis of late 2001 (*Baker & Weisbrot*, 2002). So the viability of reform was not as clear as initially presented—at least not in terms of the costs involved and the financing effort that some generations would have to support. Doubts on the long-term sustainability of the public branch of the system also started to emerge,¹³ and may become increasingly relevant with the expansion of coverage and the rise of benefits in the public branch of the system, which has just been legislated.¹⁴

The capacity of the privatized system to achieve enduring financial sustainability (second claim) was one of the most celebrated aspects of reform. This expectation was connected to the establishment of a funded DC system, and followed two interlinked ideas: (1) that funded systems were better suited to face the demographic transition, and (2) that DC systems, in which individual

benefits are equal to individual contributions, are always financially balanced. The first idea is based on the intuitive reasoning that if every generation saves to cover its retirement expenditures, accumulated funds by each generation should reflect the size of that generation. Larger cohorts would accumulate more and thus cohort size (a key problem in ageing contexts) would no longer matter. But generations do not live in isolation from each other and accumulated funds are only worth their purchasing power. Barr (2002), Orszag and Stiglitz (2001), and Eatwell (2004), among others, have showed that under DBs, funding does not necessarily guarantee financial equilibrium in the context of demographic change because the size of both working and retired cohorts matters to determine the real value of pensioners' savings. While demographic change affects PAYG systems by shrinking the contribution base (the number of workers, and hence pension system revenues), it may affect funded systems by a mismatch between supply and demand of financial or monetary assets.¹⁵ In practice, it is the second idea which is most relevant: the key mechanism by which financial sustainability can be automatically achieved is by shifting from a DB to a DC model. DC schemes calculate the value of benefits according to the contributions accumulated in individual accounts. If benefit levels are dependent on the value of accumulated assets, the pension benefit for each worker is exactly what his or her fund is worth, and the system can indeed be automatically balanced.¹⁶ The risks of insufficient saving, short or informal labor market histories, and poor financial performance are borne by each worker and reflected upon retirement in the resulting benefit level. The difference between DB and DC systems is not minor: while the former sets the value of benefits and then adjusts the other parameters (contribution rates, subsidies, retirement ages, etc.) to get the resources required to pay for those benefits, the latter sets the parameters and makes adjustments on the benefit side. In the long-term equilibrium can be obtained, not because administration is private, nor because the system is funded, but because benefits are no longer defined and can thus adjust automatically to existing resources. The political feasibility of such a system will depend on the performance of the pension fund market and the ability of governments to contain the political and social costs of crises on benefit levels.¹⁷

(b) *Prevent old-age poverty*

A purely DC system cannot guarantee poverty prevention because benefit levels are dependent on the value of funds accumulated and not on minimum standards. For this reason, many countries have combined private DC individual accounts with a public DB system or a minimum benefit guarantee. In Argentina, a "first-pillar" flat-rate benefit provided by the state was aimed at this purpose. However, eligibility rules (presumably aimed at containing expenditures) established that only workers who reach the retirement age *and* have contribution records for 30 years are eligible for these benefits. But in Argentina's labor market, where about 43% of the employed population is hired under informal arrangements (and therefore makes no contributions), a large number of workers remain ineligible.¹⁸ As a result of unemployment, informality and tax evasion together, it was estimated that by 2004, only 35% of the economic active population was contributing to the system (Rofman & Lucchetti, 2006, p. 32). A study of contribution density of private sector workers offers even more pessimistic results: only around 8% of workers who have paid contributions at some point in time do it systematically year after year—the rest have contributory gaps and may also find it hard to achieve the 30 years required to get basic benefits (Bertranou & Sánchez, 2003, p. 59). The limitations of a contributory system to prevent old-age poverty in a labor market context characterized by high rates of informality and tax evasion were not in the reform agenda over the 1990s and have only recently started to be seriously considered.¹⁹ Two reports written by World Bank staff now propose the creation of a "zero pillar," a non-contributory benefit specifically oriented to prevent poverty (Gill, Packard, & Yermo, 2005; Holzmann *et al.*, 2005). Unfortunately, there has been no official attempt to develop universal basic pensions in Argentina. Instead, the policy effort concentrated either on *ad hoc* measures like the reduction of contributory requirements adopted in 2004 as an extraordinary and temporary measure²⁰ or, alternatively, on means-tested benefits. However, coverage of means-tested benefits is very limited and their allocation erratic. Only 5% of the population over 65 years of age receive non-contributory benefits (29% have no benefit at all), and the poverty-reduction potential of these benefits is very small (they account for a reduction in the poverty

rate from 20.6% to 19.6%) (Bertranou & Grushka, 2002, pp. 54–56). Unless non-contributory benefits are expanded and their allocation improved, there seems to be little scope for poverty prevention with a fully contributory system in the context of Argentine labor markets.

(c) *Provide universal coverage*

Over the decade preceding reform, coverage rates in Argentina had been rather low compared to standards already achieved over the 1960s and 1970s. The new ideas surrounding pension reform maintained that the disincentives embedded in the public PAYG system were to blame for the low coverage rates. Private administration on the one hand and a closer link between contributions and benefits on the other were expected to encourage workers to contribute. But experience showed otherwise: in most Latin American countries coverage rates did not increase after reforms were implemented. In Argentina, contrary to all predictions, contribution compliance fell after the reform, from 50.9% of the employed population in 1994 to 39.5% 10 years later (Table 2). The diagnosis of contribution evasion was probably inappropriate for the Argentine context: if informality is not a decision of the worker but a condition of the type of employment, and competitive formal employment is not available, there seems to be little room for incentives to have an effect. For the self-employed, the income constraint may have been pervasive: it seems unreasonable to save for retirement if current needs are not met. In this

context, the “rational” worker may still “decide” to avoid contributions regardless of the type of system (Gill *et al.*, 2005). It was only workers at the top income quintile who showed a slight increase in contribution compliance after the reform, from 57.8% in 1994 to 59.3% in 2004. The lack of full coverage in this income group may nonetheless suggest that the right incentives continue to be missing: high administrative costs, political manipulation of pension rules, and unstable financial performance may have undermined the reliability of public and private pension schemes alike.

(d) *Increase income security for old age*

By allowing for the diversification of investment and reducing political manipulation, pension reform was expected to increase income security for old age. But the adoption of funded pension schemes has come hand in hand with a new set of risks which cannot be undervalued: (1) management risks, (2) investment risks, and (3) annuity market risks (Barr, 2002; Barr & Diamond, 2006). Other risks, such as macroeconomic risks, already existing in PAYG systems, are maintained with private pensions. Management risks refer to both incompetence and fraud by private administrators, which may be difficult to monitor by workers and the state (these are the equivalent of political risks under public administration). Investment risks are intrinsic to funded pension schemes, where contributions invested in the financial market are vulnerable to market fluctuations. Annuity market risks refer to the risks and uncertainties faced by private insurance

Table 2. Coverage rates of employed persons by quintile (%)

	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
1992	48.1	51.9	54.6	58.2	54.2	49.7
1993	43.8	49.1	54.0	52.7	51.1	48.0
1994	42.6	52.7	55.4	55.1	57.8	50.9
1995	36.5	49.7	52.1	59.6	55.0	48.7
1996	33.0	51.9	52.5	55.8	56.5	48.1
1997	31.2	48.0	51.7	56.8	56.5	47.3
1998	29.2	42.9	51.7	57.7	55.5	46.2
1999	28.0	43.7	50.8	55.6	58.9	45.9
2000	24.0	43.2	51.3	55.6	58.9	45.3
2001	21.6	40.9	51.6	57.7	58.8	44.7
2002	11.4	35.5	46.9	53.9	60.0	40.9
2003	8.9	30.2	44.6	52.4	59.7	38.3
2004	9.6	31.0	44.1	53.8	59.3	39.5

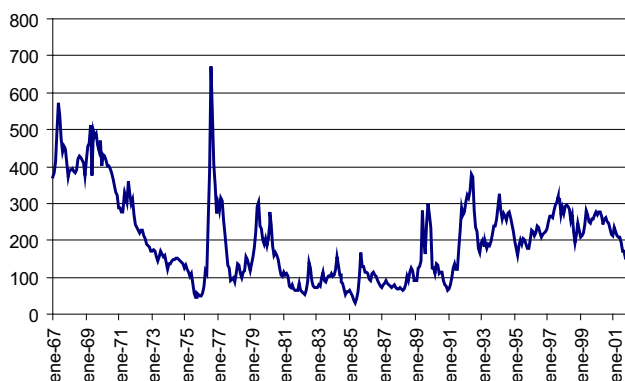
Source: Rofman and Lucchetti (2006) based on INDEC, Permanent and Ongoing Survey of Households.

companies over the life expectancy of workers and the rate of return to assets over the period after retirement (a sort of post-retirement investment risk). If workers buy an annuity, insurance companies have to bear these risks (and deal with selection problems) which make annuity costs high. The incidence of these risks will depend on the particular socio-political and economic environment of the country—in Argentina they have proven to be rather high. Limited institutional capacity and lack of regulatory experience have left significant room for management risk. Two major AFJP have been sued for making speculative use of workers' funds, large sums have been charged in penalties to AFJPs which delayed payment of pensions, and over 300 financial operations have been put under investigation.²¹ Investment risks have also been remarkable. There is a history of sharp fluctuations in the valuation of financial assets (Graph 1). In a country prone to fiscal crises and debt default, state bonds have not been any more secure. Public debt default was probably the clearest expression of the magnitude of financial risks involved. When negotiations over debt restructuring initiated, and the government made it clear that there would be no special provisions for local pension funds, serious concerns emerged on the way in which the 65–75% cut in the nominal value of state bonds offered by the government could affect pension fund accumulation and future pension benefits. Debt default made it necessary for the regulator to intervene to spread the costs across generations in order to reduce the impacts on workers close to retirement.²² Post-retirement macroeconomic and financial risks are also relevant. Although given short

experience, there is still little knowledge about the performance of the Argentine annuity market, the key problem in terms of old-age income security refers to the provision of indexed annuities. Unlike other systems like the British, the Argentine system does not establish that annuities should be price-indexed. While annuities can be adjusted according to the returns obtained by accumulated funds, it is not certain that these returns will be higher than inflation. In a country prone to inflationary crises, lack of secure price indexation can make real benefits fall, thus reducing the capacities of the system to provide secure and stable retirement for future generations. This problem is also faced by the public branch of the system inasmuch as no secure indexation mechanism is in place. As currently written, the rules establish no automatic mechanism for benefit adjustment for inflation or wage growth. Instead, indexation depends on the will of government and the availability of resources in the public budget.²³ Recent reform in 2007 has not addressed this problem.

(e) *Make administration more efficient*

Pension reform was expected to bring some efficiency gains by replacing a state monopoly with a private competitive system. Although it is not possible to completely evaluate the effects of reform on administration efficiency (because we lack good information on one side of the efficiency equation, i.e., quality), we can however study its effects on costs. Reformers knew from experience that individual accounts could be costly but the impact of high fees on workers' savings was not much discussed until later.



Graph 1. *Evolution of the Argentinean stock exchange (constant values, 29-12-1977 = 100). Source: Index Burcap, Bolsa de Valores de Buenos Aires, unpublished data.*

In Argentina, operation costs in the private pension system turned out to be much higher than in the public one. While over the post-reform period, operation costs represented between 15.6% and 37.8% of revenues in private pension funds, they were only between 1.4% and 2.4% of revenues in the public branch (Table 3). Part of the difference may be explained by the hidden costs in public administration (e.g., the amortization of public buildings or services provided by other agencies), but this is unlikely to explain it wholly. There are two other reasons why administration costs are so much higher in private personal schemes: the first one is reduced economies of scale, the second is the way in which competition works (or does not work) in the private pension market. Reduced economies of scale have made administrative costs of private pensions high almost everywhere they have been applied.²⁴ In some cases, like Bolivia and Sweden, alternative ways of administrative centralization (private or public, respectively) were aimed to solve this problem. A second issue was the establishment of a “competitive” system in a context of a quasi-captive market with limited information. Competition between pension funds has encouraged companies to spend a great deal of resources in promotion and advertisement. In a context of limited information, where the

relevant variables to compare and choose between pension funds (such as past and future performance, fees, and management risks) are not easily observable or understandable by workers, advertising and promotion can make a significant difference in workers’ decision to affiliate (see point (i) below). This leaves no incentive for companies to reduce costs, as high fees allowed them to spend more on advertisement and get more clients. The problem was addressed by recent reform, which put a cap on management fees of 1% of taxable income, lowering costs by about 18% during 2006–07. An additional cost of private personal pensions, of which we still know very little, is the annuity cost, which can be high due to uncertainties in the financial market and to the risk of adverse selection. Overall, reform has increased the total cost of administering retirement, not only because private schemes are more expensive than the old public scheme, but also because in a “mixed” and “parallel” system like the Argentine, most of the existing management costs in the old system continue to be paid to administer the public pillar and manage the transition. As a result, there seems to be a loss, not a gain, in administrative cost efficiency after pension reform.

(f) *Augment the returns to individual contributions*

The adoption of individual funded accounts was partly based on the expectation that returns in the financial market would be higher than those obtainable under PAYG administration (Feldstein & Liebman, 2000; Feldstein & Rangelova, 1998). Returns in a PAYG system are based on socio-economic and demographic variables: the implicit rate of return of a PAYG system is equal to the rate of growth of the social security tax base—that is, a combination of the rate of growth of the (covered) working population and earnings growth (Samuelson, 1958). This is a “theoretical” rate of return, which assumes that the system is balanced and that parameters (such as retirement ages, eligibility, and replacement rates) are automatically adjusted to meet the financial capacity of the system. In practice, rates of return obtained by different generations can vary for political and institutional reasons, and depend on pension rules in each particular period as well as on the effective implementation of those rules.²⁵ However, as idiosyncratic political decisions cannot be projected, most

Table 3. *Administrative costs compared*

	Public system (% of public revenues)	Private system ^a (% of AFJP revenues)
1993	2.0	NA
1994	1.8	NA
1995	2.0	16.8
1996	2.4	23.3
1997	1.6	24.2
1998	1.5	22.8
1999	1.6	21.9
2000	1.4	21.2
2001	1.4	19.0
2002	1.6	37.8
2003	1.7	26.8
2004	1.5	18.4
2005	1.8	16.2
2006	1.8	17.0
2007 ^b	1.7	15.6

Source: Elaborated with data from National Social Security Administration (ANSES) and SAFJP (2007).

^a Includes management costs only (excludes cost of death and disability insurance). Yearly values at June each year.

^b Preliminary data.

policy-oriented studies aimed at contrasting the performance of PAYG and funded systems have compared financial market gains with “theoretical” PAYG returns—most pro-reform academic conclusions on this respect were also based on a comparison of this type (see, e.g., Feldstein, 1996).²⁶ Almost one and a half decades after pension reform in Argentina, we can now compare the returns actually gained by private pension funds with what would have been “theoretically” obtained under PAYG (Table 4). In fact, results show that private pension returns are highly volatile, but at first sight seem to be higher than “theoretical” PAYG returns (a historical annual rate of return of 9.9% in private pension funds compared to 4.9% in the public PAYG system). An accurate comparison however requires consideration of some additional aspects.

Simple comparisons of returns in one or another system hide at least three fundamental issues: (1) transition costs involved in the shift from PAYG to funding; (2) different risks faced by each system; and (3) administrative costs. Transition costs need to be taken into consideration when assessing aggregate results of the new system (Orszag & Stiglitz, 2001), because what could be gained from higher returns could be paid back with higher taxes to finance transition. The risks involved in each system matter

because as funded pensions often face greater risks than PAYG ones, simple comparisons (being “*ex-post*” assessments which exclude all risk incidence) can be biased (Geanakoplos, Mitchell, & Zeldes, 1998). Finally, comparisons need to consider the administrative costs. In fact, when workers dedicate a share of their earnings to save for retirement, what matters is how much they get back from this investment, net of any charges and costs that it may entail. While further consideration of transition costs and risk bearing in the calculations is beyond the scope of this paper, the impact of administrative costs deserves more detailed consideration. The third column in Table 4 presents private pension returns net of fees, and shows that, in the Argentine case, high fees override most of the gains obtained by financial market investments. If “corrected” for these charges, the returns obtained in the private branch fall substantially, repeatedly acquiring negative values, and offering a historical annual return of only 1.4%, about 3.5 percentage points below the PAYG “theoretical” rate.²⁷ High fees also make the private system perform rather poorly if compared with other investment alternatives available in Argentina: the nominal interest rate of a fixed-term deposit of 60 days or over, as reported by the Central Bank of the Argentine Republic, has been high-

Table 4. Annual real returns compared (%)^a

	Theoretical returns PAYG (1)	Returns AFJP (2)	Returns AFJP, net of all fees (3)	Returns AFJP, net of admin costs (4)
1994–95	–3.1	17.8	–21.6	–13.5
1995–96	1.5	23.0	0.3	5.8
1996–97	11.3	22.4	8.5	11.7
1997–98	4.4	–0.1	–7.8	–5.7
1998–99	8.7	5.9	–1.0	1.2
1999–2000	–0.4	12.5	6.2	8.3
2000–01	3.3	5.2	0.5	2.2
2001–02	–26.4	9.5	5.2	6.9
2002–03	2.7	10.5	8.3	8.9
2003–04	25.0	1.0	–0.8	–0.1
2004–05	16.7	5.4	3.3	4.4
2005–06	21.4	8.7	6.5	7.7
2006–07	9.0	18.5	16.2	17.6
Historic real return 1994–2007	4.6	9.9	1.4	4.0
30 years career history	4.6	NA	5.5	7.0
20 years career history	4.6	NA	3.6	5.7
15 years career history	4.6	NA	1.9	4.3

AFJP: *Administradora de Fondos de Jubilaciones y Pensiones* (pension fund administrator).

Sources: Elaborated with data from Ministerio de Economía (2007) and SAFJP (2007).

^a June each year. AFJP returns for 1994–95 correspond to the period December 1994–1995.

er than the pension fund nominal return (net of administrative fee) for the period 1994–2006 (10.4% compared to 8.4% in private pension funds).²⁸ The fee structure of AFJP partly explains this poor performance. Fees levied on contributions (or wages) punish workers relatively more over the first few years of accumulation, when the fund is small and the relative importance of each contribution is high. Further calculations were thus made for a full working career: if the historical real rate of return was maintained at the present level over a 30 years period, the net-of-fee return for a full working career becomes slightly higher than the PAYG theoretical return (0.9 percentage points above). For workers with shorter formal careers in the labor market, which in Argentina are a majority, operation costs can reduce pension fund returns and accumulation significantly. For workers with a formal working career of 20 years, private pension returns are one percentage point below PAYG “theoretical” returns; and 2.7 percentage points below for workers with formal working lives of only 15 years. The reduction of administrative fees from 2007 onwards may improve things for the future, but the greater returns envisaged with pension privatization may still fail to realize for relatively short working life histories.

(g) *Reduce political risks*

Although in state-administered schemes the effects of public mismanagement is more direct, recent research has demonstrated that privately administered schemes are not exempt from political risks (Barr & Diamond, 2006). The Argentine experience shows the extent to which political decisions can affect the operation of private pensions. Governments have repeatedly redefined pension rules, compelled AFJPs to take hazardous investment decisions, and put pension funds at risk of dramatic failure as a result of debt default. Recurrent modification of the parameters of the system has also made pension policy rather unstable.²⁹ Pension system parameters continued to be dependent on the political cycle and the socio-economic environment of the country. As fiscal constraints increased in the late 1990s, a series of rules were dictated to reduce state commitments on pension matters.³⁰ Successively, the state appropriated an increasingly large share of pension fund resources first encouraging, and then compelling pension funds to buy state bonds.³¹ While pension funds could initially invest a

maximum of 50% of their portfolio in state bonds (a regulatory measure to enhance diversification), this restriction was removed in 2001.³² In only one year the percentage of state bonds in pension fund portfolios increased from 48.7% to 76.1% (SAFJP, 2007). In the wake of public debt default, the elimination of the maximum investment limit was a policy concerned with financing state deficit (to which pension reform had itself contributed), rather than with securing pension savings. Something similar occurred with the modification of personal contributions in 2001. In the context of a long-standing recession, personal contributions were reduced from 11% to 5% of wages in order to boost internal consumption.³³ But as the value of benefits depends on accumulated contributions, such a reduction could jeopardize the ability of the system to provide adequate income replacement in old age. The manipulation of pension policy for purposes other than old-age security continued to be a risky policy practice even after the system was privatized. In a weak and fragmented institutional setting, when the pension system loses independence and becomes subject to pendular economic and political decisions, its capacity to plan for the long term (precisely what it ought to be doing) could be limited. PAYG systems also suffered from political risks, which are well documented. But while in the old PAYG DB system pensioners could (at least in theory) claim their benefit entitlements to the state, in the new system there is no *ex-ante* benefit to claim: political risks are fully borne by current and future pensioners.

(h) *Eliminate perverse redistribution*

DB schemes have been criticized for producing “perverse” redistribution between the rich and the poor. As high-income workers tend to start working later and live longer, they usually receive larger transfers than low-income workers, regardless of contributions individually made. Furthermore, as the rich have steeper earning profiles (their income grows more rapidly over time), DB systems that calculate the value of pensions on the basis of last-year earnings tend to benefit them more. The PAYG system has also been criticized for being inter-generationally unfair. Early generations of workers could get higher benefits than late-comer generations due to both the maturation of pension schemes and population ageing. By linking individual benefits to individual contri-

butions, pension reform would eliminate any possible inter-personal income transfer and the inequalities resulting from perverse redistribution. In practice, however, DC systems could only avoid some of the inequalities in DB formulas, but have simultaneously created new distributional issues. DC schemes no longer benefit workers with steep earnings profiles, nor those who start working later, thus overcoming a couple of negative aspects of the previous system. But they do not necessarily solve the problems of differential mortality. In Argentina, benefits are calculated following a single (age- and cohort-specific) mortality probability, and thus the regressive income transfers arising from differential mortality are maintained. DC systems can also reinforce the income inequalities existing among workers. As benefits depend on accumulated contributions, workers who have been informal over part of their working lives receive lower benefits. As informality is segmented by income, low-income workers have more chances to receive a smaller replacement rate than high-income workers who tend to be in the formal labor market throughout their working lives. In other words, in a DC system, the distribution of income after retirement is a function of the combined inequalities of pre-retirement income and pension coverage (Arza, 2007). Funded DC systems can also generate inter-generational inequalities as a result of market fluctuations. As benefits are largely dependent on the performance of the financial market, some workers can be particularly affected by financial downturns just before retirement when they have limited time to compensate with better future performance. Major fluctuations in pension fund returns affect inter-generational equity and include elements of chance and uncertainty in future benefit levels. Reform transition produces further inter-generational inequalities: the shift from PAYG to funding makes some generations “pay twice,” one through personal contributions to finance their own retirement, and another through general taxes to finance the pension system deficit partly generated by reform. In short, DC systems can reduce some regressive income transfers (those resulting from differences in earnings profiles and work-starting ages) but maintain others (the effects of differential mortality), and bring in a number of new distributional issues regarding both intra- and inter-generational equality. Overall, the equality standing of the system will depend on how DC benefits are integrated into

a multi-pillar system that can cushion existing wage and income-history inequalities, as well as on the regulatory mechanism that can reduce the inter-generational effects of financial market fluctuations and reform transition. Outcomes can vary significantly according to the specificities of these regulations. The idea that these systems are distributionally neutral is simply difficult to sustain in a real-world scenario.

(i) *Boost individual choice*

Individual choice was the mechanism by which workers and pensioners could influence pension fund markets in a competitive system. In Argentina, the elimination of the state monopoly has given workers the opportunity to make three crucial choices for their old-age provision. First, workers had to choose whether to stay in the public PAYG system or to join a private pension. Workers joining the private system should secondly choose the AFJP that would administer their contributions and thirdly, the retirement arrangement and the insurance company to provide for it. Not all choice is welfare-improving: only when consumers are well informed is choice desirable as a means to make markets work more efficiently (Barr, 2002). It was thus necessary to secure a regulatory framework that could promote conscious and well-informed decisions. But at the time of reform, the political need to promote the development of private pensions was first priority, and the regulatory framework was biased in that direction. Choice was limited in two ways: first, workers who did not decide whether to join the public or private branch were automatically allocated to the private branch and second, once in the private branch workers were not allowed to shift back to the public sector (until only recently—see below). These rules boosted affiliation in the private system and simultaneously avoided competition between the public and the private branches. Many workers, however, were not aware of these rules and their implications.³⁴ In practice, workers’ exercising their right to choose was limited: the share of workers who made no choice regarding what system to affiliate has been big and rising, from about 67% of new affiliates in 1999 to 81% in 2006 (Table 5). In addition, a limited proportion of workers has actually exercised their capacity to change from one AFJP to another after the first

Table 5. *Effective individual choices*

	No-choice of system or AFJP (% of new AFJP affiliates automatically allocated to an AFJP)	Choice of AFJP (% of affiliated workers who shift AFJP)	No-choice of CSR (% of affiliates who buy an annuity with the “most popular” CRS in their AFJP)
1995	NA	4.5	NA
1996	NA	10.2	NA
1997	NA	15.0	88.8
1998	NA	12.6	89.4
1999	66.9	5.1	76.8
2000	71.8	4.2	77.8
2001	75.4	5.0	75.6
2002	80.2	4.5	78.9
2003	79.7	3.5	87.3
2004	83.7	6.1	85.7
2005	77.6	3.8	88.4
2006	80.9	3.8	77.7

AFJP: *Administradora de Fondos de Jubilaciones y Pensiones* (pension fund administrator).

CSR: *Compañía de Seguro de Retiro* (retirement insurance company).

Source: Elaborated with data from [SAFJP \(2007\)](#).

affiliation—specially from 1999 on, when only between 3.5% and 6.1% of affiliates have shifted AFJP each year. The analysis of the determinants of these shifts is even more interesting. For the market to work efficiently, one would expect workers to shift toward the AFJP charging the lowest fees and/or offering the highest returns. However, regression analyses have shown that was not the case. Movements between pension funds were neither significantly associated with the fees charged by each AFJP nor with the returns it obtained, *but* significantly associated with the size of the fund (measured by number of affiliates) and its promotion practices (measured by the number of promotion workers) ([Table 6](#)).³⁵ These results suggest that incisive selling practices by pension fund companies could actually hinder informed choice in the pension fund market. Doubts also arise on the way in which workers choose the insurance company to manage their annuities. Workers could in theory “shop around” for the best benefit value offered by different companies. However, the great majority of workers (between 75% and 89%) contract the annuity with the “most popular” insurance company in the AFJP to which they belong (often a company, i.e., associated with, or designated by, their AFJP). Here again, the effects of consumer choice in the retirement insurance market seem rather limited.

The 2007 reform introduced major modifications on choice-related regulatory features:

undecided workers are now to be absorbed by the public rather than the private branch, and an option was opened for workers in the private branch to shift back to the public sector once every five years. Older workers with limited funds in their individual accounts were also automatically transferred to the public system. Although many doubts remain on the financial sustainability of these changes, they have contributed to overcome some of the rigidities of the previous system, which heavily relied on an initial choice in a context of limited information, lack of experience, and major uncertainties even for the most knowledgeable observers.

(j) *Create competition*

Reform has privatized pension administration, replacing the state monopoly with a regulated market where private companies compete for the management of workers' social security contributions. However, the creation of effective competition in the pension market may be more complicated than in other markets. Beyond regulatory dispositions, which have initially ruled out competition between the public and private systems, there have also been problems on the supply side, notably, a significant process of concentration in the private pension market. In the first year of the operation of private pensions (1994–95) there were 26 AFJP in the market. By 2006, there were only 11, less than half of the initial number.

Table 6. *Determinants of affiliates' transfers between pension fund administrators*

Predictors	Coefficients
(Constant)	2.632* (0.571)
Promotion ^a	0.852* (0.050)
Size ^b	0.136* (0.042)
Returns ^c	0.018 (0.045)
Fees ^d	0.101 (0.256)
Observations	147
R ²	0.826

* Significant at 0.01. Standard errors in parentheses.

Dependent variable: LN of the number of affiliates (coming from other AFJP) who shift into the AFJP in question.

Source: Own elaboration based on data from SAFJP (2007).

^a LN of number of promotion employees.

^b LN of number of affiliates.

^c LN annual nominal returns from fund investment.

^d LN of the percentage of salary in operation fees (including insurance premium).

The concentration of affiliates in a few “top” AFJP was also remarkable: while in 1995, the biggest AFJP concentrated 13.9% of workers affiliated to private pensions, by 2006, this figure had risen to 21.3%, and the “top” five AFJP had almost three quarters of the entire market (Table 7). Something similar occurred in the retirement insurance market (the market for annuities). Out of the 20 companies existing

in 1997, only 14 remained by 2006. The first company sold 14.9% of total annuities in 1997 and 22.7% in 2006 (when the top two sold 43.7%, and the top five 73.8% of the total). Market concentration means that competition is limited and that providers can more easily collude to keep prices high. If it is true (as suggested by the regression analysis above) that the size of the AFJP matters to make workers join, the entry of new firms in the pension market may not be an alternative to enhance competition. Market concentration contributes to create a vicious circle where high fees cannot be reduced by workers' (restricted and poorly exercised) choice, as would be expected in a competitive market. In this context, only regulation can put prices down—this was the route taken by reform in 2007, which put a cap of 1% on administrative fees. Alternative policy options, such as the Swedish system of centralized public administration of individual pension accounts as well as the elimination of the direct contact between workers and pension fund providers (to reduce advertisement costs and incisive selling practices), could be considered as new ways to overcome this problem. As AFJP consolidated as powerful players in the economic and political arena, reforms in this direction may be politically difficult, and increasingly so as more time passes from the moment the new system has been implemented.

Table 7. *Concentration in the market for pension fund administration and retirement insurance*

	Pension fund administration				Retirement insurance ^a			
	Number of AFJP	Distribution of the market (% affiliates)			Number of CSR	Distribution of the market (% of annuities sold by year)		
		1 Biggest	2 Biggest	5 Biggest		1 Biggest	2 Biggest	5 Biggest
1995	26	13.9	27.2	60.9	NA	NA	NA	NA
1996	22	14.1	27.9	60.8	NA	NA	NA	NA
1997	20	16.5	32.0	69.9	20	14.9	29.8	60.4
1998	17	18.8	35.7	75.4	19	17.3	33.1	80.9
1999	15	20.0	37.8	76.4	18	18.5	36.0	76.3
2000	13	19.0	36.4	74.9	19	20.9	40.3	74.2
2001	12	26.8	43.8	81.0	19	22.1	43.6	77.6
2002	12	25.8	42.4	80.9	16	22.1	43.4	78.9
2003	12	25.0	41.2	78.9	12	25.9	49.2	87.1
2004	12	23.9	39.6	75.9	12	29.2	50.1	83.8
2005	12	22.6	37.6	72.6	15	26.2	44.5	79.6
2006	11	21.3	36.7	73.6	14	22.7	43.7	73.8

AFJP: *Administradora de Fondos de Jubilaciones y Pensiones* (pension fund administrator).

CSR: *Compañías de Seguro de Retiro* (retirement insurance companies).

Source: Own elaboration based on data from SAFJP (2007).

^a Only CRS which have sold at least one annuity in the year are included.

4. CONCLUSIONS

Over a decade after a system of private individual pension accounts has been implemented in Argentina, increasing concerns have emerged on the limitations of pension reform to achieve some of the key objectives of social security systems. The initial optimism that surrounded the adoption of private pension schemes hindered a more careful consideration of the limitations that the new pension model could find in its operation on the ground. In local discussions preceding reform, there seemed to be little awareness of the way in which the new system would perform in the specific labor market and macroeconomic context of Argentina. The paper has shown the problems that a pension system can encounter when it relies on policy instruments which are not appropriately designed for the specific context of implementation. This was the case in Argentina: a better and more realistic consideration of the link between policy rules and the local context was missing. Experience has shown that a fully contributory system cannot guarantee poverty prevention, nor adequate income replacement in a labor market context where about half the working population is employed in the informal sector. Incentives are not sufficient if the limitations arise from the structure of the labor market. Experience has also shown that the

adoption of individual accounts, in a context of restricted and badly informed individual choice and limited competition, could not but make administrative costs rise. Funded DC pensions may contribute to financial sustainability in the long run, but they will necessarily involve greater risks, to be borne by workers and pensioners, especially in countries prone to macroeconomic and inflationary crises. These issues are all but restricted to the Argentine context. Most Latin American countries, which have reformed their pension systems under alternative versions of the three-pillar model, face similar problems. Current reform processes in Latin America and elsewhere seem to have now replaced the original trust on pension privatization with more complex and tailor-made solutions to address the alternative objectives assigned to pension policy and the particular context of implementation in each country. Building on existing experience, pension reform may now adopt a more pragmatic approach that tries to find, without magic formulas, the specific combination of alternative models that can contribute to achieve the long-standing aims of pension policy. Learning the limitations of existing systems in cases like the Argentine may help countries around the world to design a more effective model of old-age income protection for future generations of workers and pensioners.

NOTES

1. Calculated from International Social Security Association Database "Social Security Worldwide."
2. For an earlier assessment see Arza (2005).
3. They included macroeconomic objectives such as the creation of a national capital market and the growth of national savings (see James, 1996; World Bank, 1994), and politico-economic strategies of "signaling" the international community on the commitment of government toward structural change in order to improve the country's standing for foreign investment. On the impact of the Argentine pension reform on broader economic issues see FIEL (1998) and Goldberg and Lo Vuolo (2006) for two contrasting views. See also Barr (2002) and Orszag and Stiglitz (2001) for theory-based analyses.
4. "... the public pillar would then have the limited object of reducing old age poverty" (World Bank, 1994, p. 238, see also James, 1996, p. 5).
5. "... decentralized plans have more incentive to operate efficiently than centralized plans that have a monopoly in a compulsory system" (World Bank, 1994, p. 224).
6. Conferencia Interamericana de Seguridad Social (1995, p. 166).
7. See MTSS (1963).
8. Reform is likely to produce important impacts, which due to space limitations cannot be fully assessed here. However, reference to the most salient issues be made in the relevant sections. Reform has basically done three things: (1) it has reduced administrative costs (see point (e)); (2) it has increased the share of total coverage in the public branch (increasing both current state revenues, and future state liabilities) (see points (a) and (i)); and (3) it has increased the replacement rate in the public branch from 0.85% to 1.5% of wages per year of

contribution (see point (a)) (Law 26222, year 2007). Other structural issues, such as the problems of limited coverage and intra- and inter-generational inequalities, have not been addressed. Despite its contributions to improve individual choice, benefit levels, and administration costs, from an institutional viewpoint, reform reflects the persistence of policy swings that have characterized Argentine public policies: limited policy consistency over time and the prevalence of short-term decisions over long-term planning.

9. Employer contributions were eliminated by the military government, progressively re-established with the return to democracy (in 1983), and later reduced in the late 1990s, after reform had already been implemented.

10. This was repeatedly mentioned in Parliamentary discussions leading to the approval of the reform. See, for instance, the intervention by Senator San Millán, *Cámara de Senadores de la Nación*, Reunión 37, September 22–23, 1993, pp. 3346–3351.

11. The primary deficit is the difference between resources from social security contributions and social security expenditures.

12. Schulthess and Demarco (2000, p. 17) explained that the inaccuracy of initial projections was partly due to the fact that “some parameters were not only unknown but also difficult to forecast, given the lack of empirical information.”

13. Cetrángolo and Jimenez (2003) claimed that “the PAP [i.e. the pension benefit in the reformed public branch] is as unviable in design as the system it replaced” (p. 40, my translation).

14. It has not been possible to obtain any long-term estimation of the actuarial sustainability of reform. In the short term, there is likely to be a financial gain from the transfer of funds and contributions of workers previously affiliated to the private sector. But the magnitude of the (arguably large) impact of reform on public pension expenditures (and ultimately sustainability) in the medium and long term, remains unclear.

15. If output is constant, this may produce either inflation or a fall in assets' value; in both cases, a lower purchasing power of benefits results from the fact that dis-saving by pensioners is not matched with increased saving by workers, nor by increased output (Barr, 2002; Eatwell, 2004; Orszag & Stiglitz, 2001).

16. As some risk pooling still exists in the annuity market, some workers (living more than average) could

get more and others less than individually saved—but overall, and within each insurance company, benefits (plus annuity cost) should equal resources.

17. The intervention of the Argentine government to modify the valuation of assets in pension funds after debt default is a case in point (see point (d)).

18. Data for July–September 2006, INDEC, Permanent Household Survey (at www.indec.gov.ar).

19. See Arza (2007) for a discussion, and the literature there cited.

20. Laws 25,865 and 25,994 (Year 2004).

21. Pagina/12, 29/9/2004, “Tambien hubo errors.”

22. By the time debt default was declared, pension funds had about 64% of their portfolio in state bonds (SAFJP, 2002). Although the market value of these bonds fell sharply, the regulator established that for the purposes of the calculating the evolution of pension fund values and returns, state bonds would be taken at a “technical value,” which is higher than the market value but would tend to converge with it over time. On debt default and private pension funds see FIEL (2005).

23. Law 24463 (year 1995), art. 7, and Decree 833/1997, art. 1.

24. In Latin America, fees for private pensions were in average 1.62% of earnings in 2002 (Gill *et al.*, 2005, p. 112). High fees were also a problem in other countries (see Orszag (1999) for the United Kingdom and Whitehouse (2000) for an international comparison).

25. See Arza (2006b) for an evaluation of internal rates of returns over the history of the Argentine pension system.

26. World Bank (1994) used a similar approach when claiming that: “data from several countries show that when the time period for investment is long, the rate of interest on a combination of debt and equity has generally exceeded the rate of earnings growth by approximately 2–3%” (p. 88).

27. The total fee is made of an administrative fee plus an insurance prime for death and disability risks. As the aim is to compare two systems that cover against the same risks (retirement, death, and disability), the insurance prime has also been discounted. This allows for a comparison of like with like. PAYG systems also have an administrative cost but it is much lower than in the

private system (see point (e)). Private pension returns net of administrative fees only are presented in column 4 of the same table for comparative purposes.

28. As a fixed-term deposit does not cover for risks of death and disability the comparison here is made with returns discounted for administrative costs only.

29. The pension act has been modified by at least 34 Laws and Decrees. Overall, there have been about 778 legal instruments which have either modified or complemented the Pension Act (Source: Infoleg at <http://www.infoleg.gov.ar/>).

30. Decree 833/1997 created a new unit of measurement for the calculation of the state benefit (MOPRE) which is now indexed only according "to the possibilities emerging from the General Budget" (art. 1). Law 24463 (art. 11) eliminated originally existing state guarantees on acquired rights from previous pension systems.

31. Decree 1572/2001, art. 4.

32. Decree 1387/2001, art. 11.

33. Decree 1387/2001, art. 15. The reduction resulted in a wage rise by the same amount.

34. A survey published in a local newspaper showed that over 60% of workers did not know that they would be automatically allocated into the private branch if they made no choice within 90 days of entering the labor market (Página/12, "Son más los que eligen el reparto," 28/7/2004).

35. Previous regression analyses have also found a significant association between advertising expenditures and net and positive shifts, which increases over time (FIEL, 1998, pp. 211–216).

REFERENCES

- Arza, C. (2005). *Aims, outcomes and prospects of pension reform in Argentina: An assessment ten years after*, Policy Paper 6, Observatorio Argentino, New School for Social Research.
- Arza, C. (2006a). Distributional impacts of social policy: Pension regimes in Argentina since c.1944'. *Journal of Economic History*, 66(2), 467–472.
- Arza, C. (2006b). Distributional impacts of pension policy in Argentina: Winners and losers within and across generations. *International Social Security Review*, 59(3), 79–102.
- Arza, C. (2007). Pension reform in Latin America: Distributional principles, inequalities and alternative policy options. *Journal of Latin American Studies*, 40, 1–28.
- Baker, D., & Weisbrot, M. (2002). The role of social security privatization in Argentina's economic crisis. Center for Economic and Policy Research. <http://www.cepr.net/documents/publications/argentina_2002_04.pdf>.
- Barlett, W., Roberts, J., & Le Grand, J. (Eds.) (1998). *A revolution in social policy: Lessons from the development of quasi-markets in the 1990s*. Bristol: Polity.
- Barr, N. (2002). Reforming pensions: Myths, truths, and policy choices. *International Social Security Review*, 55(2), 3–36.
- Barr, N., & Diamond, P. (2006). The economics of pensions. *Oxford Review of Economic Policy*, 22(1), 15–39.
- Bertranou, F., & Grushka, C. (2002). Beneficios sociales y pobreza en Argentina: Estudio del programa de pensiones no contributivas. In F. Bertranou, C. Solorio, & W. van Ginneken (Eds.), *Pensiones no contributivas y asistenciales* (pp. 31–62). Santiago: International Labour Organization.
- Bertranou, F., & Sánchez, A. (2003). Características y determinantes de la densidad de aportes a la seguridad social en la Argentina 1994–2001. In *MTESS, Historias laborales en la seguridad social* (pp. 37–64). Buenos Aires: Ministerio de Trabajo, Empleo y Seguridad Social.
- Beveridge, W. (1942). Social insurance and allied services: report. HMSO, Londres.
- Castles, F. (Ed.) (1982). *The impact of parties. Politics and policies in democratic capitalist states*. London: Sage.
- Castles, F. (1993). *Families of nations: Patterns of public policy in Western democracies*. Aldershot: Dartmouth.
- Cetrángolo, & Jimenez (2003). Política fiscal en la Argentina durante el régimen de Convertibilidad. Serie Gestión Pública 35, Comisión Económica para América Latina.
- Conferencia Interamericana de Seguridad Social (1995). La seguridad social en Argentina, Serie Monografías 17. Conferencia Interamericana de Seguridad Social, México, DF.
- Eatwell, J. (2004). Pensions, fiscal policy and the distribution of risk. Paper presented at the *Conference pension fund capitalism and the crisis of old-age security in the United States*, New School University, New York, September 10–11.
- Esping-Andersen, G. (1990). *Three worlds of welfare capitalism*. Princeton: Princeton University Press.
- European Commission (2006). Adequate and sustainable pensions. Synthesis report. European Commission, Brussels.
- Feldstein, M. (1996). The missing piece in policy analysis: Social security reform. *American Economic Review*, 8(2), Papers and Proceedings of the hundredth and eighth annual meeting of the American Economic Association, San Francisco, CA, January 5–7 (pp. 1–14).

- Feldstein, M., & Liebman, J. (2000). The distributional effects of an investment-based social security system. National Bureau of Economic Research, Working Paper 7492, Cambridge, MA.
- Feldstein, M., & Rangelova, E. (1998). Individual risk and intergenerational risk sharing in an investment-based social security system. National Bureau of Economic Research Working Paper 6839, Cambridge, MA.
- FIEL (1995). *El sistema de seguridad social. Una propuesta de reforma*, Buenos Aires: FIEL/Consejo Empresario Argentino.
- FIEL (1998). *La reforma previsional en Argentina. El impacto macroeconómico y la organización del mercado de las AFJP*. Buenos Aires: Fundación de Investigaciones Económicas Latinoamericanas.
- FIEL (2005). *El sistema de jubilaciones en Argentina. Una evaluación de la reforma y el impacto del default*. Buenos Aires: Fundación de Investigaciones Económicas Latinoamericanas.
- Geanakoplos, J., Mitchell, O., & Zeldes, S. (1998). Would a privatized social security system really pay a higher rate of return? National Bureau of Economic Research, Working Paper 6713, Cambridge, MA.
- Gill, I., Packard, T., & Yermo, J. (2005). *Keeping the promise of old age income security in Latin America*. Washington, DC: World Bank.
- Goldberg, L., & Lo Vuolo, R. (2006). *Falsas promesas. Sistema de previsión social y régimen de acumulación*. Buenos Aires: Mino y Dávila/CIEPP.
- Gurshka, C. (2002). Proyecciones previsionales de largo plazo. Argentina 2000–2050. Superintendencia de Administradoras de Fondos de Jubilaciones y Pensiones, Estudio Especial No. 14, Buenos Aires.
- Holzmann, R., Hinz, R., von Gersdorff, H., Gill, I., Impavido, G., Musalem, A., et al. (2005). *Old-age income support in the twenty-first century: An international perspective on pension systems and reform*. Washington, DC: World Bank.
- ILO (2001). *Social security: A new consensus*. Geneva: International Labour Office.
- James, E. (1996). Protecting the old and promoting growth. A defense of Averting the old age crisis. Policy Research Working Paper 1570, World Bank, Washington, DC.
- Korpi, W., & Palme, J. (2003). New politics and class politics in the context of austerity and globalization: Welfare state regress in 18 countries, 1975–1995. *American Political Science Review*, 97(3), 425–446.
- Mesa-Lago, C. (1978). *Social security in Latin America. Pressure groups, stratification and inequality*. Pittsburgh: University of Pittsburgh Press.
- Mesa-Lago, C. (2004). Las reformas de pensiones en América Latina y su impacto en los principios de la seguridad social. Serie Financiamiento y Desarrollo 144, Comisión Económica para América Latina.
- Ministerio de Economía (2007). Informe económico trimestral, No. 56, Buenos Aires.
- Mitchell, O., & Zeldes, S. (1996). Social security privatization: A structure for analysis. *American Economic Review*, 86(2), 363–367.
- MTESS (2005). Prospectiva de la previsión social. Valuación financiera actuarial del SIJP 2005/2050. Ministerio de Trabajo, Empleo y Seguridad Social, Buenos Aires.
- MTSS (1963). Análisis económico financiero de las cajas nacionales de prevision social, 1950–61. Ministerio de Trabajo y Seguridad Social, Buenos Aires.
- MTSS (2001). Estadísticas de seguridad social. Series históricas 1971–2000. Ministerio de Trabajo y Seguridad Social, Buenos Aires.
- Orszag, P. (1999). Administrative costs in individual accounts in the United Kingdom. Center on Budget and Policy Priorities, London.
- Orszag, P., & Stiglitz, J. (2001). Rethinking pension reform: Ten myths about social security systems. In R. Holzmann, & J. Stiglitz (Eds.), *New ideas about old age security. Towards sustainable pension systems in the 21st century* (pp. 17–89). Washington, DC: World Bank.
- Posadas, L. (1994). El nuevo sistema de jubilaciones y pensiones y el deficit previsional público. Estudios 17 (68), Córdoba, Argentina.
- Rofman, R., & Lucchetti, L. (2006). Pension systems in Latin America: Concepts and measurements of coverage. World Bank, Social Protection Discussion Papers Nro. 0616, Washington, DC.
- SAFJP (2002). Memoria trimestral No. 31. Superintendencia de Administradoras de Fondos de Jubilaciones y Pensiones, Buenos Aires.
- SAFJP (2007). Memoria trimestral No. 50. Superintendencia de Administradoras de Fondos de Jubilaciones y Pensiones, Buenos Aires.
- Samuelson, P. (1958). An exact consumption-loan model of interest with or without the social contrivance of money. *The Journal of Political Economy*, 66(6), 467–482.
- Schulthess, W., & Demarco, G. (1993). Argentina: Evolución del sistema nacional de previsión social y propuesta de reforma. Comisión Económica para América Latina, Santiago de Chile.
- Schulthess, W., & Demarco, G. (2000). El financiamiento del régimen previsional público en Argentina después de la reforma. Serie política fiscal 111, Comisión Económica para América Latina.
- Whitehouse, E. (2000). Paying for pensions. An international comparison of administrative charges in funded retirement-income systems. Financial Service Authority, Occasional Paper Series 13, London.
- World Bank (1994). *Averting the old age crisis: Policies to protect the old and promote growth*. Oxford: Oxford University Press.