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**PENSION REFORM IN BOLIVIA:
A Review of Approach and Experience***

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Abstract

The Bolivian pension reform eliminated the old publicly managed pay-as-you-go system and introduced a fully-funded system. The pension reform was highly influenced by the Chilean reform, adopting a second pension component pillar, based on contributions to individual accounts in pension funds, which are managed by decentralized pension-fund management companies and regulated and supervised by the government. Moreover, the new system has followed the substitutive model, where all contributors to the old system, with no exceptions, were automatically transferred to the new one, while those already retired under the old system continued to receive their pensions from the government.

The unique feature of the Bolivian pension reform program was its link to the Capitalization. Under this process the six principal state-owned enterprises were capitalized by foreign companies, and the Bolivian government retained 50% of the shares in the capitalized companies. These shares went into a Collective Capitalization Fund, which is managed by the new pension funds, and the dividends are used to finance the BONOSOL program, which is a universal old age income support to all Bolivians 65 and older.

The main reasons why Bolivia decided to change its pension system were the following: First, the ratio between active contributors and retired people showed a continuous downward trend, which would soon prove impossible to sustain. Second, the dispersed structure of the pension system implied very high administrative costs given the low number of affiliates in each sector.

The process of reforming the pension system started at the beginning of the 1990s during the Paz Zamora Government (1989-1993). Studies concluded that the pay-as-you-go system had financial problems and was not sustainable, but the necessary reform was not implemented due to lack of political support. The following government lead by Sanchez de Lozada overcame the political obstacles by promising universal old age income support as part of the reform. Indeed, they timed the reform so that the first BONOSOL payments were paid right before the 1997 elections, in order to secure maximum political benefits from the pension reform.

The decisive factor that allowed the implementation reform in Bolivia was thus the Capitalization process, which permitted the payments of universal old-age benefits. This created an important new stakeholder consisting of old people and their relatives, who had never received any monetary transfer from the government. Other main stakeholders (such as the military and the judicial) were pacified through special agreements, which secured that the pension reform did not cause a reduction in their benefits.

A particular feature of the new pension system is the number of pension-fund management companies. From the beginning the government decided that only two administrator companies would be in the market with an exclusivity period of 5 years, and the government divided the market evenly between the two. The idea behind this decision was to reduce administration costs while at the same time making the business attractive for foreign investors.

The number of affiliates grew significantly during the first 5 years due to promised affiliation targets during the exclusivity period, but ultimately the number of active contributors has dropped, partly because of the economic crisis. Coverage remains extremely low, mostly due to the high degree of informality in Bolivia, and partly due to labor laws which increase labor costs and thus discourage affiliation on the part of employers.

According to the economic literature, structural pension reform has several beneficial macroeconomic effects. These include increased capital accumulation and investment in the capital market and diversification of the pension fund portfolio. These results in turn generate higher national savings and economic growth. The pension fund has registered a significant increase in capital accumulation compared to GDP and financial saving. However, the annual capital flows into the pension funds have been decreasing over time while the fiscal costs of pension payments have been increasing, resulting in a negative net effect of gross domestic savings.

The economic literature recognizes that a reform from a pay-as-you-go to a fully funded system will increase the public sector deficit in the short to medium run, because the public sector must continue meeting its obligation to current and future retirees, while losing all of the income from current contributors. The actual deficit, however, is much higher than predicted by the government by the beginning of the reform, and the current budget crisis can largely be attributed to the pension reform. Although both the government and multilateral organizations have expressed concern about the high transition costs, there is still no consistent fiscal plan that would secure that Bolivia can reap the long-term benefits of the pension reform.

The expected positive effect on the development of local capital markets has not materialized either, since more than 65% of the portfolio consists of government bonds. The lack of diversification in the portfolio is partly due to regulatory restrictions and partly due to the limited availability of investment instruments.

A contradictory feature of the pension fund is that the value of a quota is measured in domestic currency (Bolivianos), while pension fund assets are invested in foreign currency (US dollars). As the Bolivian economy is highly dollarized, the appropriate measuring stick is the dollar rate of return, which has averaged 4.4% per year. This relatively attractive rate of return is mostly due to the high real return on government bonds, but these are expected to fall in the near future. Indeed the Ministry of Finance is contemplating a forced substitution of government bonds issued in dollars to bonds in domestic currency with a lower real interest rate.

Finally, the BONOSOL law is forcing the FCI to invest heavily in stocks of capitalized companies, which are very illiquid and in addition are expected to give very low returns. This will obviously reduce the rate of return on the individual accounts. Likewise, the Government's recent move to force the AFPs to swap their dollar-denominated bonds for boliviano-denominated bonds with less return will also have a negative impact on individual accounts.

1. INTRODUCTION

The pension reform system in Bolivia was one of the most important changes introduced in the 1990s, which follows the previous experiences implemented in the neighborhood countries like Chile, Peru and Argentina. Now, after six years of experience, a review of the approach and outcomes can contribute to understand the designed adopted and same effects.

The objective of the paper is to discuss and describe the pension reform over 1997-2002. Describing the problems of the old pension system (Pay as you go), which were the factors to introduce the discussion of the pension reform in the politic economy agend. Furthermore, it will describe the political economy of the pension, which includes the timing of the implementation, the main stakeholders involved and the strategist following by the democratic government to launch the Law.

On other hand, the paper review the characteristics of the model adopted and the outcomes related to contributions, benefits, and administration and allocation market. Finally the document analyzes same micro and macroeconomic impacts of the pension reform in the labor force coverage, the diversification and returns of the pension funds, the returns on individuals pension accounts, the efficiency and administrative cost, the national savings and capital market, and the fiscal cost of the pension reform.

2. DESCRIPTION OF THE PENSION SYSTEM BEFORE THE REFORM

2.1. Historical Background

Bolivia's Social Security System Pension started at the beginning of 1900s. The System was built based on retirement programs from different sectors. However, since their beginnings, these programs had technical problems that were fixed with the help of international organizations, such as the United Nations and ILO, in 1954. The Social Security Law was launched in December, 1956. This law had a social character norm that was closely tied to a political economy decision oriented to offset the negative impacts of stabilization program (Vargas del Carpio, 1989). Moreover, the new pension system was based on Bismarck's Plan that introduces financial technical criteria corresponding to PAY-AS-YOU-GO (PAYG) system; this reform followed the experience of the first plans introduced in Latin America specifically in Uruguay (1928) and Chile (1924)

In the 1970s, Complementary Pension Funds were created by worker unions from several sectors with the intention to improve the pension system, but this generated the proliferation of administrative organizations and dispersion of the pension system. With the launching of Rationalization Law in 1972 and the creation of the Bolivian Institute of Social Security (IBSS) in 1973, the pension system uniformed the benefits of old age, disability and death, established a minimum rent, established the annual increment of rents, reduced the fee rates to the basic pension funds, established a compulsory contribution to complementary funds (Saavedra, 2002).

After 15 years, the social security was divided in two components: Health and Pension. The reason behind that decision had to do with financial problems, because pension rates were financing health insurance. After that, technical and financial problems were more evident in the pension system; therefore, these unsuccessful measures become the first steps to talk about the system reform.

2.2. Determinants of Change

According to James and Brooks (2001), economic factors were the main reasons why several countries wanted to change their pension systems. This also happened in Bolivia and the economic factors were the following: unbalance of the system, inefficient management and government position.

Unbalanced System

The financing fundamental base of the PAYG pension system is the intergenerational contracts where the fees of active contributors are used to finance the pension of the retired (Valdez, 2002). In the case of Bolivia, the relation between active contributors and retired people showed continuous downward trend. For example, the ratio in 1980 was 5.21, but it decreased to 2.71 in 1995. This situation was most worrisome in some sectorial complementary funds which had a ratio smaller than 3.

Table 1. Labor Force Covered of the PAYG System

	1980	1985	1990	1991	1992	1993	1994	1995
Active Contributor	323,842	342,534	226,321	253,754	283,675	296,943	314,437	306,698
Retired	62,119	76,817	106,610	102,036	106,034	108,779	114,616	113,326
Active/Retired	5.2	4.4	2.1	2.5	2.7	2.7	2.7	2.7
Active/PEA (%)	na	na	na	10.3	11.2	11.6	11.7	na

Source: INASEP (National Institute of PAYG Pension System).
Note: PEA = Working-age population that is economically active

The fall in the financial base of PAYG pension system was related to the following aspects: i) The trend of aging population in Bolivia (Grandi, 2001); ii) The low coverage of the system that did not exceed 12% of the PEA and only the 22% of the urban PEA (Gray-Molina, Perez and Yañez, 2001); iii) The deregulation of the labor market iv) Negative shock in terms of trade, specially in the mining sector; v) The high evasion rate of payroll taxes; vi) The privatization of the state companies adopted at the end of the 80's that reduced the state bureaucracy (Mercado, 1992); vi) The strong incentive to underreport wages, because old-age benefits were determined only by the last 12 contributed wages (Von Gersdorff, 1997).

Inefficient Management

Previous to Pension Reform (1994), the PAYG system was compounded by 1 Basic Pension Fund, 28 Complementary Pension Fund and 8 University Social Security that also administered pensions and health. This structure was inadequate for the low number of

affiliated members dispersing the administrative management, and resulting in high administrative costs.

Table 2. Administrative Cost (AC) in 1994

	AC/Total Contribution	AC/Active Contributors (US\$)
Basic Pension Fund	na	6.3
Complementary Pension Fund	8.9%	18.6
Universities Complementary Fund ^a	6.9%	43.5
Total System	6.2%	25.6

Source: INASEP

Note: ^a The Administrative Cost includes Health and Pension System.

The sectorial structure of the organizations did not create incentives to look for new affiliated members. Although it was relying in a reduced market, mechanisms oriented to control the contributions evasion and underreport wages were not introduced. Individual accounts that would reflect the contributions history of each affiliated member did not exist.

State Role

The appointed director on the Pension Funds (Basic and also Complementary) had lost his influence with the government and worker's unions, and in addition most of the time did not have the necessary technical and management skills. Moreover, this influence generated a double function for the government, as supervisor and administrator. This duality generated a tax perception of the pension system's fees.

3. POLITICAL ECONOMY OF PENSION REFORM

3.1. Timing of the Pension Reform

The pension reform started at the beginning of 1990s during the Paz Zamora Government (1989-1993), when the Ministry of Finance initiated the preliminary studies, which concluded that the PAYG pension system had financial problems and it was not sustainable. During this period first fiscal estimations that determine an existing implicit debt of pension reform took place, and introduce the issue in the governmental agenda within a strictly economic context.

According to Gray-Molina, et. al (2002), in 1992 the Ministry of Finance submitted the final technical reports for the pension reform to President Paz Zamora; however, this was not received or accepted by the political side of the government. The main opposition was coming from the Ministry of Labor and the Ministry of Health; the latter showed a strong opposition because the PAYG pension system would depend from this Ministry. This situation delayed, in some sense, the pension reform.

In this context, it is possible to observe that during the Paz Zamora Government, the crisis of the pension system was not critical enough to implement the reform, because it did not have the political support inside the Government. Moreover, another reason was the timeframe

when the report was submitted to the President, less than 1 year for the next presidential election which would reduce electoral support for the Government faction.

The Sanchez de Lozada's Government (1993-1997) introduced a fundamental characteristic to the pension reform, which was linked to benefit distribution from Capitalization Resources, called BONOSOL. Under the Capitalization process the six principal state-owned enterprises were put up for sale by international tender and the winning bidder gained management control and a 50% stake in the enterprise, while the government retained the remaining 50% share. The government made a commitment to distribute its share to Bolivian people through an annual pension (BONOSOL) to be paid once a year. This benefit is paid to people over 65 years old. Moreover, as Von Gersdorff (1997) mentions this characteristic introduced advantages to the pension reform, but also becomes a source of instability.

One of the factors that inhibited the implementation of the reform during Paz Zamora's Government was the proximity of the elections. This was not a problem in the case of Sanchez de Lozada's Government, since the Law was approved at the end of his mandate, due to BONOSOL payment that entailed political advantages forehand to elections for the government faction. The BONOSOL started to be paid in May 1997, one month before elections, and the amount was US\$ 248 per year, that represented 43% of the monthly minimum wage (US\$48). The timing for launching the reform was planned since the beginning to be implemented at the end of the presidential period, because it will allow harvesting political gains in the 1997 elections by Bonosol payment (Gray-Molina, et. al 2001).

The process of linking the pension reform to capitalization not only allowed to make the reform more politically feasible, but also made the Bolivian market attractive for the AFPs (Pension Funds Management).

The Bolivian experience according to James and Brooks (2001), shows that economic factors as described in the previous section, have become pre-existing conditions to place the pension reform in the political agenda; nevertheless, the decisive and sufficient factor that allowed the implementation of the reform in Bolivia, has been the Capitalization Process.

On other hand, the pension reform was highly influenced by the Chilean reform; this situation confirms the conclusions of James and Brooks (2001), which showed that cultural, linguistic and geographic factors plus the proximity to first movers play a key role in explaining how reform ideas diffuse across countries via communications and demonstration effects.

3.2. Main Stakeholders

The Government was the main stakeholder in the pension reform, thus the process required a leadership inside the Government. In the case of Paz Zamora Government, the leadership was provided by the Ministry of Finance, but it did not have enough political support to implement the reform, because there were conflict of interests among other Ministries including Health and Labor. Moreover, the pension reform was not included in the economic or political programs of Paz Zamora's Government.

Based on the bad experience of the former Government, Sanchez de Lozada created a Ministry responsible for the pension reform and capitalization. The idea to create a especial Ministry was to avoid conflict of interests between others Government institutions especially those related to the pension system. Although, some conflict of interests arose inside the Ministry of Capitalization, because the Secretary of Pension Reform had the project ready in 1994 but it was not a priority for the Minister. The solution for the these problems was to change authorities, introducing a politician operator and changing the approach of the government, giving more importance to the need of negotiation involving all stakeholders, on the basis of dialogue and consensus.

Other main stakeholders, included the staff of the pension funds, which were against the pension reform, but their influence on civil society was not strong because the government initiated a discredit campaign based on their inefficient management performance and corruptions. This campaign originated the division between executive's complementary funds, and propitiated agreements with strategically important sectors such as the Judicial, Military, Police and Medical.

Other actors included retired people and worker unions who did not have a strong opposition against the pension reform due to internal conflicts between members and leaders. The Government takes advantage of this problem. Also, the opposition coming from the retired people was offset by the agreements signed with the government as described in the following section.

Congress became another actor with a twofold participation First, the government faction ha enough representatives who were instructed to approve the project. Second, even when the government had majorities, inside there were having strong discussions, the project was submitted to Congress in July 9, 1996 and was modified and approved after 4 months. The main modification introduced by Congress was the concept of radical transition.

Finally, the implementation of the pension reform created a new actor or stakeholder, which was very favorable to the approval of the Pension Law. These stakeholders were old people over 65 years and their relative who had never received any monetary transfer from the government. The Pension Law opened them a door to receive the Bonosol.

3.3 Agreements and Compensations

According to James and Brooks (2001), the social reforms had an effect on many interests, and for its approval in democracy it was necessary to persuade, negotiate, yield and compensate certain sectors to overcome the opposition to the reform. In this sense, the Sanchez de Lozada's Government had to yield and to compensate strategic sectors like: the Military, Policy, Judicial and others.

The agreement with the Military was signed before launching the Pension Law. This in fact guarantees that the Military Social Security will not be intervened by the government, and the National Government Treasury (TGN) will pay for the retired military members. Moreover, the governments also guaranteed a rent equivalent to 100% of the base wage for the military that fulfilled 35 years of service. This agreement required an additional fiscal effort from

TGN. Similarly, Judicial Social Security was favored with the same agreements, but the difference was that the affiliated members will receive rents without any ceiling. Furthermore, Police and University Social Securities receive few sectorial benefits respect to other ones. The agreement only stated that their complementary funds will not be intervened

On the other hand, the retired population at large also was compensated with the Pension Law, because it established that the State would be in charge of all the pensions (Basic and Complementary). Before the Pension Law, the complementary rents were not the direct responsibility of the TGN, because these ones were private. Other compensation was coming through indexation of the rents to devaluation; this was because the devaluation was more than inflation over the projection period.

4. THE BOLIVIAN PENSION REFORM: DESIGN AND OUTCOMES

The Bolivian pension reform eliminated the old publicly managed PAYG pillar and introduced a fully-funded system. It was the adoption of a second pension component pillar, based on contributions to individual accounts in pension funds that are invested in financial markets, managed by decentralized pension-fund management companies (AFPs) and regulated and supervised by the government. Moreover, the new system has followed the substitutive model, where all contributors to the old system, with no exceptions, were automatically transferred to the new one, while those already retired under the old system continued to receive their pensions from that system¹.

According to Dowers, Fassina and Pettinato (2001), the unique feature of the Bolivian pension reform program was its link to Capitalization. The Collective Capitalization Fund – 50% of the capitalized company shares – is managed by the new pension funds, which also manage flows from new contributions. The dividends from this Fund are used to finance the BONOSOL program. This plan guarantees a universal old age income support equivalent to about 26 percent of the national average income to all Bolivians 65 and older. The annuity generated by this system substitutes the typical public structure that provides minimum pension guarantees.

Schmidt-Heddel (1999), on the other hand, mentions that reform aspects and implementation specifics vary a lot among reforming countries that allow learning from major country differences in reform design and results. Hence, this section will be analyzing the outcomes of Bolivian pension reform, while the next section will analyze the impacts.

4.1. Contributions

The system adopted establishes a defined contribution, which added to its yield, will allow each affiliated to cover the old-age financial risk, whereas the disability and death risks are transmitted to insuring companies. Under this scheme it is possible to affirm that the government does not run any risks since it does not guarantee a minimum pension or a minimum yield. Moreover, the pension reform abolished government contributions and the

¹ See Schmidt-Heddel (1999) and Valdez (2002).

employer would be acting as a retention agent discounting a percentage from the worker's wage in the case of employees.

The individual contribution is equivalent to 12.21% of the wage, from which 10% correspond to old-age individual account, 1.71% for disability and death by common risk (RC) and 0.5% for direct commission paid to the AFPs. Additionally, in the case of dependent workers the employer must pay a monthly fee of 1.71% of the worker wage to cover professional risk (RP).

Table 3 shows that the annual total contribution has been around US\$ 220 millions, - annual average for the last five years. This represents 2.6% of the GDP. On the other hand, the contribution of the new system was higher than the old one. For example, the PAYG system collected a monthly average of US\$ 7.9 millions in the four first months of 1997 while under the new social security system; the collection registered a monthly average of US\$ 16.0 million during June and July of the same year (Escobar, 2002).

**Table 3. Composition of Contributions ^a
(US\$ Millions)**

Year	Total	Oldness Individual Accounts	Disability and Death		Commission
			RC	RP	
1997 ^b	115	79	16	16	4
1998	228	157	31	31	8
1999	230	158	32	32	8
2000	212	146	29	29	7
2001	217	150	29	29	8
2002	212	152	26	26	8

Source: Own estimation from information of the SPVS.

Notes: ^a It has been used the annual average exchange rate (Bs./US\$).

^b The accumulated contributions correspond to 8 months (May to December of 1997)

According to Mesa-Lago (2001), the elimination in employers' contributions has largely resulted in a raise in the insured's contribution in most Latin American countries. Nevertheless, Table 4 shows that insured people's contributions in average weighted were slightly lower than the old system in Bolivia. The benefit was equivalent to 0.2% of the wage in the beginning of new system. The government contributions, on the other hand, disappear.

**Table 4. Contributions: PAYG vs. AFPs
(In percent)**

	Basic	PAYG System		Funded Pension
		Complement	Total	AFPs
Workers	2.5	6.4	8.9	12.5 ^a
Employers ^b	4.5	1.3	5.8	2.0
Sub-total	7.0	7.7	14.7	14.5
Government	1.5	0	1.5	0
Total	8.5	7.7	15.2	14.5

Source: INASEP – AFPs

Notes: ^a The fee was 12.5% until November 2001, after it is 12.21%

^b The employer contribution was put together to worker's wage after the reform.

4.2. Old-age Benefits

The Pension Law establishes that old-age benefits are determined by actuarial formulas and the retired person must receive a pension equal or higher to 70% of his/her average wages over the last five years. The pension is financed with the individual accounts of each affiliated, in addition to this amount the Compensatory Pension (CC) must be added for those affiliated that contributed to the PAYG system. This amount of compensation is determining by two variables: i) the number of years that the affiliate had been contributing to the old system; and ii) the wages from which the old system contributions had been charged. According to Von Gersdorff (1997), in other countries the “Recognition Bonus” has been used instead of the CC.

Qualified affiliated members can decide on two modalities for life-time old-age benefits, i) Constant Insurance (Seguro Vitalicio) that must be contracted with an insurance company or ii) Variable Insurance (Mensualidad Vitalicia Variable) that must be contracted with an AFP. In the first case, the insurance company pays a monthly pension and the yield and longevity risks are assumed by the company. In the second case, the pension is variable because it is recalculated annually according to the yield of the pension fund and the longevity of the group of people who chose this modality. In both cases, for those affiliated with CC, the minimum age for retirement is 55 for males and 50 for females.

Affiliates who are over 65 years old, but who have not accumulated sufficient funds in their individual accounts to finance a rent equal or superior to 70% of the national minimum wage (US\$ 48), do not qualify for life-time old-age benefits. In this case, the AFPs pay back a minimum monthly payment equivalent to 70% of his/her average wage, until his/her accumulated funds in the individual account are exhausted.

The retired will receive 13 annual payments (12 monthly payments and a bonus cancelled in December of every year). Moreover, the technical yield rate used for calculating the rent of the Variable Insurance modality was 8.4% until December 2002. Recently, the technical yield rate was reduced to 5.0%, this decrease implies that less affiliates will be able to retire or, in other words, the affiliates will require more years of contribution to be able to retire.

The first retirement cases were in June 2002, after six year of the launched reform. Moreover, the pension system only has 75 retirement cases due to old age until April 2003. These first retirees are practically being financed with the CC, because they had little accumulated capital in their individual accounts.

Table 5. Compensatory Pension and Oldness

Concept	Total Cases	Composition		Age	CC (\$us)
		Male	Female		
Emitted CC	53,497	64%	36%	45	139.6
Registered in the SPVS	14,060	73%	27%	47	161.7
Oldness Pensions with CC	75	84%	16%	59	357.8

Source: Own elaboration base on Ministry of Finance’s information.

According to Ministry of Finance's projections, the retired population would reach over 2000 cases in 2002. This low retirement was explained by two reasons: i) the delay of the process related to recognize the CC by the Government, who was implemented in November 2001; and ii) the incomplete law framework related to retirements, which was launched in 2002 and recently modified in March 2003. This low number of retired population has jeopardized the retirement rules, because there is the wrong perception about affiliation that 65 years of age and 30 years of contribution are required to retire with the new system.

4.3. Disability and Death Pensions

Insurance companies contracted by the AFPs cover the benefits of disability and death, these benefits are separated in two categories: the disability or death caused by Common Risk (RC) and the ones related to labor activity denominated Professional Risk (RP).

The insurance companies cover a disability pension until 65 years of age. Additionally, the insurance companies deposit 10% of the invalid affiliate's wage into his/her individual account, to have the same treatment as a normal worker after reaching 65 years old for retirement pension. On the other hand, the insurance company only covers disability pension by RC, when the disability level is greater than 60% and permanent. This design eliminated the partial RC disability that was covered by the PAYG system.

Another special characteristic is related to the financing of the RP's pensioners from the PAYG system, which are also covered by the insurance companies and not by the government. This measure allowed relieving the cost of government annual average pensions by 3.6% of fiscal pension's expenditure (see Table 6). Nevertheless, this decision implied that part of the employer contribution fund the Professional Risk pensions².

Table 6. Pensioners and Expenditure of Disability and Death Pensions

	1997	1998	1999	2000	2001	2002
NEW SYSTEM (RP and RC)						
Pensioners		142	368	982	1,977	2,469
Expenditures (US\$ Millions)		0.3	1.7	3.3	5.1	8.6
OLD SYSTEM (RP)^a						
Pensioners	13,680	13,694	3,626	12,702	12,732	12,246
Expenditures (US\$ Millions)	8.1	12.5	12.1	12.1	11.7	10.5
% of Pension ^b	3.3%	4.2%	4.1%	3.6%	3.2%	3.0%
NEW and OLD SYSTEMS						
Pensioners	13,680	13,836	13,994	13,684	14,709	14,715
Expenditures (US\$ Millions)	8.1	12.8	13.8	15.4	16.8	19.1
% of Disability and Death Contributions	25,7%	20,3%	21,7%	26,4%	28,6%	36,6%

Source: SPVS

Notes: ^a The RC is coverage by the government.

^b Related with Table xxxx

² There was not access to the studies related on the increasing of the employer's contributions of this decision.

4.4. Administration and Allocation Market

A particular feature of Bolivian pension system is the number of AFPs. From the beginning the government decided that only two AFPs would be in the market with an exclusivity period of 5 years. This decision hoped to r: i) reduce the administrative costs of the system; ii) introduce administrators with economic solution and experience in the handling of pension funds; iii) make the business attractive for foreign investors by offering them initially a monopoly market; iv) avoid the proliferation of small AFPs that respond to sectorial interests and that put into risk the administration of pension funds; and v) find a expert portfolio administrator to the Collective Capitalization Fund (FCC).

The exclusive period ends May 2002; however, there are not any new AFPs, because of the following: i) The Supervisory agency instead of opening the market, by giving licenses to new companies, decided to make a new procurement process which was declared barren since there were not new interested parties; ii) There was not a normative available to distribute the FCC between a new AFP. On the other hand, after the exclusivity period expired, it has neither generated a force of salespersons, nor competition between the existing AFPs, in regards to their exclusivity markets. For example, in 2002 the AFP “Futuro” affiliated 249 cases on the exclusivity zone of the other AFP, which represents only 0.06% of the competitions; instead AFP “Prevision” virtually triplicates this number. This means that the pension market is a strong duopoly market with a coalition between AFPs.

An additional characteristic is related to market allocation, since AFPs have da Monopoly market; however the global market can be considered a Duopoly, because there are two AFPs working in Bolivia The monopoly characteristic has been generated because the affiliated person cannot choose to transfer to another AFP searching for better yield, better attention, more information or by simple free-choice decision and for the government decision to allocate he markets through pre-established criteria.

The government divided the country in three geographic zones: North, South and Common or Central Zone. In such way, the north zone was assigned to the AFP “Futuro de Bolivia S.A.”. The South to AFP “Prevision S.A.” and the common zone was given to each AFPs according to affiliates dates of birth. This allocation practically divided the market in 50% for each AFP on the beginning and as the system matured the AFP Prevision obtained a somewhat greater participation because the South Zone increased in economic activity (See Table 7). On the other hand, this decision tied each affiliated person for 5 years to the AFP assigned, and after the exclusivity period was over very few people chose to transfer.

Table 7. Allocation Market

	1997	1998	1999	2000	2001	2002
Affiliates ^a	328,884	459,917	518,816	633,152	675,889	760,959
AFP Futuro	50.3%	46.6%	47.4%	47.6%	46.5%	46.2%
AFP Previsión	49.7%	53.4%	52.6%	52.4%	53.5%	53.8%

Source: SPVS

Note: ^a Affiliates are workers and self employments workers who has at least one contribution.

Three years after the implementation of the new system, the design suffered an unexpected situation, when the principal owner of one of the AFPs bought the principal owner of the other, and the entire Bolivian pension system thus became a monopoly, where more than 70% of the stocks of each AFP were controlled by the Spanish bank “Banco Bilbao Vizcaya Argentaria S.A.” (BBVA).

In order to return to a duopoly, the supervising agency and the government forced the sale of BBVAs stocks in one of the AFPs. They decided to keep AFP Prevision, while all their stocks in AFP Future de Bolivia was sold to the Swiss group “Zurich Financial Services.”

5. THE EFFECTS OF THE PENSION REFORM: 1997 - 2002

A discussion of the overall impact of pension reform can be addresses from three perspectives. First, when it evaluates the minimum preconditions of economy for the success of pension reform and the promotion of funded pension plans. These are described as “feasibility” preconditions. Second, it evaluates the “impact” preconditions that are necessary for allowing the pension funds to realize their potential impact on economy. Finally, it examines the micro- and macroeconomic effects of the reform.

According to Vittas (2000), the most important “feasibility” precondition is a strong and lasting commitment of the authorities to maintain macro stability. The “impact” preconditions, on the other hand, include the attainment of critical mass, the adoption of conducive regulations, and the pursuit of optimizing policies.

In the case of Bolivia, the stabilization program and the structural reforms previous to pension reform had removed most of the distortions that had affected the economy in the early 1980s. These policies together with the law framework that created an effective regulatory and supervisory agency had achieved a considerable degree of macroeconomic stability over 1990-2002. These features, after that, can easily fulfill the requirement of the “feasibility” preconditions, which means that this section will evaluate the effect of pension reform from two perspectives: “impact” preconditions and effects on labor force covered, diversification and returns of pension funds, returns on individual accounts, efficiency and administrative cost, national saving and capital markets, and fiscal cost.

5.1. Labor force covered

One of the features of the vast literature on pension reform is the analysis of the percentage of pension coverage of the labor force after the reform. In the Latin America, for example, the results were very different between countries after reform, this is because labor force covered has been positively correlated with the level of development and, specifically, with the size of the formal, salaried sector in any given country (Mesa-Lago, 2001).

In the case of Bolivia, the number of affiliates has been growing significantly during the first years, which mainly is explained by annual affiliation target over the exclusive period that AFPs had. Moreover, as Bolivia has implemented a substitutive model, almost all the affiliates were from the formal salaried sector. In the period of 1999-2000, the supervisory agency and

the government introduced regulations to force self-employed workers to contribute to AFPs. This fact, explains the increase of affiliates and the participation of self-employed people in the labor force, that reach higher percentages for 2000 than in previous years..

Table 8 shows that even when the number of affiliates was growing slowly in the last years, the proportion of them respect to working-age population that is economically active (PEA) was more in comparison to the old system in the first years (see Table 1). Only the first years this proportion was similar to PAYG system, due to the new government rules that made a significant contribution to this growth. In comparison with other Latin American countries with similar pension fund systems, the ratio has been the lowest.

**Table 8. Labor Force Covered
(In percent)**

Year	Affiliates		Composition of Affiliates		Active Contributors ^a		
	PEA	Growth	Employees	Self Employment	Affiliates	PEA	Growth
1997	9.0	35.3 ^b	99.8	0.2	87.5	7.9	
1998	12.4	39.8	98.3	1.7	88.9	11.0	42.0
1999	13.6	12.8	98.7	1.3	84.6	11.5	0.1
2000	16.6	22.0	95.0	5.0	67.4	11.2	0.0
2001	16.5	6.7	95.9	4.1	66.5	11.0	0.1
2002	18.8	12.6	95.7	4.3	58.5	11.0	0.0

Source: SPVS

Notes. ^a Active Contributors are own estimation by using the annual average salary and total individual contribution.

^b From July 1997.

Following the analysis of Mesa-Lago (2001), the low labor force covered is mainly explaining by the structure of Bolivian labor market. Lay (2001), for example, conclude that due to the implementation of these structural adjustment policies, Bolivian labour market have undergone a process of “informalization” throughout the 1990s. He also mentions that labour has moved out of regular salaried employment in “modern sector”, often state-owned, firms into self-employment or employment in small and medium enterprises, where people frequently work under precarious conditions. Recently, some studies conclude that the most important obstacle to completely legal operation is the additional labour costs, induced by labour laws and social security contributions³. Even if the enterprise is registered and pays taxes, labour relations will often be unregulated.

To analyze the impact of pension reform on the labor force covered is necessary to make a difference between affiliates and active contributors. Table 8 shows that the proportion of active contributor is around 75.6% of the affiliates in annual average, but with a decreasing trend and growth near to zero. Another interesting ratio is the relation between active contributors to PEA, which was stable after pension reform and is also similar than for the previous social security system. This proves that the model design for pension reform was neutral because the government allocated the market to AFPs without creating competition.

The vulnerability to external shocks and structure of the labor market, on the other hand, could be explained by the falling of the active contributors. The economic crisis over 1999-2002

³ Employer contribution to Health security system is 10% of the wages.

(low GDP growth) forced to reduce the employer affiliates, mainly from the private sector, and, then, reduce active contributors. This shows that feasibility precondition, as macroeconomic stability, affects the labor force covered.

Table 9. Employer Affiliate

	1997	1998	1999	2000	2001	2002
Employers	14,863	17,508	19,945	24,119	17,675	17,368
Composition (%)	100.0	100.0	100.0	100.0	100.0	100.0
Public (%)	4.4	3.7	3.8	6.0	6.9	7.1
Private (%)	92.6	93.0	92.6	90.8	89.1	70.6
Others (%)	3.0	3.2	3.5	3.2	4.0	22.2
GDP Growth %	5.0	5.2	0.4	2.4	1.0	2.5

Source: SPVS

According to Mesa-Lago (2001), most of the pension reformers eliminated the wage contributions paid by employers to pension systems, arguing that they caused a distortion in the labor market. However the employers still have to finance the professional risk and they have the responsibility to discount the affiliates and transfer the money to AFPs. In 1999-2002, the economics crisis showed that the new pension system could not avoid the moral hazard from employers, they discount from wages to contribute to AFPs, but they do not transfer the money. In 2002, around 1588 employers were in default.

5.2. Diversification and returns of pension funds

The portfolio percentage distribution by financial instrument is indicating that much still ought to be done to achieve an adequate degree of diversification in Bolivia. Table 10 reveals that pension fund assets are highly concentrated in government debt securities, which is mainly explained by government investment regulation. But, after the launched the Capital Markets Law, the improvement of legislation and regulation was reflected in a gradual diversification away from government debt and bank deposits. Moreover, the diversification would be enhanced because AFPs are beginning to invest in the international capital markets. In 2002, for example, only 1.3% of the pension funds assets were invested abroad, but according to Schmidt-Hebbel (1999), even foreign investment is dismally low, an internationally diversified portfolio could provide adequate old-age protection against idiosyncratic national shocks.

Queisser (1999), on the other hand, confirm that in all of the reform countries, the differences between the AFP's portfolios are small. She mentions that the reasons for the fund manager's similar investment choices may be due to several factors, including the direct and indirect regulatory restrictions on investment and the still limited availability of investment instruments in incipient capital markets. Another factor, which may influence the herding behavior of the pension fund managers, is the minimum rate of return rule with which the managers have to comply.

**Table 10. Composition of pension fund
(In percent)**

Assets	1997	1998	1999	2000	2001	2002
Government Debt Securities	100.0	66.6	67.2	69.5	73.2	69.1
Compulsory	100.0	66.5	65.5	63.6	60.1	56.7
Second Market	0.0	0.0	1.7	5.9	13.1	12.4
Private Debt Securities	0.0	0.0	0.4	3.7	13.4	13.5
Time Deposit	0.0	31.1	29.6	23.2	10.5	15.9
Others	0.0	2.3	2.8	3.7	2.9	1.5
Total (US\$ Millions)	74.3	337.4	591.8	841.9	935.6	1143.8

Source: SPVS

According to Mesa-Lago (2001), the large majority of investment in most countries is still in public instruments and, if they have generated a good rate of return, it is because the state has paid high interest rates on its debt paper. In the case of Bolivia, the high returns on pension funds in part are explained by government debt securities returns in the first years, but they are also explaining the falling of the last years. As the capital market is not developed, there are not a variety of stocks or bonds in which to invest the fund. AFPs, then, are front a diversification-returns dilemma, while they are trying to diversify pension funds, the implicit costs to investment in government securities through secondary market are low returns, see Table 11.

**Table 11. Returns of Pension Fund
(In percent)**

Assets	2001			2002		
	Nominal	Market	Share Returns of assets	Nominal	Market	Share Returns of assets
TGN Bonds						
Compulsory	8.0	8.0	5.0	8.0	8.0	4.6
Secondary Market	8.0	6.5	0.8	7.2	5.2	0.6
TGN Coupon Bonds				5.8	6.9	0.0
TGN Bills	4.8	2.6	0.0	6.5	4.0	0.0
BCB CDDs	8.6	4.7	0.0	0.0	0.0	0.0
BCB Bonds				3.0	3.0	0.0
Private Debt Securities						
Corporate Bonds	10.7	10.5	1.4	10.5	9.4	1.2
Others				6.1	8.6	0.0
Time Deposit						
Without coupon	7.7	5.2	0.4	4.9	3.8	0.5
With coupon	9.5	6.9	0.3	7.8	3.9	0.1
Time Deposits Abroad				1.4	1.3	0.0
Portfolio	8.3	7.9	7.9	7.7	7.1	7.1

Source: SPVS

Note: BCB = Central Bank of Bolivia

This situation confirm that when the government release that funding the pension reform with high governments debt securities returns, is costly to TGN and economy and it cannot be

sustained in the long run, the returns will be fall and, then, the return of pension fund. The budget crisis in the beginning of 2003 evidenced that the adjustment of the public policies will provoke dramatic erosion in the value of the pension fund, like the crisis of Argentina. According to new rules of the Minister of Finance, AFPs are forced to invest in government debt securities indexed to UFVs with low returns. This procedure will have a significant impact to benefits of pension reform. The case of Argentina proved that when the government converted the financial instruments in dollars into pesos, and reduced even more the interest rate; the value of pension fund portfolio declined significantly. This negative experience, contrasted with that of Chile, which suggests that the public supervisory agency should be truly independent vis-à-vis de executive and play a more active role in promoting portfolio diversification (ILO 2002).

5.3. Returns on individual pension accounts

It is often argued that funded schemes provide larger pensions than PAYG systems because securities market returns are higher than the returns offered by state schemes. Table 12 shows that individual accounts yielded an 11.0% real annual average in domestic currency. Moreover, the real returns have shown a positive trend over 1997-2002; this is due mainly to the control of inflation. The inflation decreased from 6.7% in 1997 to 2.5% in 2002.

A contradictory feature of pension fund is the value of quota that is measuring in domestic currency (Bolivianos), instead pension fund assets are invested in foreign currency (US dollars). As Bolivian economy is functioning with American dollars, the reference to economic agents is the interest of foreign currency. By contrast, the equivalent return of the individual accounts was 4.4% on annual average, which is 6.6% lower than the real return on domestic currency due to devaluations.

**Table 12. Individual Returns
(In percent)**

	Nominal	Real	Equivalent ^a	Deposit Rate ^b
1997 ^c	9.9	1.3	-2.3	8.3
1998	13.6	8.8	3.2	8.3
1999	16.8	13.2	6.6	8.8
2000	14.9	11.1	4.3	7.5
2001	17.1	16.0	8.4	2.8
2002	18.6	15.8	5.9	3.3

Source: Own estimation by SPVS and BCB

Notes: ^a Equivalent is deflected by domestic inflation and devaluation.

^b Average interest rate of time deposits.

^c It was annualized.

When the returns are compared with banking deposit time interest rate, on the other hand, show that return in financial assets (6.5%) is high to returns of pension fund in annual average. This difference, it is probably another element that explains why agent economics do not want to accumulate capital through pension fund, even when during the last two years the returns on individual accounts was slightly higher than the deposit rate.

5.4. Efficiency and Administrative Cost

Adequate competition among administrators is essential to improve efficiency and reduce management costs. In theory, administrators compete for an insured population that has sufficient information to choose the best option, based on the highest capital return and lowest management commission. By contrast, the case of Bolivia has a particular characteristic; there was not competition and the government allocated the market that created a monopoly.

Available data suggest that even with only two administrators in the market, they charged the lowest commissions in comparison to other countries Latin American. Table 13 illustrates that historical trends of commissions have been stagnant or experienced very little reduction over 1999-2002. According to Baker and Kar (2002), while some nations have been more successful than others in restraining the costs of private accounts, even Bolivia, the lowest cost country, still pays fees that (measured as a share of contributions) are more than ten times the expense of running the entire United States system.

Table 13. Commission and Administrative Cost

Year	Commissions		Administrative Costs	
	Active Contributors (US\$)	Contribution to Individual Accounts	Affiliates (US\$)	Contribution to Individual Accounts
1999	22.3	4.7%	12.0	2.9%
2000	23.9	5.0%	18.0	5.6%
2001	22.5	5.4%	6.3	2.3%
2002	23.8	5.2%	5.6	2.1%

Source: AIOS

The lowest fee is due to design of the model adopted that allowed: i) it did not exist cost of promotion and affiliation related to seller; ii) low infrastructure to attend the affiliates because the allocation of the market permitted a full employment of the infrastructure; iii) low level of marketing cost; and iv) the commissions that receive by the management of the FCC.

The administrative cost, on the other hand, has been decreasing significant by affiliates and also is cheaper than the old system (see Table 2). Additionally, when the administrative costs are comparing with the financial institution, as credit unions and saving institutions, also the costs are lower. For instance, the annual administrative cost per account of the credit unions and saving institutions were US\$ 40.0 and US\$ 52.6 in 2002. Furthermore,

Moreover, there is an asymmetric performance between commissions and administrative costs, the administrators are increasing the profit by decreasing the administrative costs per affiliate but they are not decreasing the commissions per active contributor. According to AIOS (2002) in 2002 the return of equity AFPs was 36.5% that was almost 2.5 times of 2001 (14.4%).

5.5. National Savings and Capital Markets

According to the economic literature, structural pension reform has several beneficial macroeconomic effects. These include increased capital accumulation and investment in the

capital market (which becomes more developed and generates a high capital return or investment yield), and diversification of the pension fund portfolio. These results in turn generate higher national savings and economic growth.

Table 14 shows that the pension fund has registered significant capital accumulation respect to GDP and financial saving. In 2002, for example, the ratio of pension fund to GDP represented the second largest of Latin American countries with individual pension fund, yet it has been one of the smallest stocks⁴. Respect to financial saving, the result is showing that the funded system is beginning to be a significant alternative way to mobilize national saving and financing.

Table 14. Pension Fund

Year	Stock		Annual Flow		Securities ^b /PGFCF ^c (%)	
	(% of GDP)	(% FS) ^a	(% of GDP)	(% of Investment)	Total Securities	Private Securities
1997	1.5	2.5	0.9	4.7	7.2	0.0
1998	3.6	10.4	2.8	11.4	9.9	0.0
1999	6.6	18.3	3.1	15.7	15.1	0.2
2000	8.7	26.2	3.0	16.5	20.2	2.7
2001	11.2	29.9	1.2	8.5	27.8	13.5
2002	13.4	42.5	2.7	19.9	16.4	3.5

Source: BCB, INE and SPVS

Notes: ^a Financial Saving (FS): saving account and time deposit, but without the time deposit investment from AFPs.

^b Correspond to the Government and private dept papers of Table 10.

^c Private Gross Fixed Capital Formation

By analyzing the annual flow, the results were less satisfactory. Although there are no studies on the effect of pension reform on national savings, the fact that annual capital accumulated flow has been slightly decreasing while the fiscal cost was increasing compared to GDP; the net effect on gross domestic savings is negative. Available data over 1997-2002 shows that the annual average capital accumulated in individual accounts was 2.3% of GDP, but the average total fiscal expenditures of pension reform was -4.3% of GDP, resulting in a negative net outcome of -2.0% of GDP. Moreover, if annual capital accumulated had been transferred to businesses by capital markets, the pension reform would have had a significant effect on private gross fixed capital formation, on average around 16.1% of total securities. But, the underdevelopment of the financial market has constrained the full benefits of the pension reform. In 2002, for example, the ratio between private securities and PGFCF was only 3.5%.

According to Mesa-Lago (2001), Chile, the country with the longest reform in operation and where many assumptions have been tested, shows contradictory evidence concerning the impact on capital markets. In the case of Bolivia, there are evidences that the reform has not contributed to financial market development. Gottret (1999), for example, mentions that it is not surprising that the pension reform had little impact on capital markets because the government is crowding out almost all funds collected by the pension system. Moreover, IMF (1999) described that the IMF's Directors urged authorities to keep government from borrowing from pension funds, or do it in very low amounts in order to limit the growth of the

⁴ See AIOS (2002)

government's domestic debt, and to help ensure that a large proportion of the savings of the pension funds was channeled to private investment.

Moreover, although Congress approved the capital markets law on March 1998, few companies issued bonds or stocks for external financing. Assuming that financial resources collected were meant to finance investment plans, like new equipment, the contribution of the pension fund to private fixed capital formation is estimated to be around 5% of the total during the period 1998-2002.

5.6. Fiscal Cost

In the literature on pension reform, there is consensus that reform from a PAYG to a contributed definite pension system must increase the public sector deficit in the short to medium run. According to Mackenzie et al (2001), the deficit increases because the public sector must continue meeting its obligation to current and future retirees, while losing all of the revenue from the payroll taxes levied on current workers and their employers.

The initial design of the pension reform, elaborated by the SNP (National Pension Secretary), was a parallel model, which released the obligations and previous responsibilities of the government related to the complementary funds, effectively reducing the pension payments to individuals in this system (Gray, 2003). This design established a gradual transition, with an initial fiscal cost minor to the observed one and allowed the old system to disappear slowly. Nevertheless, the Pension Law introduced a substitutive model.

According to Von Gersdorff (1997), the decision to change to a substitutive model instead of a parallel one, was taken because the Government wanted to make clear that the affiliates are the owners of the resources in the system, something that is essentially undefined in a PAYG system. He mentions that keeping both systems open either for a long time or permanently has several potential drawbacks: i) total administrative costs may be higher; ii) total contribution rates may need to be higher to give both systems a critical mass of funds to manage; iii) the contribution to the PAYG system continues to be perceived as a tax on labour making the enforcement of payment of all contributions more difficult; iv) the issue of the level playing field between the two systems will continually resurface; and v) outstanding Government guarantees may be higher.

There are a few studies that have tried to estimate the fiscal costs of the pension reform in Bolivia. Humérez and Gamboa (1997), for example, show that the fiscal impact of implementing the reform is greater than the fiscal impact without reform in the short and medium run, but in the long run the government would incur a greater fiscal deficit if the reform is not implemented.

In the period 1997-2002, the fiscal cost of the pension reform was higher than the projections. The average projected retirement PAYG expenditures (see Table 15) were 2.7% instead of the observed 3.9%. According to the studies⁵, the reasons for the excessive costs were the following: i) Agreements and Compensations with Military, Policy, Judicial and other

⁵ See Grandi (2001), Escobar (2002) and Gamboa (2002).

strategic sectors; ii) Under-estimations of the new retirees from the old system; and iii) External factors like the complementary increase determined by the Justice Court, the payments to affiliates who contributed less than five years to the PAYG system (Pago Global), and the social claims to increase the minimum rents.

Table 15 shows the fiscal expenditures according to the pension reform. In 2002 this expenditure represented 5.0% of GDP. The expenditures related to the retirement PAYG system represent the most important item, accounting for 91.2% last year.

Table 15. Fiscal Expenditures of Pension Reform

	1997	1998	1999	2000	2001	2002
Total Expenditures (Millions US\$)	268.6	332.7	332.0	364.4	373.7	372.3
Retirement PAYG expenditures (% of Total Exp)	89.3	86.9	85.5	88.7	91.0	91.2
Administrative Expenditures (% of Total Exp) ^a	4.0	3.0	5.2	3.4	1.2	1.1
Others (% of Total Exp)	6.6	10.1	9.4	7.9	7.9	7.7
Total Expenditures (% of GDP)	3.5	4.0	4.1	4.5	4.8	5.0
“Observed” Retirement PAYG expenditures (% of GDP)	3.1	3.5	3.5	4.0	4.4	4.5
“Projection” Retirement PAYG expenditures (% of GDP) ^b	2.9	2.7	2.7	2.6	2.6	2.6

Source: Unit of Fiscal Program (UPF) – Ministry of Finance

Notes: ^a Cost of the institutions who administrated the residual PAYG system: “Dirección de Pensiones” and “Unidad de Reordenamiento”.

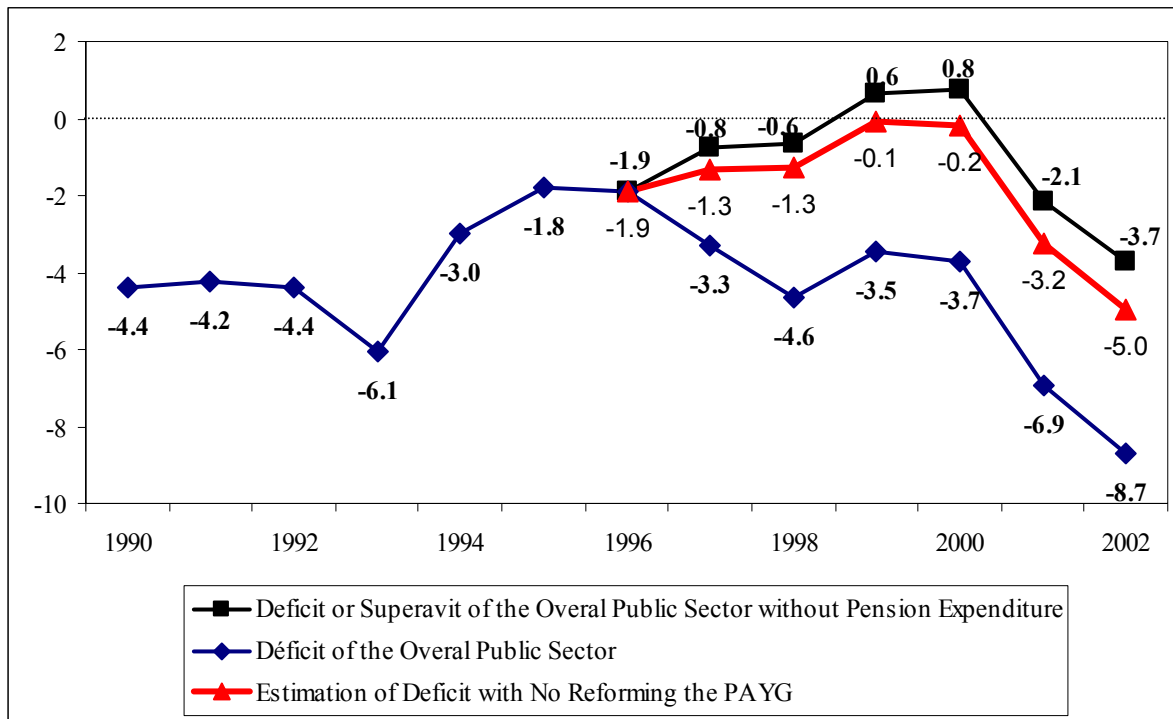
^b Based on the estimations of Humerez and Gamboa (1997)

The successive economic reform programs have incurred some additional fiscal costs over the 1990s, but the fiscal deficit experienced sharp increases after the launching of the pension reform in 1996. Figure 1 shows that, prior to the pension reform, the combined deficit of the overall public sector was extremely low by historical standards, but it increased and doubled over the last two years to 8.7% of GDP in 2002.

Even if the pension reform had not been implemented, the combined deficit of the overall public sector with no pension reform would have been 5.0% last year⁶, so the real cost of the reform is the difference between the no reform alternative and the observed fiscal deficit, which was 3.7% of the GDP (Incremental Cost).

⁶ Projected fiscal expenditure in the pension sector with no reform is from Humerez and Gamboa (1997).

Figure 1. Fiscal Deficit (In percent of GDP)



In the beginning of 2003, the budget crisis can be attributed largely to the pension reform, which in fact jeopardized Bolivia's macroeconomic position. There is evidence that the government and the multilateral organizations expressed concern about the rising level of transition cost from the pension reform, yet the financial authorities has not implemented a consistent fiscal plan that will enable Bolivia to secure the long-term benefits of the pension reform. By contrast, the revenues were restrained by weak domestic consumption, delays in tax reforms, and a freeze on domestic fuel prices.

In the period 2000-2002, the fiscal income decreased by 5.6 percentage points, from 33.7% to 28.1% of GDP, while the expenditure stayed almost constant around 32.6% of GDP. This situation shows that the fiscal expenditure, even without pensions, is hard to decrease. This feature together with pension reform expenditures, which is increasing compared to GDP, generates an unsustainable situation that requires a deep adjustment of fiscal policy.

Recently, the current government implemented measures trying to increase revenues and decrease expenditures. In order to decrease expenditures, the government decided to issue government bonds indexed to UFV with a lower interest rate (5%) and decrease the total payroll of the public sector by 10%. The government also tried to implement a tax reform but the results were social unrest, which generated political and economic instability. Furthermore, the low interest rate of new indexed government bonds has been a negative impact on the return of the individual accounts which decreased from 18.4% to 15.7% in the first quarter of 2003.

Finally, the current fiscal burden is leading the Ministry of Finance to implement a compulsory substitution of government bonds emitted in foreign currency with government bonds in domestic currency. The new bonds will be indexed to inflation instead of devaluation, and carry a lower interest rate (5%). These policies will have a direct effect on the pension funds, who are the main buyers of government bonds, decreasing the return on the individual accounts, implying that active contributors will need to contribute more years before retiring.

6. THE RISK OF FUNDING THE BONOSOL

The Pension Law of 1996 required the payment of BONOSOL from May 1997. This year 364,261 people received an annual payment per person of US\$ 212, totaling US\$ 77.2 Millions. Nevertheless, this policy was changed by the new government of August 1997. They stopped the payment of the BONOSOL and introduced a similar, but much smaller, benefit denominated BOLIVIDA, which was paid with a considerable delay. Thus, they payments corresponding to 1998, was not paid until 2001 (see Table 16).

Table 16. BONOSOL ^a

	1997	2001		2002		2003
		1998	1999	2000	2001	
Beneficiaries	364,261	318,544	340,420	334,411	351,206	89,915
Total Expenditures (US\$ Millions)	77.2	19.1	20.4	20.1	21.1	21.6
Individual Payment (US\$)	212	60	60	60	60	240

Source: SPVS

^a From the 1998 was denominated BOLIVIDA.

A study made at the Ministry of Finance in 1997 showed that the FCC Fund, which was supposed to pay BONOSOL payments for about 70 years, would last only about 30 years with the high payment of \$212 per person per year. This prompted the reduction in the payments to \$60 per year per person, which was considered sustainable.

However, in the beginning of 2003, the new Sanchez of Lozada's government (2002-2007) started again to pay the BONOSOL, which is four times more than BOLIVIDA. The new level was fixed by electoral commitment instead of using actuarial and financial simulations. During the first three months of 2003, the expenditures of BONOSOL reached the total annual expenditures of BOLIVIDA while it covered only 25% of the beneficiaries. During these months, the BONOSOL was funded with the liquidity assets and profits of the FCC that were not used for the payment of BOLIVIDA in the year 2002.

The Law which restituted the payment of BONOSOL of US\$ 240 per year⁷, establishes the following aspects: i) The Individual Pension Fund (FCI) has to buy all the assets of the Collective Pension Funds (FCC) in return for quotas in the FCI. These assets consist almost exclusively of shares in the capitalized companies. ii) The value of the assets is fixed at the

⁷ See Law No. 2427 (November 28, 2002)

value at capitalization (for lack of a market price); and iii) Each time the FCC require money to pay the BONOSOL, the AFPs are required to buy the quotas necessary to cover the obligation at current value.

Table 17. Capitalized Companies and FCC

	1997	1998	1999	2000	2001	2002	2003 ^a	Average
Capitalized Companies								
Capitalized Value (US\$ Millions)	3,342.7	3,342.7	3,342.7	3,342.7	3,342.7	n.a.	n.a.	3,342.7
Accounting Value (US\$ Millions)	2,553.1	2,481.6	2,533.5	2,553.8	2,493.2	n.a.	n.a.	2,523.1
Overvaluation Rate	31%	35%	32%	31%	34%			33%
Profit (US\$ Millions)	101.3	120.3	141.3	86.6	95.4	n.a.	n.a.	109.0
Return on equity ^b	3.0%	3.6%	4.2%	2.6%	2.9%	n.a.	n.a.	3.3%
Collective Capitalization Fund								
Share on Capitalized Companies			46%	46%	46%	46%	46%	46%
Share Value (US\$ Millions)			1,546.1	1,597.7	1,583.5	n.a.	n.a.	1,575.8
FCC Composition								
Capitalized Companies Assets	100,0%	99,9%	99,0%	97,1%	98,0%	97,8%	99,3%	98,7%
Others Assets	0,0%	0,1%	1,0%	1,2%	0,1%	0,1%	0,2%	0,4%
Liquidity Assets	0,0%	0,0%	0,0%	1,7%	1,9%	2,0%	0,5%	0,9%
Net return ^c	2,60%	1,83%	2,57%	2,04%	1,62%	n.a.	n.a.	2,13%

Source: SPVS

Note: ^a Period January-March

^b Return on the Capitalized Value

^c Return after administrative and custody commissions on the Capitalized Value.

The modification introduces a very high risk to the new pension system, mainly to the performance of the individual accounts in the medium run, due to the following aspects:

- The underdeveloped financial market restricts the determination of the market value of the capitalized companies' assets. Currently, the book value of the capitalized companies is about 33% than the capitalized value, which suggests that the FCI is forced to buy over-valued shares. This would tend to reduce average returns in the FCI. See Table 17.
- The return on equity of the capitalized companies has averaged 3.3% over the last 6 years. This is low compared to other sectors, and after deducing the commissions by AFPs, the annual return reached only 2.1% over 1997-2001. The performance of the capitalized companies is expected to deteriorate in the future compared to 1997-2001, which means that the investment in FCC will reduce the return on FCI considerably.

- The liquidity of the capitalized companies' stocks is very low (actually there are no markets for trading). Thus, when the AFPs are required to cover the obligations of the BONOSOL, it will have to sell more liquid assets, which generally have higher returns than the capitalized companies' stocks. This will change the composition of the FCIs portfolios towards assets with lower returns.

7. CONCLUSIONS

Economic problems in the old pension system was the catalyzing factor that put the pension reform in the political agenda; nevertheless, the decisive and sufficient factor that allowed the implementation of the reform in Bolivia was the capitalization process.

The pension reform is proving very expensive for the government while the benefits are more elusive. The design of the new pension system, with two AFPs, did not generate competition in the market, but it generated the lowest commission and administration costs in the region.

The labor force covered is more than in the old system, but similar when it considers the active contributors. On the other hand, the returns on the individual accounts are modest compared to alternative investment options. The lions share of pension funds are invested in government bonds, which means that this saving does not contribute much to private investment, nor to the development of local capital markets.

The BONOSOL law is forcing the FCI to invest heavily in stocks of capitalized companies, which are very illiquid and in addition are expected to give very low returns. This will obviously reduce the rate of return on the individual accounts. Likewise, the Government's recent move to force the AFPs to swap their dollar-denominated bonds for boliviano-denominated bonds with less return will also have a negative impact on individual accounts. With a substantially lower return on the individual accounts, people will either have to work more years or receive lower monthly pension payments. In summary, the commitments inherent in the BONOSOL law could make the whole pension reform unsustainable.

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