Linking pension reform and financial market development. Comments based on the LA experience[1]

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I. Preliminary remarks

Beginning with Chile in the year 1980, ten Latin American countries have carried out reforms to their pension systems that include the creation of a mandatory individual funded program. The respective pension funds already amount to US$229 thousand million and are, in most cases, important actors in local capital markets (See Tables Nº 1 and Nº 2).

Ensuring the efficient investment of these resources is decisive for the success of the reforms. One point of difference in the yield that is accumulated during the working life means a difference of over 25% in the amount of the final pension.[2] So far, that aim appears to have been achieved, since the yield of the funds has been high (compared with the initial assumptions. See Table Nº 3). This result is explained mainly by the fact that the pension funds of many Latin American countries have benefited from periods of considerable appreciation in the value of their assets (including debt, and particularly public debt), which accompanied their respective economic reform processes (especially in the 1990s).

However, the prospects for the future are not equally auspicious. In the long term, success in investment management depends on ensuring adequate diversification of portfolios and the pension funds are not currently fulfilling this condition. On the contrary, most of the Latin American pension funds show low levels of diversification, with heavy concentration in a few asset classes, in a few issuers (mainly the Government) and in their respective national economies (see Table Nº 4). This situation is explained both by unsuitable regulations, which have restricted investment in equity instruments and international investment, and also by the insufficient development of the local capital markets (see Table Nº 5).

The aim of this presentation is to identify the problems that have been faced by the reforming countries when designing pension fund investment regulation. In addition, and on the basis of the experience of these same countries, we will identify the imperfections of the capital markets that impose the greatest costs for the development of the new individual funded pension systems.

We realise that each country's situation contains unique elements and also that the strategies chosen by each one of them to address the problems have had different degrees of success. Consequently, it is very likely that our comments do not represent exactly the situation of any country in particular. However, at the same time, there are

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[1] Note prepared on the basis of the text of a power point presentation in the International Forum on Pension Reform held in Bled, Slovenia (June 9, 2007).

[2] Estimated in the case of man who starts working at 25 years of age and retires at 65 years (with an average contribution density of 85%). The pension includes survivorship benefit for a widow three years younger. Average real annual base investment return of 5%.

elements common to the various situations. Identifying which these are will make it possible to obtain certain valuable lessons for those countries that are beginning the process of implementing their respective reforms.

II. Interactions between pension reform and capital market development

There is a large amount of literature exploring the links between pension reforms and the development of the capital market.[3] The two general conclusions that are most relevant for our discussion are, first, that the existence of efficient, developed capital markets, though not a necessary condition for starting pension reforms, is a condition for their success in the long term (at least as long as regulations do not allow all the pension funds to be invested abroad); and second, that the accumulation of pension funds can have positive effects on the development of the capital market.

Capital market development and pension funds

The development of the capital markets is associated with an increase in the volume and variety of the supply of different types of assets from a larger number of issuers, and with deeper, more liquid markets. Moreover, as a result of economies of scale, the growth in the size of the market makes it possible to lower the costs of information for participants; reduce trading costs and develop more efficient systems for executing transactions and for securities custody. There is also a positive relationship between the degree of development of capital markets and the quality of corporate governance practices.

From the perspective of the pension funds, the development of the capital markets therefore gives the pension funds greater opportunities for portfolio diversification (in the local market); it avoids distortion of the markets concerned, caused by the concentration of the demand in just a few instruments; it makes it possible to lower investment management costs; and contributes towards lowering supervision costs.

However, in Latin America many of the pension reforms have been carried out in circumstances where the capital markets of the corresponding countries showed limited development because of interest rate controls; price controls on securities intermediation; tax regulations that penalise the funding of projects through the market and penalise investors in financial securities; legal restrictions on developing financial assets that are index-linked to inflation; restrictions on international movements of capital; bad corporate governance practices; lack of reliable, timely information; weakness in the banking sector; high concentration in the financial sector; and lack of efficient systems for carrying out transactions and custody.

The impact of pension reform on capital markets

We shall now comment in greater detail on the effects that pension reforms can have on the development of the capital markets. We would recognise four main outcomes.

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[3] See, among others, Iglesias (1996), Walker and Lefort (2002), Catalan, Impavido and Musalem (2000).

The larger size of the capital market. The impact of pension reform on levels of saving in the economy depends to an important extent on the strategy that is used to pay the unfunded social security debt of the traditional systems and on the degrees of substitution that exist between internal and external savings. However, even where the reform does not have significant effects on the total level of saving, it does have an impact on the volume of savings intermediated through the capital markets and on the composition of those savings. In particular, it is to be expected that the accumulation of pension funds will have a positive effect on the level of trading in the capital market and on the supply of long-term savings.

In addition, new possibilities of funding appear, together with the expansion in the size of the market. The aim of pension fund investment is to maximize the long-term return of social security savings, since this enables the members of the system to count on more capital when the moment comes to purchase a pension. On the other hand, the life insurance companies sell life annuity pensions to the pensioners of the new social security systems and need to invest their reserves in financial assets that have a duration similar to that of the flow of pensions that they have to pay out over time. In consequence, the appearance of pension funds encourages the demand for long-term financial instruments, thereby creating conditions for the development of this specific market. In fact, this is the main explanation for the growth in bond markets that is to be seen in some countries in the region.

Improvement of regulations in the financial market. The pension funds' demand for financial instruments can be a force that drives legislators and authorities into introducing changes in the laws and regulations specific to the capital market. These changes include modifications to the tax system applied to the issuing and acquisition of financial instruments; improvements in trading mechanisms ("Stock Exchanges"); and changes in bankruptcy laws and other regulations that provide protection for investors.

Greater transparency in the capital market. Almost without exception, the participation of pension funds in the capital markets of the countries in the region has been accompanied by a gradual, but steady, increase in the quality and timeliness of the information available to investors. This is explained by the demand that arises from the pension funds themselves for financial information that is more complete and of higher quality, and also by the interest of the various issuers in meeting the requirements imposed by the pension funds as a condition for investing in their respective securities. The development of risk-rating systems for financial instruments and the higher demands facing issuers as regards the quality and timeliness of the information that they have to provide for the market, are specific manifestations of this phenomenon.

Better corporate governance practices. The participation of pension funds as shareholders or bondholders may also serve to improve the corporate governance of the companies in which they invest. As in the previous case, this is also due both to the direct demands made by the pension funds on the managers and controllers of such companies and to a decision on the part of the issuers themselves to create conditions that make it attractive for the pension funds to invest in the securities that they issue. At the same time, the development of the pension funds may help legislators and regulators to recognise the importance of reinforcing the various mechanisms designed to protect investors. This leads to the improvement (and creation) of regulations aimed at

minimising the risk of conflicts of interest and strengthening the rights of minority shareholders and the holders of debt instruments issued by the companies.

This set of changes has three possible repercussions. In the first place, the growing size of the capital market generates *incentives for financial innovation* because it facilitates the development of new institutions – such as custodians, centralised clearing mechanisms and electronic trading systems - which contribute towards improving the efficiency of the capital market and, because of the high levels of investment required, are unlikely to emerge in the case of smaller markets.

In the second place, it has been argued that the development of the pension funds could lead to *a fall in the cost of capital* because the greater size of the market makes it possible to reduce the average issuance costs of financial instruments. In addition, as we remarked recently, the pension funds (and the life insurance companies that sell life annuities) are long-term investors that may demand lower "liquidity rewards" of their investments. Finally, pension fund administrators are prepared to tolerate greater short-term volatility in the return of their investments, compared with other investors, because their aim is to maximise the return of the social security savings accumulated during the entire working life of their members.

In the third place, *improvements in the quality of investment decisions* are to be expected, since the pension fund administrators are professional, specialised investors, who have developed considerable ability in collecting and analysing market information. In addition, via the pension funds, individuals gain access to investment portfolios which would be extremely difficult for them to constitute individually (or significantly more expensive). These two effects added together contribute towards improving the quality of the country's capital allocation.

How can one ensure that the accumulation of pension funds effectively reinforces the development of the capital market?

The accumulation of pension funds therefore brings with it the promise of faster capital market development. However, in order for this promise to actually become a reality, it is necessary for at least two conditions to be met, while ensuring that the level of inputs to the pension funds is significant (which depends on the level of the contribution rate and the extent of their coverage): first, that the regulation of the funds' investments allows the portfolios to be adequately diversified; and second, that there is ability and willingness on the part of the authorities to modify (improve) the regulations of the capital market as may be necessary.

As a result, although the creation of pension funds may provide the boost that the capital market needs in order to develop, it is not of itself a condition sufficient to guarantee this process. Only while there is the political willingness (and clarity of ideas) required to eliminate the regulatory and legal obstacles that limit the growth of the capital market and to ensure that the investment process has an efficient legal framework, will it be possible for the positive interactions that exist between pension fund accumulation and financial market development to become a reality.

In Latin America, just as there are cases of countries (Chile, in particular) in which both conditions have existed together (regulations on pension fund investments that allow at

least certain basic degrees of diversification, accompanied by an on-going process of improvement in capital market regulation), so it is also possible to see other experiences in which both these circumstances have been absent. Therefore the striking differences in the results of the reforms in the two cases should not come as a surprise.

III. Challenges to the design of pension fund investment regulations

All the reforming countries, without exception, have adopted strict quantitative regulation models for the investments. This means, on the one hand, that pension funds can only be invested in instruments that are expressly authorised and also that the investments are subject to maximum limits (and sometimes also minimum limits) fixed in the law.

As we have seen, in many cases the rules of portfolio diversification have not been correct (see Table Nº 6). The most significant errors have been the prohibition on investing in equity securities; the prohibition on investing abroad; the obligation to invest a certain minimum percentage of the portfolio in public debt securities; and the fixing of insufficient maximum investment limits in certain types of assets. These imperfections in portfolio diversification rules derive from two main causes:

In the first place, the new pension systems have meant an important break with social security tradition and, in many cases, the regulators have not been prepared to face up to the new reality when introducing the reforms. In addition to their lack of experience, there was a certain level of distrust as to the private administrators' ability to meet the challenge of managing pension funds successfully. As a result, investment regulations were not designed on the basis of the conclusions of portfolio theory. Instead, the regulators appear to have decided to follow an *ad hoc* strategy of gradually liberalising restrictions as they advance along the learning curve and as their opinions change with regard to the development of the markets. However, in order to avoid a strategy of this type having considerable costs, the regulators must actually be capable of recognising changes in the environment and must also have great flexibility in order to modify the regulations at the appropriate time. The problem has been that in some cases these conditions have not been met and the pension fund investments, after various years in operation, are still in a straitjacket that implies increasing costs in terms of risk and yield.

In the second place, it has also been difficult to isolate the pension funds from political interference. Although, with the reforms, enormous progress has been made towards solving this problem (which was one of the main causes of the failure of the traditional pension systems in the region), in some cases the design of the investment rules has been influenced by considerations that have nothing to do with the aims of the respective pension plans. The clearest evidence of this problem is found in the obligation to invest in public debt to which pension funds are subjected in some countries, the prohibition on investing abroad and the constant pressure to invest in certain assets, interestedly called "of social interest".

Another important problem that arises from the regulation of investments in Latin America has been the uniformity of portfolios. The pension fund administrators are authorised to offer their members only one type of fund. Although this problem might

have limited consequences while all the members are young and are far off retiring age, it becomes more significant as the systems mature and includes workers who are at very different stages of their life cycle and who also have widely differing preferences as regards investment. Only Chile, as from the year 2002, and more recently Peru and Mexico, have authorised the pension fund administrators to offer different portfolios (with compositions better suited to the needs of different stages in the life cycle).

IV. Final comments

As we have said, the accumulation of pension funds may have a significant impact on the development of capital markets and, by that way, on economic growth and the welfare of individual people. For example, in a study on the Chilean case, it is estimated that in the period 1980 to 2001, almost 5% of the growth of the national product is explained by the impact of the pension reform on the capital market.[4]

However, the magnitude of these effects has not been equal in all the countries that have brought in social security reforms. The differences are explained mainly by the characteristics of pension fund investment regulations in each country. Thus some countries have forced the funds to invest mainly in government debt securities, which has prevented the development of the market for other financial instruments. In other cases, investment of the pension funds in equity securities has been prohibited or severely restricted. This, together with preventing companies from benefiting from a possible reduction in the cost of capital, has removed a force that can help to produce significant improvements in the quality of corporate governance. In other countries the regulations have prevented the pension funds from contributing towards the development of markets for derivative and risk capital instruments.

The development of the capital market is a necessary condition for the success of a reform based on the accumulation of pension funds. However, a reform of this type is possible, even if at the outset the capital market is not sufficiently developed. In any case, it must be ensured in these circumstances that the regulation of the pension funds' investments does not prevent the development of the market for specific financial assets and that it allows some (significant) degree of international diversification. In addition, it must be ensured that the changes required in the legislation of the capital market are actually implemented and that these changes take place at a point that will not cause the pension funds any harm.

These situations therefore represent an important challenge for the regulators of the new social security systems. Some countries are not taking maximum advantage of the contribution that the pension funds can make to the development of their respective capital markets and to economic growth. In order to achieve this result, they need to improve the regulations for investing the pension funds, authorizing the investment in instruments that are prohibited today, liberalising certain investment limits and thereby allowing them to form more diversified portfolios, with lower risk. They must also accompany these changes with adjustments to their taxation systems and the regulations of the capital market. These reforms will directly benefit pensioners and will also have

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[4] See Corbo and Schmidt-Hebbel (2003).

positive consequences on the productivity of the economy, on economic growth and on the welfare of the whole population.

References

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Table Nº 1
Pension reform in LA

Country	Year of reform	Type of system	Members	Contributors
Argentina	1994	DC/IA + PYG	11.307.715	4.563.768
Bolivia	1997	DC/IA	1.002.986	473.861
Chile	1981	DC/IA	7.683.451	3.956.992
Colombia	1994	DC/IA	7.010.287	2.943.940
Costa Rica	2000	DC/IA + PYG	1.542.151	n.d
El Salvador	1998	DC/IA	1.437.474	538.370
México	1997	DC/IA	37.408.828	13.926.954
Perú	1993	DC/IA	3.882.185	1.350.775
República Dominicana	2003	DC/IA	1.436.694	755.436
Uruguay	1995	DC/IA + PYG	723.267	415.016

Source: FIAP and PrimAmerica Consultores

Table Nº 2
Pension funds in capital markets

	Pension Funds (2006)	Pension funds/GDP (2005)	Pension Funds/ Market capitalization	% Public debt on pension funds portfolio
Argentina	29.203.857	30,9	14,5	6,5
Bolivia	2.298.629	43,5	171,8	37,0
Colombia	19.347.175	24,7	40,6	n.d
Chile	88.631.780	89,7	65,8	64,6
Costa Rica	1.061.185	10,0	3,9	0,7
El Salvador	3.469.774	n.d	69,4	13,0
México	68.290.750	26,0	37,1	14,7
Perú	14.413.201	28,1	39,8	3,0
Uruguay	2.585.893	13,3	962,5	7,6

Source: AIOS (2002); Encuesta FIAP; Solomon-Smith Barney (2002); Soley (2002).

Table Nº 3

ANNUAL RATE OF RETURN
Adjusted by inflation in US$ of each year.

Country	Rentabilidad promedio Anual	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997
ARGENTINA	-0,69%	13,98%	4,62%	4,33%	11,10%	-45,23%	-10,36%	3,92%	18,12%	-2,12%	14,40%
BOLIVIA	5,18%	2,85%	3,96%	5,14%	7,16%	5,23%	8,34%	3,66%	7,06%	3,40%	n.d.
COLOMBIA (1)	9,88%	6,63%	13,23%	10,40%	9,37%	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
COSTA RICA	7,35%	11,32%	4,71%	2,82%	10,80%	n.d.	n.d.	n.d.	-	-	-
CHILE (2)	7,27%	17,04%	5,70%	9,10%	11,90%	2,68%	5,72%	3,98%	14,53%	-1,09%	4,51%
EL SALVADOR	5,14%	1,20%	1,46%	2,28%	4,75%	2,41%	7,65%	7,92%	14,09%	n.d.	-
MÉXICO	8,82%	8,45%	7,76%	1,57%	6,24%	-3,33%	19,47%	12,24%	29,85%	0,82%	n.d.
PERÚ	17,75%	26,82%	18,43%	5,58%	21,24%	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
REP. DOMINICANA	n.d	n.d	n.d	n.d	n.d	-	-	-	-	-	-
URUGUAY	10,68%	9,78%	0,12%	3,58%	31,83%	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.

(1) Colombia: Annual rate of return is estimated for tri-anual periods.
(2) Chile: Weigthed average for all (5) different types of portafolios.

n.d. Not available.

Table Nº 4
Pension funds portfolio composition in LA
(2006)

País	Public debt	Foreign	Private Sector	Banks	Other	Fixed Income	Stocks and MF
Argentina	55%	10%	14%	20%	1%	83%	16%
Bolivia	75%	3%	10%	11%	1%	98%	0%
Chile	13%	32%	27%	27%	0%	48%	52%
Colombia	47%	14%	20%	18%	1%	77%	22%
Costa Rica	64%	12%	2%	22%	0%	97%	3%
El Salvador	76%	5%	0%	15%	4%	96%	0%
México	73%	6%	17%	2%	2%	90%	7%
Perú	19%	9%	44%	28%	0%	51%	49%
R. Dominicana	0%	n.a	2%	98%	0%	100%	0%
Uruguay	87%	n.a	4%	8%	1%	98%	0%

Table Nº 5

Domestic Financial Sector Development Across Countries

This figure shows credit to the private sector by financial institutions over GDP, domestic stock market capitalization over GDP, and the amount outstanding of private sector domestic bonds over GDP at year-end 2004 for selected countries.

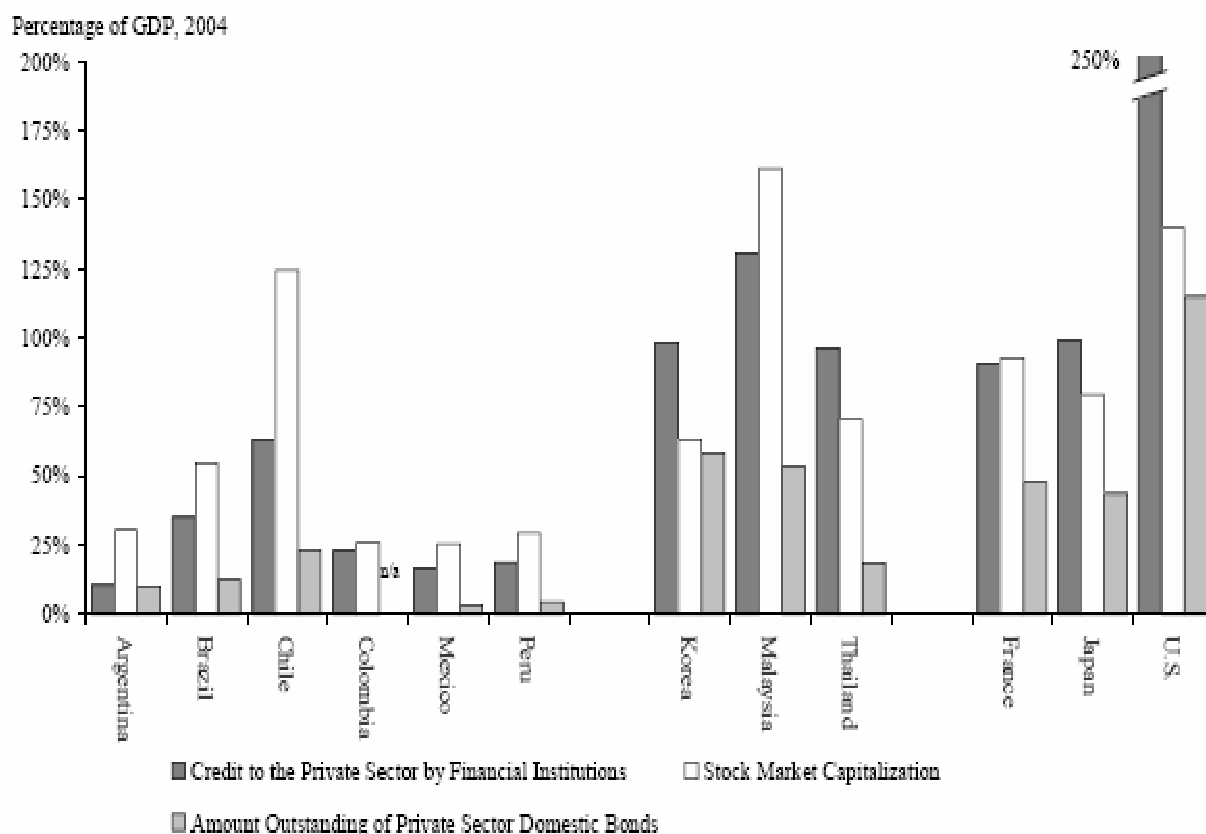

Table Nº 6
Pension funds portfolio diversification rules
(Limits by asset class. % Pension Funds)

	Argentina	Bolivia	Chile	Colombia	El Salvador	México	Perú	Uruguay (4)
Fixed income								
Public Debt	N.D.	100,00%	50,00%	70,00%	N.D.	N.D.	40,00%	60,00%
Central Government	50,00%	N.D.	N.D.	N.D.	50,00% (1)	40,00%	30,00%	N.D.
Local government and decentralized institutionss	30,00%	10,00% (1)	N.D.	N.D.	50,00% (1)	N.D.	N.D.	N.D.
Central Bank	N.D.	N.D.	N.D.	N.D.	30,00% (1)	30,00%	30,00%	N.D.
Banking Sector	N.D.	60,00%	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Deposits and Bonds	30,00%	50,00% (1)	50,00%	32,00%	40,00%	40,00%	40,00%	30,00%
Mortgage bonds	40,00%	50,00% (1)	50,00%	40,00%	60,00%	40,00%	40,00%	30,00% (5)
Corporations	N.D.	45,00% (1)	N.D.	N.D.	N.D.	N.D.	N.D.	40,00% (6)
Bonds	40,00%	N.D.	45,00%	30,00%	40,00% (1)	30,00%	40,00%	N.D.
Convertible Bonds	60,00%	N.D.	10,00%	N.D.	20,00% (1 y 2)	5,00% (3)	N.D.	N.D.
Commercial Paper	20,00%	N.D.	10,00%	13,00%	N.D.	N.D.	25,00%	N.D.
Securitized assets	N.A.	30,00% (1)	N.D.	20,00%	20,00%	N.D.	10,00%	N.D.
Stocks and M. Funds								
Stocks	70,00%	40,00% (1)	40,00%	30,00%	20,00% (2 y 3)	5,00% (3)	35,00%	N.D.
Mutual/Investment Funds	30,00%	15,00%	25,00%	5,00%	20,00%	0,00%	15,00%	N.D.
Foreign investments								
Financial assets	20,00%	10,00%	16,00%	10,00%	N.A.	N.A.	7,50%	N.A.
Currency coverage	10,00%	N.D.	20,00%	N.D.	N.A.	N.A.	N.D.	N.A.
Other authorized investments	30,00%	5,00% (1)	1,00%	30,00%	40,00%	5,00%	12,50%	N.D.

Source: FIAP and PrimAmérica Consultores
ND: Not defined NA: Not applicable
(1) Max. Possible limit
(2) Sum of stocks and convertible bonds can not be over 20%
(3) Sum of stocks and convertible bonds can not be over 5%
(4) Max 60% in assets not issued by the public sector
(5) Instruments issued by the BHV
(6) Max in debt issued by corporations with variable interest rate