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The relevance of the financial market for optimizing pension fund investments

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Regulation of investments in the Chilean pension system

The law expressly regulates the objectives and instruments of pension fund investments. With regard to their objectives, article 45 of DL3500 requires that they be aimed exclusively at security and profitability, forbidding any purpose other than or contrary to these two goals. Likewise, the method of achieving these objectives is regulated in detail through definition of the eligible instruments and of the limits applied to them. Recently the law has established five pension funds, differentiated according to the percentage of their portfolio invested in securities representing capital or variable income.

1. Investment objectives and eligible instruments

a) *Definition of investment objectives:* Including in the regulations an explicit definition of the objectives for investment management reduces the discretionary power of the administrators and of their supervisors and makes it easier to control the pressures on investment decisions which may be applied from different sectors.

b) *Definition of authorized assets:* Generally speaking, the criterion adopted is that these be publicly listed financial assets traded on official secondary markets. This is designed to facilitate the determination of the economic or the market value of such assets in order to insure the transparency of the transactions. On the other hand, the individual identification of assets makes it simpler to define limits, so as to control portfolio risks. The authorized investment options should be broadly, clearly and simply defined, leaving space for new instruments that may emerge in the course of time.

The Chilean case

In general terms, the law provides that Pension Funds should be invested in order to secure an adequate profit and security. The resources of Chilean Pension Funds may only be invested in those instruments that are expressly authorized by the law or by the Chilean Central Bank: State bonds, corporate or financial institution debt, stocks and shares of mutual or investment funds, whether issued in Chile or abroad. In addition, the Funds are allowed to carry out operations covering financial risk and to enter into contracts for asset loans on the national or international markets.

In the case of domestic instruments, when they are not government securities, their issuance is controlled by the Superintendence of Securities and Insurances (Superintendencia de Valores y Seguros) or the Superintendence of Banks and Financial Organizations (Superintendecia de Bancos e Instituciones Financieras).

2. The rule of the prudent man, benchmark, quantitative investment limits

The risk management for social security portfolios can be established on the following bases:

a) *The rule of the prudent man*: This is an investment standard for asset managers. It provides that asset managers apply the judgment criteria of a cautious man, which implies the preservation of capital, while obtaining a reasonable income.

b) *Benchmark*: A benchmark is an indicator of market, sub-market or a mix of assets, which are commonly traded and used as a point of reference for the portfolio manager.

c) *Quantitative limits*: This consists in defining the maximum limits for individual, class or class mix of assets. The main object is to reduce the risk in portfolio investments, based on the risk assigned to each individual asset. The rationale is that the sum of low-risk assets leads to a low-risk portfolio.

In obligatory pension systems, quantitative limits are usually applied, since from the public's point of view, it would seem appropriate to avoid such risks. Not to do so could be prejudicial and form an obstacle to its development. Furthermore, in shallow capital markets this alternative is preferable and of greater practical value than those mentioned in sections a) and b). However, the limits should be defined in a broad sense, so as to leave a margin for mixing different portfolio options, the ultimate goal being the ideal portfolio.

The Chilean Case

The composition of the investment portfolio for the Pension Funds is decided by various types of investment limits, set by the Central Bank of Chile, after a report by the Superintendence of Pension Fund Administrators, or established by law.

a) *By instrument or group of instruments*: the purpose of limiting by instrument is to achieve adequate diversification of the Pension Funds' portfolios, setting the combinations of returns against the risks that these may register.

b) *By issuer*: A limit is set as a percentage of the portfolio's value in order to control the concentration of Pension Fund investments in instruments issued and guaranteed by a single entity. A limit is also established as a percentage of the assets or the net worth of the issuer, in an effort to avoid the Pension Fund's acquiring a significant weight in the issuer's decisions

c) *Limits for issuers related to the Administrator*: The limits set by issuer are subject to drastic reductions when it is an entity related to the Administrator.

3. Risk rating

There is a double purpose for risk rating in a pension system: on one hand, to provide a risk measurement to assist those involved to distinguish between eligible and non-eligible instruments and, on the other hand, to provide a greater margin for investment in the more solvent issuers.

The Chilean case

The financial instruments issued by private entities, in which the Pension Funds may invest, are submitted to different classification processes, according to their nature.

For debt instruments, the risk rating is performed by private companies. Later, the Risk Rating Commission (RRC) (Comisión Clasificadora de Riesgo, CCR)[1], taking into account at least two private classifications, assigns a rating to the instruments to be used by the Pension Funds. The minimum risk categories eligible for the Pension Funds correspond to the investment rating, that is, at least N-3 for short-term and BBB for long-term instruments.

Shares are rated by the RRC based on an analysis of the last three years' results, the coverage of financial expenditures and the liquidity of the company.

The shares of investment funds and mutual funds are approved by the RRC, based on the precedents contained in two risk rating reports, prepared by private risk rating entities.

4. Financial risk coverage

Operations with derivatives are usually authorized in the management of pension funds for the sole purpose of covering risks. Foreign investment of funds without exchange risk coverage is a source of risk, which would be unnecessary if the use of forwards or derivatives were authorized, conditioned simply for the purpose of coverage. The use of these instruments may also extended to coverage of the risks of interest rates and fluctuations in market prices, always aimed at providing coverage for the assets in the portfolio.

Using derivatives for the purposes of speculation or as an investment instrument has not been authorized for the Pension Funds, due to its potential impact on the risk level of the portfolios.

The Chilean case

In Chile, the Administrators are allowed to engage the Pension Fund's resources to acquire options, futures and forward contracts.

Either on the domestic or on the international market, the assets that are the object of these contracts may only be currencies or interest rates.

[1] The RRC is a body composed of representatives of both the public and the private sectors, which is charged with classifying risk and approving instruments to be acquired by Pension Funds.

5. Administration of multi-funds

a) Increase in pensions' projected value

One of the main aims for creating a multiple fund scheme in a social security system is to increase the expected value of the affiliates' pensions. The projected value of pensions can be increased provided that the investment portfolio can adjust to the affiliate's investment horizon, that is to the time remaining before reaching retirement age, and that the portfolio can recover from periods of low yield.

b) Investment better attuned to affiliates' preferences as to profitability and risk

Another reason for creating multi-funds is to allow the affiliates to distribute their portfolio according to their preferences and needs, in terms of risk and profitability. Different affiliates may have distinct preferences in the composition of their pension fund portfolios, reflected in varying degrees of aversion to risk.

The Chilean case

The multi-fund scheme that began to operate in Chile in August, 2002, implies increasing the number of funds to 5 Pension Funds for each Pension Fund Administrator (AFP), differentiated according to the proportion of the portfolio invested in securities with variable yield, where a greater share of variable yield investments means greater risk and greater expected returns.

a) Affiliates' choice of Funds: All the affiliates of the Social Security System have the right to choose their Pension Fund, except for those who are close to retirement age, or already retired, who may not choose the Funds entailing the highest risk.

b) Investment limits: Maximum and minimum limits are established for investment in variable-yield instruments, according to the type of Fund, in order to distinguish clearly among them.

c) Transfers between Funds: Affiliates may transfer freely their individual accounts between the Funds. Should they transfer more than twice in one calendar year, they must pay an exit commission.

d) Commissions structure: The commissions' structures, which are the same for all affiliates, are maintained regardless of the Fund selected.

6. Authorized markets

With a view to insure that pension fund transactions are transparent and equitable, trading must take place on official markets, with publicly available information, in which numerous sellers and buyers take part, and said markets must be overseen by a regulating authority.

The Chilean case

All trading of securities carried out with Pension Fund resources must be made in authorized stock exchanges or in public bidding organized by the Central Bank of Chile.

As an exception to this rule, direct investment in the issuing entity is authorized for single instruments issued by domestic financial institutions, which have not been previously traded. Similarly, investments in mutual fund shares may be bought and sold directly from the entity administering that fund.

7. Investment abroad

Investment of Pension Funds abroad is essential in the interests of portfolio diversification. These afford a better ratio of return against risk for the investment, which is ultimately reflected in larger pensions for the systems' affiliates.
Analysis of the theory of portfolio selection has extended to include international markets, raising the possibility for investing in assets from other countries. In this scenario, it is suggested that international diversification can reduce the risk factor for a portfolio of assets, well beyond the scope of diversification to be found by investing in the securities of a single country.

The Chilean case

a) *Eligible instruments*: Investment is allowed in publicly offered securities representing debt and capital, as are operations to cover risks and loan of assets.

b) *Investment ceilings*: The limit presently in force for investment of Pension Funds in foreign instruments amounts to 20 % of the Fund. Starting in March 2004, the Central Bank of Chile will be able to establish the definitive limit at a spread between 20 and 30 % of the Fund.

c) *Formal secondary market*: All transactions of foreign securities must be carried out on RRC authorized stock exchanges or through brokers operating on markets in countries that provide a sovereign risk rating of at least AA.

d) *Investment modalities*: Investments made by Administrators abroad may be carried out by direct purchase or sale to the broker or else through a foreign representative who fulfils requirements in terms of experience in asset management and volumes traded.

e) *Risk rating*: The debt securities must match the investment grade according to international rating entities, the variable-yield securities must be traded in stock exchanges and under supervision, in countries with a minimum AA risk rating.

f) *Foreign custody*: All the foreign instruments acquired by the Pension Funds, which are by nature liable to being held in custody, must be deposited in specialized entities, with a risk rating no lower than A.

8. Custody of securities

The custody of financial instruments in which Pension Funds have been invested is necessary to guarantee the safety of such securities, as well as to facilitate control of the transactions carried out with social security resources.

Such custodial services must be provided by institutions endowed with the necessary infrastructure and supervision for performing these activities.

The Chilean case

The securities that account for no less than 90 % of the pension Funds' value are held in custody by private security deposit enterprises.

9. Investment appraisal

An assessment methodology is a process for determining the prices of the different financial assets composing the Pension Funds' portfolios, so as to obtain the quoted value of said Funds. Pension Fund appraisal establishes the real value of the assets in the workers' individual accounts, reveals the Administrators' performance and measures the risk factor of the investment portfolio. A correct assessment provides security and transparency to the management of the accumulated resources.

With regard to the assessment criteria, two types may be identified: the value on the market and the value accrued or at maturity. The former refers to the value of the transactions effectively carried out in the official stock exchanges. The latter, on the other hand, could be defined as the estimate of the present value of the future expected earnings from the financial instrument based on its purchase price.

In evaluating portfolios of assets the market value is customarily used.

The Chilean case

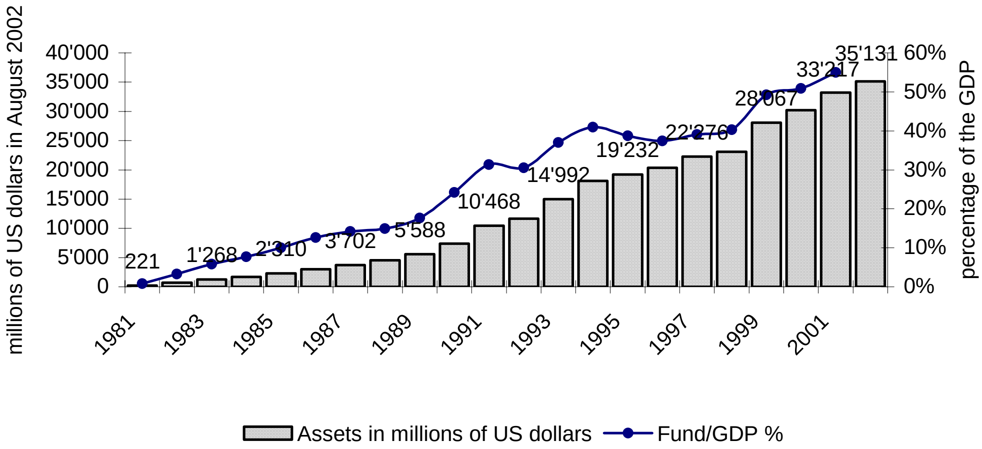
According to the provisions of the Pension Fund Law, the share value of each Fund is determined daily on the basis of the economic or market value of the investments. The market value method is considered appropriate for the following reasons:

- It is the best way to represent the real value of the Pension Fund investments, since it corresponds to the value that all the traders on the market assign to a given financial instrument.
- It avoids arbitrary transfers of wealth between Pension System affiliates, as a result of over or undervaluing the Pension Funds' portfolios.
- It reflects daily in instant form the yield of investments made by a given Fund, which results in the best way to evaluate the portfolio administrator's performance.

Main results in the area of investments

Since the creation of the Chilean Pension System, the Funds have grown on average at a real interest rate of 28 %, reaching a value of 35,131.03 million dollars in August of 2002.

Chart 1. *Development of the Pension Funds (in dollars)*
August, 2002



In comparison with the size of the Chilean economy, the Pension Funds have strengthened their share, accounting for some 55 % of the Gross Domestic Product (GDP) in December 2001.

Chart 2. *Development of diversification by institutional sector*
To December of each year.

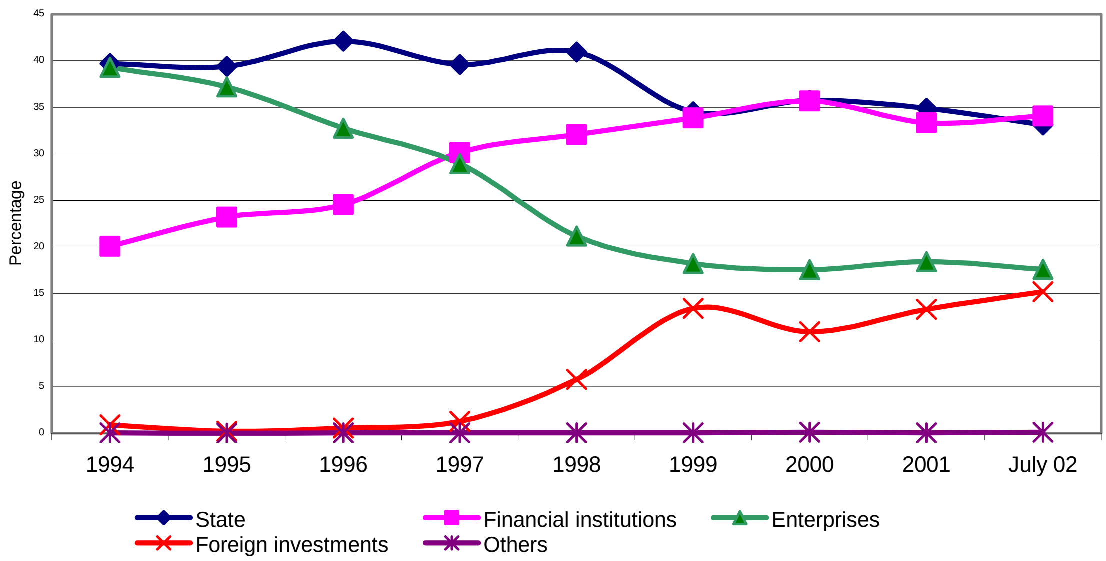


Chart 2 shows that since 1994 in Chilean Pension Fund portfolios, the share of investments abroad and in the financial sector has increased and that investments in State securities and those of enterprises have fallen behind.

Chart 3. *Pension Fund portfolio mix by economic sector*
To August 2002

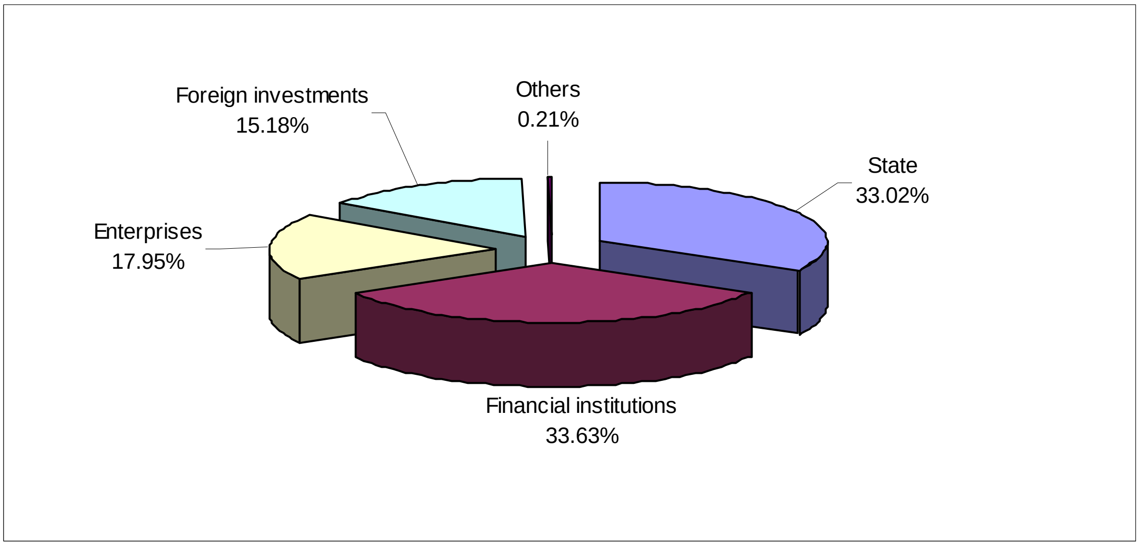
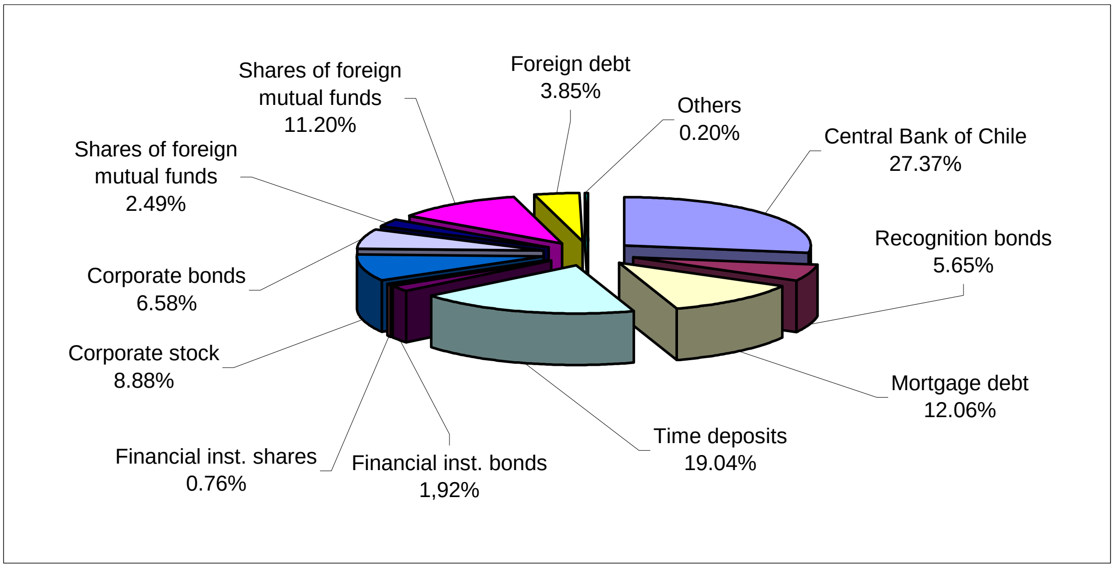


Chart 4. *Pension Fund portfolio mix by financial instrument – to August 2002*



The Pension Funds' portfolio mix reveals that one third of the portfolio is invested in Government securities and a similar percentage in financial sector debt.

Within the State sector, which concentrates 33.02 % of the social security resources, or about 11,601.78 million dollars, the instruments issued by the Central Bank of Chile are foremost (27.4 % of the Funds' value), followed by investments in Recognition Bonds (5.7 % of the total value of the Funds).

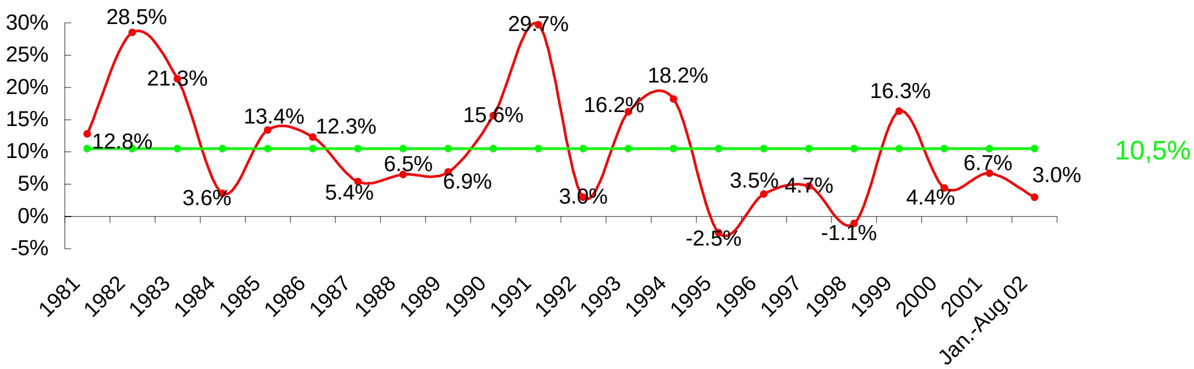
The domestic financial sector accounts for 33.63 % of the social security resources, or 11,815.17 million dollars, the greater part invested in deposits and promissory notes on financial institutions (19 % of the total value of the Fund) and mortgage documents (12.1 %).

Pension Fund investments in the corporate sector reaching 18 % of the total, equal to 6,304.72 million dollars,[2] are distributed as follows: 8.9 % of the Funds' value is invested in shares, 6.6 % in bonds and bonds that are exchangeable for shares and 2.5 % in shares of investment funds.

Finally, investments in foreign securities reached 15.2 % of the Pension Funds' total value, that is 5,334.34 million dollars, which are dedicated mainly to shares of foreign mutual funds (11.2 % of the Fund), and secondly to shares in debt securities (3.9 % of the Fund).

The returns obtained through the investments made by the Administrators of the Pension Funds have a powerful impact on the workers' future pensions. It is significant to note that the System's real annual return for the period July 1981 to August 2002 has been 10.5 %.

Chart 5. *Pension Funds' real annual income (deflated by DU[3])*



Note: Corresponds to the average real annual return obtained by a contribution that was paid into the System in July 1981 and has remained until August 2002.

With regard to the present distribution of foreign instruments, the leading investments were in mutual funds and foreign issue bonds. By country, the greatest proportions were invested in Luxembourg, the United States and Ireland. Nevertheless, it should be pointed out that the underlying investment made through mutual funds in those countries is diversified in different geographical zones, covering the main world markets. North America 36 %, Europe 23 %, Developed Asia and Pacific 9 %, Latin America 7 %, Emerging Asian markets 4 %, Emerging European markets 4 % and the remainder in other markets.

[2] Does not include indirect foreign investment through shares of national investment funds.
[3] DU = Development Units

Chart 6. *Diversification of Pension Fund investments abroad by instruments - to August 2002*

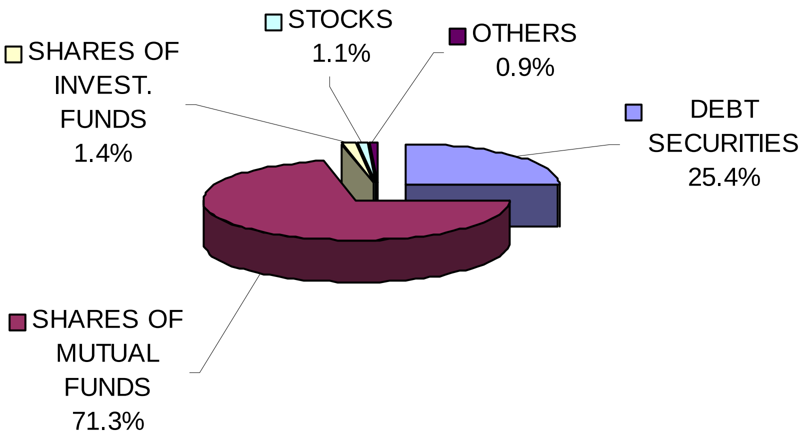


Chart 7. *Diversification of Pension Fund investment abroad by country – to July 2002*