CHAPTER VII

PENSION FUNDS AND THEIR EFFECTS ON RELATED MARKETS

The development of the Pension Funds has benefited different sectors of the national economy. In some cases it has contributed to the growth of economic sectors and markets which already existed, such as the capital market, the electricity and telecommunications sectors and financing for housing, whereas in other cases it has permitted the growth of markets which were virtually non-existent prior to the reform of the Pension System, such as the life insurance market.

The constant growth of the Pension Funds, which in December 2001 represented 55% of the GDP, has meant a heavy demand for financial instruments from these investors. The future growth expected for these resources (by the year 2010 they should have reached a figure around 74% of the GDP) makes it possible to predict a greater participation of these Funds in national savings, and their potential to contribute to the country's productive investment will therefore be greater.

A. The Capital Market

The influence of the Pension Funds on the development of the local capital market has arisen largely through the investment of the System's resources in different securities and their trading on specific markets. This influence may be summed up in the following aspects:

a. *Allocation of Resources:* An important effect of the Pension Funds on the capital market is their contribution to optimising the allocation of resources. The aim of the Pension Fund Administrators is to invest the resources of their members efficiently, constructing a portfolio which provides the best yield and risk combinations. This is a legal requirement, but it is achieved because members are allowed to move freely from one Administrator and Pension Fund to another, with yield being one of the factors influencing these moves. In this way, competition forces the institutions to arrange the investment of the Funds under their management in accordance with economic criteria which seek to optimise their return.

b. *Financing of Projects:* The Pension Funds, since they are the biggest institutional investors in the country, make it possible to finance large investment projects, due to the volume of resources that they accumulate. The contribution of financial resources to these projects is made by acquiring a wide variety of financial instruments, defined in the law of Pension Funds, through the capital market.

c. *Financial De-intermediation:* The Pension Funds' possibility of contributing large quantities of resources towards the funding of different investments has allowed companies to replace bank financing for their projects with resources from the Pension Funds. In order to do this, the latter institutions have acquired securities representing the capital or debt of these companies. In other words, a large proportion of the flows of savings are channelled directly from the Pension Funds to the companies, the counterpart to this being a relative fall-off in the financing role of the commercial banks in their operations.

d. *Impact on the Stock Exchanges:* Since the law requires the Pension Funds to carry out all their transactions on formal secondary and primary markets, the main impact of these investors on the stock exchanges has been in the amounts being traded, which increased by approximately 31% per year in real terms between the years 1981 and 2001. This growth has brought greater maturity and transparency to these markets and has led to greater efficiency in the stock exchanges, with a continual improvement in their information systems and negotiation mechanisms.

e. *Risk Rating:* One aspect which has also been important in the development of the capital market is the influence of the pension system on the risk-rating industry, a vital element in the smooth functioning and transparency of that market. For example, fixed income instruments for the Pension Funds must have a private risk classification before they can be acquired by these investors.

f. *New Financial Instruments:* The great volume of resources managed by the Pension Funds, and the limits laid down for investing them, has permitted the creation of new types of financial instruments and the development of others which, though they existed, were not fully developed. This has happened in order to meet the demand for new securities as the size of the Pension Funds has increased. Some examples of the new instruments might be investment fund shares and bonds issued by securitization companies.

g. *Securities Custody:* In order to provide further safeguards for social security resources, the legislation establishes that securities representing at least 90% of the value of the Pension Funds must be held in custody, in the Central Bank of Chile, in foreign institutions authorized by the CBC or in private securities custody companies.

This regulation contributed to the setting up of the Central Securities Custodian, which is a private institution responsible for the custody of financial securities.

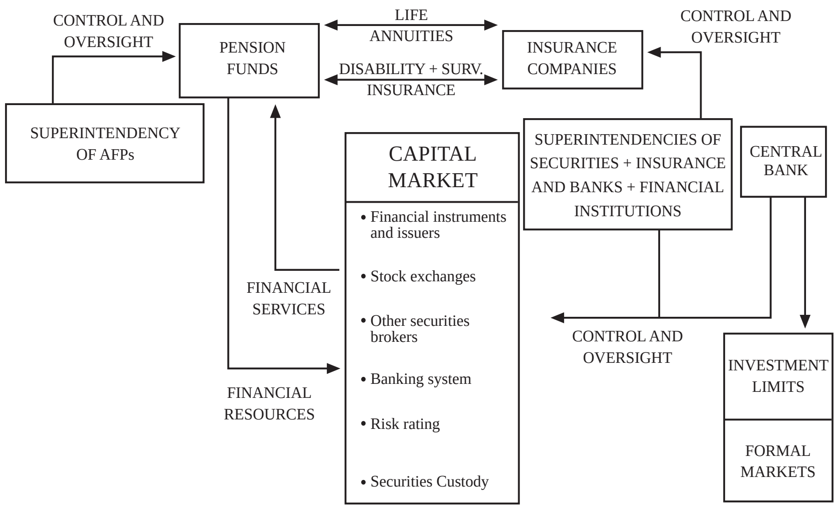
As a reflection of the impact of the Pension Funds on the capital market, it is possible to analyse the proportion of the nation's financial liabilities represented by investment of social security resources. It may be observed that in the year 2001, the Pension Funds possessed a large share in the supply of state financial instruments, mortgage-backed securities, promissory notes of financial institutions and bonds. Only investment in company shares was lower by comparison with the supply of these financial securities.

Table Nº VII.1
THE PENSIONS FUNDS' SHARE IN THE SUPPLY OF FINANCIAL INSTRUMENTS
(As % of the supply)

Securities	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Instruments of Central Bank and Treasury	32.2	40.8	38.5	37.3	39.5	47.7	51.0	49.9	50.6	46.9	54.9	52.4	58.8	57.0
Time Deposits and Promis. Notes of Fin. Inst.	22.9	19.5	19.9	17.4	13.2	9.9	8.5	8.3	5.9	14.0	16.6	21.7	26.6	27.0
Mortages-backed Secu. and Bonds of Financ. Insti.	55.5	54.1	61.4	65.3	67.6	66.7	63.9	60.3	60.3	54.3	53.9	58.8	58.8	54.7
Bonds	48.1	47.8	59.3	62.4	60.3	56.0	57.2	55.3	55.5	53.2	51.9	51.0	39.8	35.4
Shares	4.2	4.8	5.5	8.6	10.0	11.3	10.6	10.7	10.9	10.0	8.9	6.3	6.9	7.0

Table VII.2 shows a diagram of the relationship between the Pension Fund System and the institutions of the Chilean capital market, plus the regulatory bodies that are involved in it.

Table Nº VII.2
RELATIONSHIP BETWEEN THE PENSION FUNDS AND THE CAPITAL MARKET



B. Insurance

There is a close relationship between the insurance industry and the Pension System. In fact, the AFPs have to take out policies with the Life Insurance Companies to cover their members' risks of disability and death. In addition, when the time comes to retire, whether for reasons of age, disability or survivorship, the workers or the surviving members of their families can choose the life annuity pension option, taking out the life annuity with the Life Insurance Company of their choice.

In the case of the Disability and Survivorship Insurance, the Administrators have to take out an insurance policy which, added to the balance accumulated in the worker's individual fund at the time of the event, provides sufficient compensation to completely cover the reference pensions laid down in the law.

The facts explained in the above paragraphs have meant a considerable development of the life insurance industry, which was practically non-existent when the System began. Moreover, the increased competition in this industry has produced a reduction in the premium rate for the Disability and Survivorship Insurance, though there has been a slight increase in the last few years. The table below shows the trend in the premiums charged for this insurance.

Table Nº VII.3
Cost of Disability and Survivorship Insurance

Years	Premium Rate for Disability and Survivorship Insurance (1)
1988	2.04
1989	1.76
1990	1.32
1991	1.12
1992	1.03
1993	0.87
1994	0.78
1995	0.73
1996	0.65
1997	0.63
1998	0.63
1999	0.64
2000	0.66
2001	0.68

(1) Percentage of the member's taxable income. A simple average is taken of the weighted monthly averages of the premium rates for each year.

With regard to the life annuities taken out with the Insurance Companies, in March 2002 the number of pensions granted under this option was 219,256, corresponding to 53.4% of the total number of pensions paid in the Social Security System (410,981). Given that the Pension System is relatively new, the number of pensioners is bound to increase significantly in the coming years, meaning that this pension option will increase and there will be more pensions taken out with the Life Insurance Companies. It is worth pointing out that in 1989 the premium for life annuities represented 48% of the direct premiums received by the Insurance Companies. By 2001, this percentage had risen to 65.5%.

If one considers the income derived from life annuity and DSI premiums, this has represented over seventy per cent of the income of the Life Insurance Companies in direct premiums between 1989 and 2001. It is worth mentioning that direct premiums corresponding to life annuities have won a larger share during the period in the total number of direct premiums corresponding to social security insurance, while those from the DSI have decreased in importance. The following table explains the development in the composition of direct premiums of the Life Insurance Companies, in the two categories related with the Pension System.

On the other hand, given the importance of the relationship between the Pension System and the insurance industry, it is necessary to bear in mind

Table Nº VII.4
COMPOSITION OF INCOME FROM DIRECT PREMIUMS IN THE LIFE INSURANCE COMPANIES
(As a percentage)

Years	Premiums for Disability and Survivorship Insurance	Premiums for Life Annuities	Total Social Security Insurance	Other Income from Premiums	Total
1989	29.50	48.01	77.51	22.49	100
1990	20.30	60.82	81.12	18.88	100
1991	13.09	68.94	82.03	17.97	100
1992	12.28	69.22	81.50	18.50	100
1993	10.62	69.47	80.09	19.91	100
1994	8.66	71.22	79.88	20.12	100
1995	6.78	71.26	78.04	21.96	100
1996	6.39	71.25	77.64	22.36	100
1997	6.75	69.00	75.75	24.25	100
1998	7.57	64.33	71.90	28.10	100
1999	7.41	65.21	72.62	27.38	100
2000	6.85	66.07	72.92	27.08	100
2001	7.23	65.53	72.76	27.24	100

Source: Insurance Review, Superintendency of Securities and Insurance.

the need for legal safeguards to ensure an appropriate interaction between the two sectors. With regard to the Disability and Survivorship Insurance, the fact that it has to be acquired by the AFPs on the basis of a public tendering process, with rules laid down by the Superintendency of AFPs, contributes to the transparency of the process. The Insurance Companies, for their part, have various rules designed to safeguard their solvency and to protect the state guarantees for pensions that are involved in the event of their bankruptcy.

C. Productive Sectors

The investments of the Pension Funds are not carried out directly in real assets of the economy, because according to the legal framework currently in force, they must be invested in a wide range of financial instruments. However, the investments made with social security resources have undoubtedly had a significant and positive effect on the country's productive sector.

1. Financial Instruments connected with the Real Sector of the Economy

The fixed-income instruments which affect the productive sector most directly are the mortgage-backed securities and the bonds of public and private companies (including infrastructure bonds). In March 2002 the Pension Funds had assets for 36,739.9 million dollars, of which 76.25% were invested in fixed-income instruments in the domestic market. Mortgage-backed securities represented 12.62% of the total assets (4,635.46 million dollars), while company bonds represented 6.13% (2,253.75 million dollars).

On the other hand, by investing in equities such as company shares and investment fund shares, the Pension Funds provide financing for the productive sector of the national economy. As of March 2002, 10.35% of the social security assets (3,803.45 million dollars) were invested in company shares, and 2.31% (848.87 million dollars) in investment fund shares[75].

2. Development of Pension Fund Investment in the Productive Sector

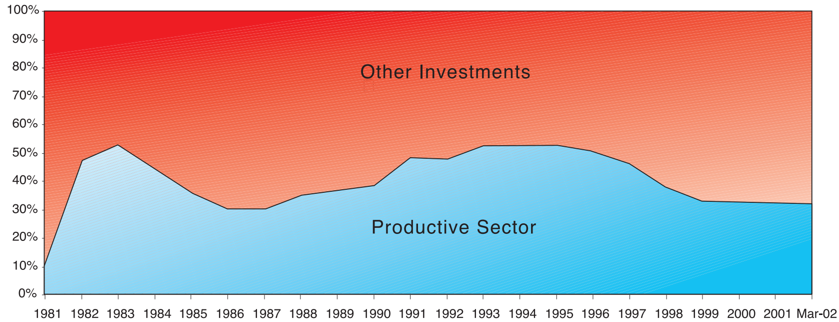
The following diagram shows the development that has taken place from the year 1981 to the present in the share of investment in the local productive sector (carried out by means of mortgage-backed securities, company bonds, shares and investment fund shares) with regard to the total Pension Fund portfolio for each year.

It can be seen that the proportion of the real sector of the economy in the total of the Funds has fluctuated between 10% in 1981 and 52.97% in 1995. At present, the investment of the Funds in these types of instrument amounts to 32.05% of the total portfolio.

The percentage decrease seen from 1998 onwards in the amount of Pension Fund investment in instruments providing direct financing to the productive sector may be explained, in the first place, by a greater concentration of their portfolios in fixed-income securities from the Central Bank of Chile and in time deposits from banking institutions. This came about because of the economic squeeze imposed on the country during the year 1998 and 1999, which produced a steep rise in interest rates, making these instruments more attractive. In the second place there was a greater diversification of the Pension Fund portfolios towards foreign securities, prompted to a great extent by the improvements implemented in the previous few years in the rules regulating this type

75 This does not include indirect investment abroad by means of local investment fund shares.

Figure Nº VII.1
PRODUCTIVE SECTOR SHARE IN THE SOCIAL SECURITY PORTFOLIO



of investment and the fact that these institutional investors needed greater diversification for their portfolios. A third aspect influencing the lower proportion of the Funds in the country's productive sector is the decrease of their investments in company (plc) shares. This decrease was due both to the sale of securities and to the fall in their price. With regard to the sale of securities, it may be observed that shares have lately been sold in companies where tender offers have been made and which have provided good opportunities for the Pension Funds to reduce their share in economic sectors in which they were highly concentrated (particularly the electricity sector).

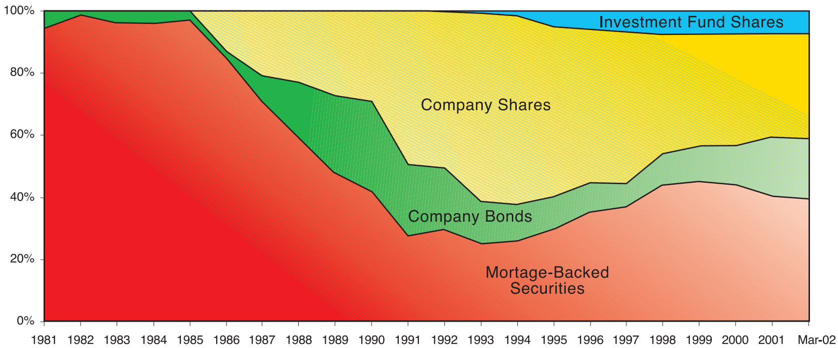
Figure VII.2 shows the development of Pension Fund investment in instruments which have made the financing of the real sector of the Chilean economy a possibility, such as mortgage-based securities, company bonds, shares and investment fund shares.

Between the years 1981 and 1985, the most important instruments in the total Pension Fund portfolio were mortgage-backed securities issued by financial institutions, state instruments and promissory notes and time deposits of financial institutions. Of these, only mortgage-backed securities were providing direct financing for the country's productive sector, by means of contributions of resources for housing purposes. It is worth mentioning that mortgage-backed securities have been an important and much-used way for the Pension Funds to take part in the Chilean productive sector, throughout all the years in which the System has been operating.

From 1986 onwards there was greater diversification of investments because the securities issued by financial institutions began to lose their share in the Funds' portfolios, and there was an increase in the weight of paper issued by companies, particularly company (plc) shares. The

Figure Nº VII.2

DEVELOPMENT OF PENSION FUND INVESTMENT IN SECURITIES THAT FINANCE THE CHILEAN PRODUCTIVE SECTOR



greater maturity achieved by the capital market as a result of the opening and privatisation of public companies and the rapid growth of the Funds, produced to a gradual increase in investment in local shares between 1986 and 1990.

With regard to investment of the Funds in company bonds, the crisis endured by Chile in 1982 and 1983 meant that investment in this type of instrument remained at percentages of under 2% of the value of the Fund in the early years of the System. Later this investment increased to approximately 11% between 1990 and 1991, but it fell as from that date, due mainly to the small supply of these securities in the market for purchase by Pension Funds.

Finally, investment of social security resources in investment fund shares, which were allowed in the Pension Fund portfolio as from 1990, remained very low until 1995. Since then it has shown an increase from percentages below 1% of the value of the Funds to nearly 3% of these. The urge to invest in this type of instrument came mainly from legal and administrative improvements introduced as from 1996 to increase that share by the Pension Funds. However, it should be emphasized that the Funds have not increased their investments in investment fund shares over the last few years, due mainly to the poor liquidity that these have shown in secondary markets.

The following table shows the diversification by economic sector of the financial instruments which allowed the Pension Funds to invest in the productive sector in March 2002. Included in the services sector are securities from sub-sectors such as: commerce, transport, shipping, health, public health and banking. The industrial sector, meanwhile, includes companies from the manufacturing industry in Chile, such as: cement, vineyards, tobacco, beverages, etc. Finally, included in the natural resources sector are the sub-sectors of mining, fishing, gas and forestry.

Table Nº VII.5
PENSION FUND INVESTMENTS IN SECURITIES THAT FINANCE CHILE´S PRODUCTIVE SECTOR
(March 2002)

Instrument	Amount Invested (Millions of US$)	Percentage of the Fund	Number of Issuers
Mortgage-backed securities	4,635.46	12.62	15
Bonds	2,252.38	6.13	63
- Electricity sector	779.25	2.12	11
- Telecommunications sector	195.09	0.53	6
- Services sector	736.60	2.00	28
- Industrial sector	260.88	0.71	13
- Natural resources sector	281.95	0.77	5
Shares (1)	3,803.45	10.35	77
- Electricity sector	732.89	1.99	8
- Telecommunications sector	1,240.46	3.38	4
- Services sector	553.87	1.51	24
- Industrial sector	625.70	1.70	28
- Natural resources sector	883.61	2.41	13
Investment Fund Shares (2)	848.87	2.31	27
TOTAL	11,540.16	31.41	151 (3)

(1) Does not include banking shares.
(2) Does not include indirect investment abroad carried out through Chilean investment funds.
(3) There is some coincidence between issuers of bonds, shares and mortgage-backed securities.

In March 2002 the Pension Funds had approximately twelve thousand million dollars invested in the country's productive sector. Among the instruments which allow this sector to be financed, those which have attracted the highest proportion of social security funds are, in the first place, the letters of credit issued by financial institutions, which concentrate 12.62% of the Funds accumulated to date (i.e. 4,635.46 million dollars); and in the second place, the shares of open public limited companies, which concentrate 10.35% of the Funds (3,803.45 million dollars). In relation to the number of issuers, the greatest diversification is found in the shares of public limited companies, with 77 companies and in bonds, with 63 companies. Meanwhile, the 15 issuers of mortgage-backed securities correspond to most of the financial institutions that issue these securities in Chile. The same situation applies to investment funds, where social security resources have been invested in almost all those in existence in the market.

The diversification by issuer of company shares and bonds shows that in the case of shares there is a greater concentration of the Funds in the telecommunications and natural resources sectors; 30.7% of the investment in these securities is found in the telecommunications sector and 21.9% in the natural resources sector. In the case of company bonds, the greatest concentration is found in the electricity and services sectors; the share of the electricity sector amounts to 34.6% of the Funds' investment in bonds and the share of the services sector amounts to 32.7%. It is worth pointing out that until the end of the 1990s there was a considerable concentration of investment in the shares and bonds of companies in the electricity and telecommunications sectors, and this has fallen in the past few years for the reasons already mentioned.

With regard to the diversification of the investment funds, the following table shows the composition of the total assets of the investment funds in December 2001. It is worth mentioning that these funds are invested in Chile, preferably in public offering instruments, represented mainly by the shares of public limited companies, and real-estate investment, mainly property. By acquiring investment fund shares, the Pension Funds contribute resources to the real sector of the economy.

3. Investment of Pension Funds in Specific Productive Sectors

a) Housing

One of the economic sectors that has been positively affected by the Pension Funds is the housing market. These institutional investors have contributed to the development of the housing market, using the following mechanisms:

Direct Investment: The Funds have put a considerable amount of resources into the purchase of mortgage-backed securities, destined to finance mortgage loans for the purchase of homes. The Pension Funds hold around 55% of all mortgage-backed securities issued by the financial system in their portfolios. It may be inferred therefore that by means of these instruments, five out of every nine homes are financed with Pension Fund resources. On the other hand, as has already been mentioned, investment in letters of credit as of March 2002 amounts to 12.62% of the value of the Pension Fund.

Indirect Investment: The participation of the Pension Funds in the financing of housing is realized indirectly through investment fund shares.

It is also worth mentioning a new alternative open to the Pension Funds for financing housing, namely bonds issued by securitization

Table Nº VII.6
COMPOSITION OF INVESTMENT FUND ASSETS
(December 2001)

Investments	Asses (Millions of pesos as of december 2001)	Diversification (In % of the Investment Fund Assets)
Public Offering Securities	359,239.24	42.2
- Shares of open public limited companies	216,938.36	25.5
- Mutual fund shares	12,700.23	1.5
- Other equities	26,788.67	3.1
- Deposits and promissory notes from banks and financ. inst.	30,979.66	3.6
- Bonds and letters of credit from banks and financ. inst.	213.08	0.0
- Bonds registered with the Super. of Securities and Insurance	41,695.04	4.9
- Securities issued or guaranteed by the State or Central Bank	15,431.55	1.8
- Other debt securities	14,492.65	1.7
Real Estate	342,832.01	40.2
- Urban real estate – sites	76,974.85	9.0
- Urban real estate – buildings	138,842.19	16.3
- Leasing operation debtors	29,899.83	3.5
- Endorsable mortgage documents	7,563.61	0.9
- Shares of real estate public limited companies	89,436.18	10.5
- Lowest (highest) value of investment in real estate plc shares	115.35	0.0
Risk Capital	91,996.76	10.8
- Non-registered shares	76,419.07	9.0
- Lowest (highest) value investment in non-registered shares	10,949.06	1.3
- Non-registered commercial paper	777.02	0.0
- Non-registered bonds	1,262.61	0.1
- Other non-registered debt securities	2,589.01	0.3
Other Assets	47,824.91	5.6
Disposable	10,184.78	1.2
TOTAL ASSETS	852,077.71	100

Source: Securities Review, Superintendency of Securities and Insurance.

companies. This alternative is very important because it allows the securitization of leasing contracts for housing and endorsable mortgage documents.

b. *Infrastructure*

The Pension Funds, as the country's principal institutional investors, appear as key protagonists in the possibility of financing large infrastructure projects, and it looks as though this sector may be one of those with the greatest potential for Pension Fund involvement.

According to current legislation, the Funds may finance infrastructure work by means of the following mechanisms:

Direct Investment: The first mechanism that allows the Pension Funds to participate in financing works of infrastructure consists in their acquiring the bonds of the private companies which receive the public works concessions. In this case, if the investment takes place at the construction stage of the projects, the debt securities issued by such companies will be considered to be project bonds with no history, since the company owning the concession will be formed specifically for that purpose. This means that the Pension Funds must accept the specific investment conditions for this type of instrument. On the other hand, if the financing provided by the Pension Funds is handed over at stages when the infrastructure projects are already functioning, the institutional investors would be acquiring the bonds of the concessionary companies, which would be bonds with a history.

For the financing of infrastructure projects which may involve concessions, the issue of convertible bonds is also considered appropriate, and these may be acquired by the Pension Funds. These securities have features which make them an interesting alternative for financing large-scale projects. From the investor's point of view, they allow him to take advantage of a fixed income instrument during the early stages of a project when the risk is higher, such as the construction stage. In the operational, or lower-risk, stages the investor can convert into a shareholder of the company, reaping the benefit of the capital gains produced by exercising the option to acquire shares at a price lower than that of the market, in the case of a project which is a success.

Indirect Investment: A second type of financial instrument which makes it possible for Pension Funds to participate in financing works of infrastructure is investment fund shares. In this case, the financing of the Pension Funds takes place indirectly. It also has the advantage that Pension Funds would be able to provide capital for projects which they would not have the opportunity to finance directly.

At present, the Pension Funds have 256.84 million dollars invested in bonds of public works concession companies, which represents 0.7% of the current value of the Funds.

D. National Savings and Economic Growth

There is very little empirical research with regard to the measurement of the effects of the Pension System reform on the country's economy. One of the main practical problems is the fact that the consequences of this reform are superimposed on other extremely important structural changes

Table Nº VII.7
INVESTMENT OF PENSION FUNDS IN BONDS OF PUBLIC WORKS CONCESSION COMPANIES
(March 2002)

Issuers	Thousands of dollars	% of Funds
- Collipulli-Temuco	74,037	0.20
- Ruta 5: Talca-Chillán	86,782	0,24
- Autopista del Bosque	96,018	0.26
Total	256,837	0.70

such as the opening-up of trade, the labour reform and the tax reform in the mid nineteen-eighties.

This section contains a resume of the work done on this subject by Klaus Schmidt-Hebbel, focussed basically on evaluating the effects of the Chilean social security reform on savings, product and national growth.

In order to gauge the effects of the reform to the Pension System on the product and on savings in Chile, Schmidt-Hebbel carried out a econometric study for private saving, investment and the productivity of the factors, considering the period 1961-1997 and then comparing the period 1961-1974 with the period 1990-1997.

It points out that the social security reform does affect the rate of saving in the economy, principally for the following reasons: in the first place, public saving increases due to the fact that part of the social security deficit caused by the reform is financed with more taxes or less expenditure; and in the second place, there is an increase in saving in homes, because the contribution to the AFP System is in excess of what would be saved voluntarily. There would also be indirect effects on saving as a result of increased growth.

With regard to the rate of saving in Chile, it states that in the period 1961-1974 this reached an annual average of 12.6% of the GDP, while in the nineties this corresponded to an annual average of 24.8% of the GDP. The econometric estimates carried out by Schmidt-Hebbel conclude that the social security reform explains approximately 3.8 percentage points of the difference in the rate of national savings between the two periods.

With regard to the average growth of the economy, the periods 61-74 and 90-97 are compared in terms of the growth rate of the GDP. This rate increased 3.4 percentage points between the two periods, moving from 3.7% to 7.1% per year. Of this increase, it is estimated that approximately

0.9 points were caused by the social security reform and within that, 0.5 percentage points are due to the increase in the rate of saving.

In short, it concludes that the Chilean social security reform has raised the levels of saving, investment and productivity of factors, contributing to a fourth part of the increase in the country's growth rate.

E. The Labour Market

In a scheme of pensions with defined benefits, where there is a vague relation between contributions and benefits, the contributions tend to become a kind of tax on work, with a correspondingly negative effect on the level of employment and the degree of formality of the economy.

By contrast, the individual capitalization scheme, where there is a strong, direct relation between contributions and benefits, banishes a large part of the tax component associated with pensions contributions. This change tends to increase both the quantity of work offered and the proportion of formal over informal employment found in the economy.

On the other hand, since the new Pension System is independent of the economic activity carried out by the worker, it facilitates the mobility of the workforce between sectors and regions.

Both effects will tend to increase the level of formal employment, the coverage of the Pension System and the efficiency of the labour market once and for all, at a period after the reform has been implemented.

On the other hand, the aforementioned reform brought down the contribution rate paid by people to finance their future pension, thus reducing the cost of labour, increasing net salaries and encouraging the creation of employment by raising its level of stability. (Edwards and Cox, 2000).

Fixing the social security contribution on the basis of taxable wages means that those seeking and offering work in the labour market see different salaries. Those offering work perceive that the salary they are paying their employees is higher than the one that the workers receive net.

It is also true that the difference between the gross salary paid by employers and the salary received by workers does not correspond to the exact difference caused by the social security contribution. In the case of Chile, Torche and Wagner[76] (1997) maintain that although the reform reduced the tax component perceived by the workers with regard to their contributions, this was not actually eliminated.

Edwards and Cox (2000) develop a model for the Chilean labour market, in which they recognize that it is segmented. There is a modern, or covered, sector entitled to a minimum wage and social security coverage (the formal sector) and an informal, unprotected sector without social security coverage. With the change in the social security regime, they assume that the social security deductions are seen partly as a tax. The authors estimate that the effect of the reform created between 61 thousand and 96 thousand jobs. They also estimate that the change produced a percentage increase in salaries in the non-protected sector, situated in a range between 3.7% and 6.2%.

[76] In “Previsión Social: Valoración individual de un beneficio mandado”. Cuadernos de Economía, Nº 103 Catholic University of Chile.