

CHILEAN PENSION REFORM: THE GOOD, THE BAD, AND THE IN BETWEEN

BY MAURICIO SOTO*

Introduction

In 1980, the Chilean pension system was in crisis. It was paying more in benefits than it was receiving in contributions, and the projected actuarial imbalance was greater than the country's Gross Domestic Product.¹ The prescribed solution was to radically transform the traditional pay-as-you-go structure to a system based on personal retirement accounts. The Box on page two describes the main features of the current system. Nearly 25 years after the reform, it is possible to assess the Chilean experience.

The Good

The pension reform replaced the old pay-as-you-go system with one pre-funded with personal retirement accounts. The Chilean experience illustrates that, when needed, extreme and fiscally sound pension reforms can bring dynamism to the capital markets.

Enormous Problems Justify Complete Restructuring

The traditional Chilean system was chaotic and vulnerable to political pressures. The "system" was nothing more than a collection of more than 100 different pension regimes. Each regime had special rules, demanded different levels of contributions and promised different benefits, tailored to satisfy special interest groups. In some cases, white-collar workers could comfortably retire in their 40s, while blue-collar workers had to wait until their 60s to qualify for minimum retirement benefits. The contribution rate reached levels that discouraged participation and compliance. In the mid-1970s, for example, average contribution rates surpassed 20 percent of taxable wages. The system was poorly administered and inefficient.²

*Mauricio Soto is a graduate student in economics at Boston College. The author is grateful to Jamie Lee for excellent research assistance. The author also thanks Esteban Calvo and John Williamson for helpful comments on earlier drafts, and Peter Diamond, Alicia H. Munnell, Steven A. Sass, and Salvador Valdés-Prieto for guidance and suggestions that significantly improved this *brief*.

AN ISSUE IN BRIEF
CENTER FOR
RETIREMENT
RESEARCH
AT BOSTON COLLEGE

JUNE 2005, NUMBER 31

INTRODUCTION	I
THE GOOD	I
THE BAD	3
THE IN BETWEEN	5
CONCLUSION	6
ENDNOTES	6
REFERENCES	8

The chaotic structure of the system was accompanied by growing deficits. Severe inflation and poor management depleted potentially large reserve accumulations. By the late 1970s, the Chilean system experienced annual deficits of nearly 3 percent of Gross Domestic Product, and these deficits were projected to increase rapidly to more than 20 percent by 2000.³

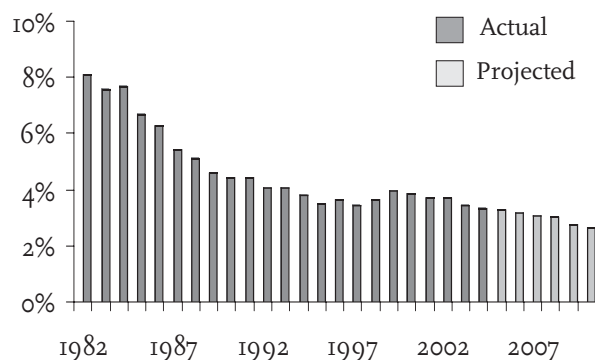
Improving the traditional pension structure did not seem like a viable option, either politically or financially. Small patches would have increased the complexity of the system. The Chilean system faced enormous problems that demanded (and justified) radical changes that replaced the traditional — and increasingly unfair — system with one based on personal retirement accounts.

Fiscal Discipline Eases the Transition

Radical changes in retirement systems are likely to require large levels of funding to finance the transition. Contributions to personal retirement accounts reduce the revenues available to pay for benefits promised by the traditional system, which imposes large fiscal demands, especially in the first years of the transition. In Chile, for example, the transition deficit neared 7 percent of GDP per year during the first five years, slowly declining to its current level of about 3 percent of GDP (see Figure 1). Current estimates suggest that the transition deficit will fall to zero after 2030.⁴

Figure 1. Transition Deficit Imposes Short-Term Fiscal Pressures

Transition Deficit as a Percentage of Gross Domestic Product, 1982-2010



Sources: 1981-1986: Acuña and Iglesias (2001); 1987-2003: Author's calculations using data from the Central Bank of Chile (2005); 2004-2010: Author's projections based on Arenas de Mesa (2000).

Personal Retirement Accounts in Chile

Chilean workers contribute about 12.5 percent of their wages to the old age, disability and survivorship program. Nearly 80 percent of the employee's contributions go towards personal accounts which are administered by privately owned pension management institutions; the remainder pays for disability and survivorship insurance (7 percent), administrative fees, and commissions (13 percent).

Net contributions are accumulated in personal accounts and earn investment returns. Workers choose who they want to administer their personal retirement account. Investment choices are restricted to five investment funds.⁵ Among these funds, the default choice depends on the age of the worker, so that younger workers are assigned to a fund with more risk exposure than older individuals.

Chilean personal retirement accounts do not allow withdrawals before retirement. All workers can access their account if they reach the normal retirement age (65 for men, 60 for women). To qualify for early retirement, account balances must be large enough to generate an income stream that 1) replaces more than half of past earnings, and 2) is greater than the means-tested pensions offered by the government.⁶

Once workers access their accounts, they can continue to work without making any additional contributions to the pension system. They also have a choice in the way in which they receive benefits — programmed withdrawals from the account, annuities, or a combination of the two. Retirement benefits, regardless of their form of payment, are generally indexed to prices and include joint provisions to protect surviving spouses.

The personal retirement account system is fully funded. However, the Chilean government diverts funds from general revenues to ensure a minimum retirement benefit level to individuals who reach the normal retirement age. This minimum benefit is roughly equal to 25 percent of average wages — about 75 percent of the minimum wage. These benefits are means-tested and require at least 20 years of contributions.⁷ For those with less than 20 years of contributions who are older than 65, the Chilean government offers means-tested benefits equal to about half of the minimum retirement benefit.

Fiscal discipline is the key to achieving a smooth transition. Governments have a limited array of options to use (tax increases, additional general revenue transfers, issue of debt, and reduction of promised benefits). In Chile, the government employed a combination of tax increases, expenditure cuts, and the sale of government-owned firms to generate significant surpluses in the non-social security part of the budget. By the early 1980s, the non-social security part of the budget enjoyed surpluses of more than 5 percent of GDP. These surpluses financed most of the transition costs; debt instruments were used to a lesser extent.⁸ The Chilean case illustrates not only the importance and magnitude of transition costs, but also how sound fiscal policy can ensure a smooth transition to a new pension system.

Personal Accounts Can Help Develop Capital Markets

The privatization of the Chilean social security system was part of a set of economic reforms intended to modernize the economy, which included efforts to liberalize trade, regulate utilities, supervise the banking system, streamline labor market legislation, and divest government assets. The overall success of these reforms made Chile the poster country of economic liberalization, and its example was soon to be followed, at least partially, by other developing countries.⁹

Today, the significance of pension funds for the Chilean economy is indisputable. Figure 2 shows the extraordinary growth of total financial assets relative to GDP — most of which are held by pension funds. And although the pension reform was not the sole cause of the development of capital markets, the growth of personal pension funds helped the modernization effort, as it brought improved financial regulations, promoted innovation, and increased corporate governance.¹⁰

For Chile, the introduction of personal accounts helped to transform an incipient capital market into one where capital moves from savers to borrowers with few impediments, promoting higher growth and efficiency.

The Bad

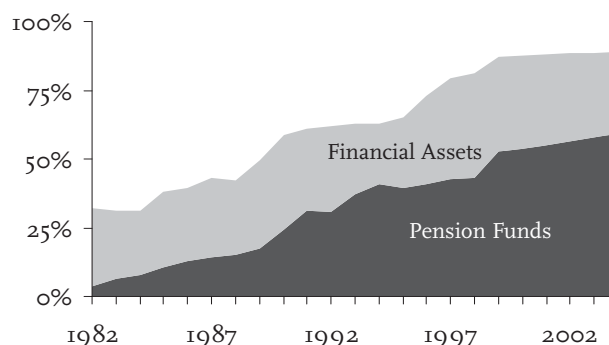
Despite the positive effects for the Chilean economy, the new system still faces serious challenges, as some workers will reach retirement with low account accumulations, caused by a combination of deficient and irregular pension coverage and relatively high commissions and administrative fees.

Personal Accounts Do Not Provide Universal Coverage

The traditional system provided retirement benefits for at least two thirds of the workforce.¹¹ When the personal pension accounts were introduced, workers covered by traditional pension plans were given the option to join the new system, and 95 percent of them did so. Since 1982, wage and salary workers have been required to join the personal pension accounts, and self-employed individuals have participated on a voluntary basis. Today, almost the entire workforce has participated at some point in their career in the pension system by enrolling in one of the private investment firms that manage the personal pension accounts. However, in 2003, the number of active participants — those that make contributions in any particular month to their personal investment accounts — amounted to about 62 percent of the labor force or 68 percent of those employed, roughly equal to the participation rate of the traditional system.¹² In contrast, the U.S. Social Security

Figure 2. Pension Fund Assets Fueled the Development of Capital Markets

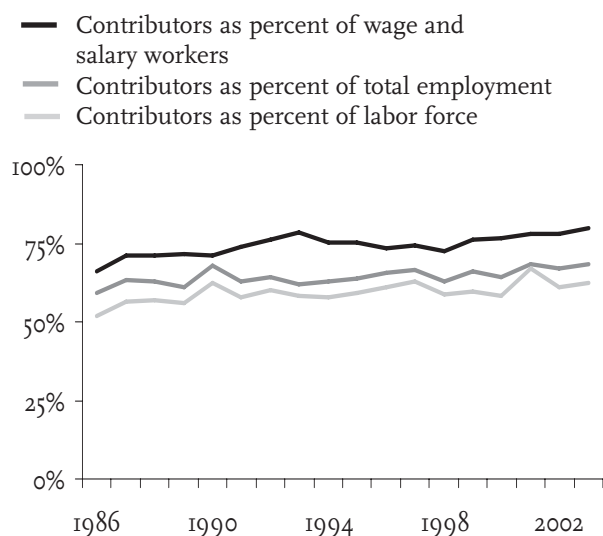
Financial Instruments and Pension Funds as a Percentage of Gross Domestic Product, 1982-2004.



Sources: SAFP (2003) SAFP (2005a), and Central Bank of Chile (2005); Financial Assets is M1-M7 as defined by Cifuentes, Desormeaux and Gonzalez (2002).

Figure 3. Social Security Coverage Is Not Universal

Measures of Pension Coverage, 1986-2003



Sources: SAFP (2003); SAFP (2005a); Instituto Nacional de Estadísticas (2005); Instituto de Normalización Provisional (2003); Central Bank of Chile (2005).

system covers about 96 percent of its workforce. Figure 3 shows the historical trend of three different measures of pension coverage, all of which show only a slight increase during the last 15 years.¹³

The modest levels of active participation do not necessarily reflect a faulty system design. Instead, they are a consequence of the nature of the Chilean economy. For instance, the self-employed represent about 30 percent of total employment and are generally low-income, underground economy workers. Participation for self-employed individuals is voluntary, and more than 93 percent of them do not contribute to the system.¹⁴ But coverage is not universal even among those that are not self-employed. The top line of Figure 3 shows that the percentage of wage and salary workers actively participating and contributing to the system is around 80 percent.

The numbers for active participation shown in Figure 3 mean that, at any given point in time, about 40 percent of workers are not contributing because they are unemployed or not complying with the law. The sporadic nature of contributions calls into question the feasibility of 20 full years of contributions — the amount required to receive the minimum pension guarantee.¹⁵

Commissions and Administrative Costs Add Up

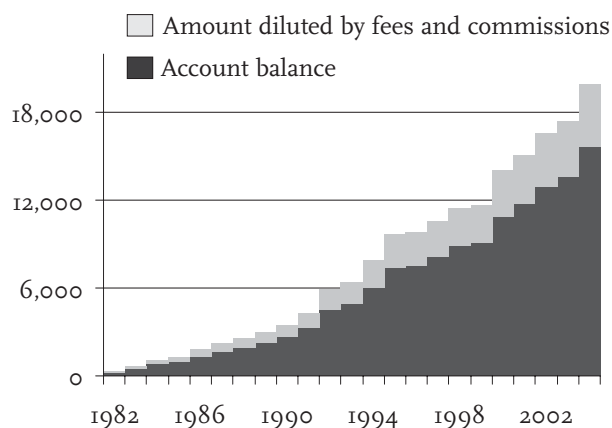
The Chilean experience with personal pension accounts underlines the importance of administrative fees and commissions. Personal account holders pay fees for starting up an account as well as proportional and flat commissions on contributions, which are intended to cover record-keeping and other administrative expenses. With each contribution, workers must also pay a premium for the disability and survivor insurance.¹⁶ Moreover, upon retirement, participants pay withdrawal commissions or annuity purchase fees, depending on the structure of benefits.

To illustrate the effects of commissions and administrative fees, consider an average worker who opts into the system in 1982 and retires in 2005. Every year, the worker contributes 10 percent of earnings to his personal retirement account and pays administrative fees and commissions. (Disability and survivor insurance are excluded from this calculation.) The contribution net of fees and commissions then grows at the average rate of return realized by the pension funds each year — an outstanding 10.29 real return for this period. After 23 continuous years in the system, the individual retires.

Figure 4 shows the hypothetical account accumulation. At retirement, the individual will find that more than a fifth of the potential accumulation was diluted by administrative fees and commissions. With the remainder, the worker must then pay withdrawal fees or annuity purchase charges, which

Figure 4. Commissions and Fees Eat up More Than a Quarter of the Accumulation

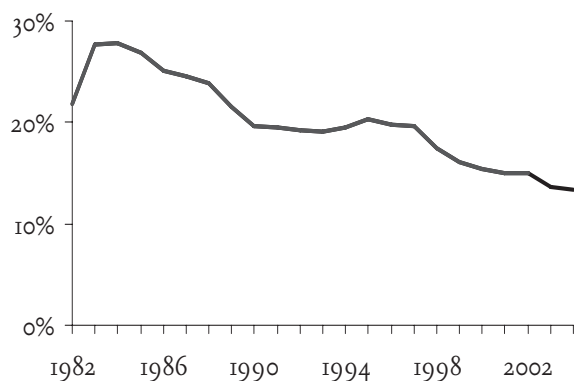
Evolution of a Personal Retirement Account for an Average Chilean Worker, 1982-2004, 2004 Chilean Pesos.



Sources: Author's calculations based on data from SAFP (2003), SAFP (2005a), Central Bank of Chile (2005), and FIAP (2005), AIOS (2005), Schmidt-Hebbel (1999).

Figure 5. But Commissions Have Declined

Administrative Fees and Commissions as Percentage of Total Contributions, 1982-2004.



Sources: Author's calculations based on data from SAFF (2003), SAFF (2005a), Central Bank of Chile (2005), and FIAP (2005), AIOS (2005), Schmidt-Hebbel (1999).

would reduce pension benefits further.¹⁷ After all these charges, the account balance would be able to generate an annuity of about 30 percent of pre-retirement earnings. Comparatively, the Chilean system experienced much higher fees than those from the defined-contribution plan available to workers in the U.S. federal government.¹⁸

Looking forward, the ability of the Chilean personal accounts to provide retirement income adequately will depend on three main factors. First, the levels of administrative costs have been steadily declining, and some experts expect them to decline further (Figure 5).¹⁹ As a result, the burden of fees and commissions on current and future workers might be less severe. Second, the fortunately high rates of return on the accounts experienced during the 1983-2004 period are not sustainable in the long run, which will result in more modest account accumulations. And third, the ability of workers to participate and make contributions into the system affects the retirement accumulation. The hypothetical case presented here included 23 years of continual employment. As the system matures, future retirees will have more years to build their personal accounts. But the far-from-universal level of participation suggests that some workers will have significant periods with zero contributions because of unemployment spells or non-compliance.

The In Between

The Chilean system provides welfare benefits to those workers unable to accumulate enough in their accounts to meet their basic needs. This is a generous feature of the system which keeps most of the elderly in Chile out of poverty. However, welfare benefits can come with a high price tag to the taxpayers, and might create fiscal demands similar to those from pay-as-you-go systems. These welfare benefits can also introduce disincentives for workers, especially those with low incomes, to participate and comply with the system.

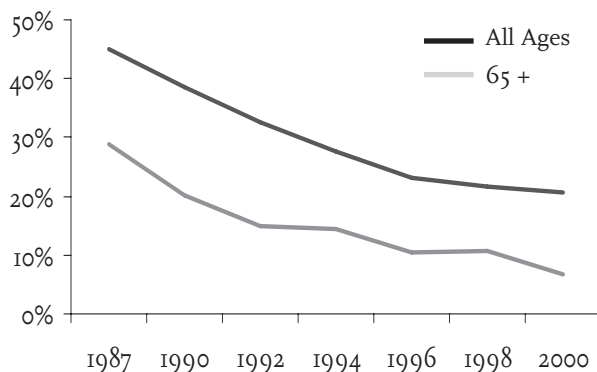
Many Depend on Welfare

The individual account system is successful, especially for those in the top of the income distribution. Low-income workers, on the other hand, might find that their personal retirement accounts will not provide enough funds to keep them out of poverty. This makes them likely recipients of welfare, means-tested benefits, which are funded through general revenues. The existence of these welfare benefits is a generous feature of the Chilean system, which explains the low rates of poverty of older Chileans relative to the general population (Figure 6).²⁰

Participating in the system might not be a good deal for low-income workers. The guaranteed pension benefit is about 75 percent of the minimum wage. For minimum wage workers, reaching this level of income replacement will be almost impossible, even with a complete earnings history and full compliance in the system. This creates strong incen-

Figure 6. Poverty Rates of Older Workers Have Declined

Poverty Rates in Chile, 1986-2000



Source: Ministerio de Planeación y Cooperación (2005).

tives to participate the minimum amount of years required to qualify for the guaranteed pension.

Currently, more than 11 percent of participating retirees receive a minimum pension guarantee benefit, which costs about 0.1 percent of GDP. As the system matures, the number of beneficiaries that will receive the minimum pension guarantee is predicted to rise to more than 30 percent of participating retirees, as more workers will be unable to save enough in their own accounts by the time they reach retirement. The estimated costs of the minimum pension guarantee would be around 2.5 percent of covered payroll (1 percent of GDP).²¹ In addition to the fiscal burden of the minimum pension guarantee, general revenues are also used to fund the non-contributory pension assistance — a small, means-tested pension for those that do not qualify for the minimum pension guarantee. The estimated costs of the non-contributory pension assistance are projected to be about 0.5 percent of GDP.²²

Conclusion

A quarter of a century ago, Chileans embarked on a course of reform to modernize their economy. As part of these reforms, the Chilean government replaced the traditional pension system with one based on personal retirement accounts. The radical reform, which brought dynamism to the Chilean economy, was a solution to the chaotic nature of the old system.

However, the system is not perfect. Various measures of pension coverage suggest that the system is far from universal; commissions, although declining, still eat a significant piece of the retirees' accounts; and the number of workers projected to depend on the minimum pension guarantee or the assistance pension raises concerns about the fiscal consequences of the system.

Care must be exercised when extrapolating from the Chilean experience to other countries. At the time of the reforms, Chile met a singular set of conditions: the Chilean markets were incipient; the pension system was chaotic and increasingly unfair; and the non-pension part of the Chilean government ran surpluses. Other particularities of the Chilean case include the size of its informal economy, and the apparent acceptance of government-funded welfare programs.

Endnotes

1 See Edwards (1996).

2 See Edwards (1996), Myers (1996) and Acuña and Iglesias (2001).

3 Wagner (1983), Acuña and Iglesias (2001).

4 Valdés-Prieto (2005). The “transition deficit” refers to government spending to finance the (unfunded) benefits paid under the traditional system, both as direct benefits or as “Recognition Bonds” for those that switched to the new system. Total spending associated with pensions, however, also includes the financing of the guaranteed minimum pension and the assistance (welfare) pension (Williamson, 2005).

5 Before 2002, workers generally had no say on investment choices. Stringent government regulation resulted in competing pension funds with similar portfolio allocations, which generally included a large share of government bonds and other fixed-income securities. For a summary of recent changes to the Chilean system and detail about the current investment options, see Kritzer (2002).

6 Current Chilean law allows workers to access the funds in their personal accounts if, after turning 55, their balances are large enough to generate pension benefits greater than 50 percent of the average of the last 10 years of wages, and greater than 110 percent of the welfare pension, and they have made at least 120 monthly contributions (10 years). These percentages are scheduled to increase to 70 percent and 150 percent respectively (SAFPb, 2005).

7 Workers need to contribute at least 240 months to qualify for the minimum pension guarantee.

8 Diamond (1996) and Acuña and Iglesias (2001).

9 Peru, Argentina, Colombia, Uruguay, Mexico, and Bolivia are among the more than 20 countries that have made similar reforms to their economies (AAFP, 2005). For a general discussion of the Latin American reforms, see Devesa-Carpio and Vidal-Meliá (2002).

10 For more details, see Cifuentes, Desormeaux and Gonzalez (2002), Walker and Lefort (2002), and Corbo and Schmidt (2003).

11 Acuña and Iglesias (2001).

12 These numbers are higher than those reported by Bravo (2001) for two reasons. First, Bravo (2001) does not include those covered by the traditional system, which underestimates actual pension coverage for the earlier years. And second, the 2000 figure from Bravo for "contributors" shows a significant reduction from 1999 to 2000 which is not consistent with data from SAFP (2003) which indicate a 2 percent increase in the number of "contributors" for the 1999-2000 period. Using the numbers from the SAFP (2003), and excluding those covered by the traditional system, yields a coverage rate of 54.7 percent for 2000, which contrasts with the 46 percent rate reported by Bravo.

13 Valdés-Prieto (2004) suggests measuring pension coverage as the percentage of the population age 15 or older that contribute at any point in time, which produces significantly lower coverage rates. This measure, however, follows similar trends to the other series, showing a slight increase during the last 15 years.

14 Hypothetically, participation rates could be increased by extending the mandate to contribute to the self-employed. Politically, this option is not feasible. Asking the self-employed to contribute would affect those with very low earnings; enforcing the payments would be an immense challenge in the underground economy that already evades taxes.

15 Berstein, Solange, Larrain, and Pino (2005) project that about 45 percent of workers that contribute at some point in their work lives will not reach the 20 full years of contributions (240 months) requirement, and consequently, their pension benefits will be below the minimum pension guarantee. If the percentage of those that ever contributed is between 70 and 100 percent of the workforce, then this means that between 45 to 60 percent of the labor force will reach retirement with pensions lower than the minimum pension guarantee. Williamson (2005) argues that given the contribution patterns, it might take up to 60 years for some workers to reach 20-full years of contributions.

16 As of 2004, disability and survivor insurance premiums represented 0.73 percent of wages and 7.3 percent of contributions (AIOS, 2005). Other sources estimate the combined premia at around 1 percent of wages (Valdés-Prieto, 2005; FIAP, 2005) AIOS provides detailed insurance premium data for 1997-2004. Prior to 1997, precise data on insurance premia are not easily available. Schmidt-Hebbel (1999) calculates premia for 1988-1997 by consider-

ing the total cost of insurance and the total income of contributors, although his figures for 1988 to 1990 seem unusually high. The calculations used on this Brief use data from AIOS (2005) and Schmidt-Hebbel (1999) for 1991-2004. Earlier years are estimated by applying the average of the premium-to-commission ratio to the total commission for 1981-1991.

17 This calculation was performed using yearly data from 1982 to 2004 on the following variables in Chile: average taxable wage, average total commission, and annual rate of return for pension funds. A worker making these wages who participated in the Chilean system from 1982 to 2005 would have 23.82% of his total contributions eaten up by fees and commissions. Add on to this the withdrawal or annuity purchase charges paid at the time of retirement and the account shrinks even further. In the end, if the funds diverted to pay for fees and commissions would have been deposited into the worker's account, retirement benefits would be about 30 percent higher.

18 For a comparison of administrative cost of personal accounts, see CBO (2004) and GAO (1999).

19 For 2004, the total commissions (fixed plus variable) averaged 1.54 percent of earnings (13.31 percent of contributions). Disability and insurance premia are an additional 0.73 percent of wages (see endnote 14). Valdés-Prieto (2005) estimates the "normal level" of commissions and fees around 9 percent of contributions. The withdrawal fees were near 1.25 percent and the annuity fee reached up to 6 percent of the account value (SAFPa, 2005; Central Bank of Chile, 2005; International Federation of Pension Funds Administrators, 2005). It is expected that fees and commissions will continue to decline in the future for Chile as the system matures and benefits from economies of scale (James et al., 2001).

20 Valdés-Prieto (2006).

21 For more details, see AAFP (2004), James et al., (2005), Williamson (1999), and SPFA (2003).

22 AAFP (2004) and CENDA (2004).

References

- AAFP (Asociación de Administradoras de Fondos de Pensiones). 2004. "Sistema de AFP: Mitos y Realidades." August 2004.
- AAFP. 2005. "Después de 24 Años Chile Continúa Liderando Reformas en Materia Previsional." Serie de Estudios. No. 48.
- Acuña, Rodrigo and Augusto Iglesias. 2001. "Chile's Pension Reform after 20 Years." Social Protection Discussion Paper No. 0129. World Bank.
- AIOS (Asociación Internacional de Organismos de Supervisión de Fondos de Pension). 2005. "Estudios y Publicaciones: Boletines Estadísticos 1999-2004." Retrieved May 24, 2005 at <http://www.aiosfp.org/pags/boletines.html>
- Arenas de Mesa, Alberto. 2000. "Proyecciones del déficit previsional chileno: Gasto público en pensiones asistenciales 1999-2010" in La política fiscal en América Latina. Una selección de temas y experiencias de fines y comienzos de siglo. Serie Seminarios y Conferencias, No. 03. CEPAL.
- Bravo, Jorge H. 2001. "The Chilean Pension System: A Review of Some Remaining Difficulties after 20 Years of Reform." Paper presented at the International seminar on Pensions, Hitotsubashi University, Tokyo, March.
- Berstein, Solange, Guillermo Larrain and Francisco Pino. 2005. "Cobertura, densidad y pensiones en Chile: Proyecciones a 30 años plazo." Seminarios de Macroeconomía y Finanzas del Banco Central de Chile.
- CENDA (Centro de Estudios Nacionales de Desarrollo Alternativo). 2004. Chile: Bases para una reforma del sistema de pensiones. Mimeo. Prepared by CENDA for the Instituto de Normalización Previsional (INP), Chile.
- Central Bank of Chile. 2005. "Employment, Wages, and Demographics." Statistical Database. Retrieved May 24, 2005 at http://si2.bcentral.cl/Basededatoseconomicos/951_713.asp?cap=040
- Cifuentes, Rodrigo, Jorge Desormeaux and Claudio González. 2002. "Capital Markets In Chile: From Financial Repression To Financial Deepening." Economic Policy Papers. No. 4. Central Bank of Chile.
- Congressional Budget Office. 2004. "Administrative Costs of Private Accounts in Social Security."
- Corbo, Vittorio and Klaus Schmidt-Hebbel. 2003. "Efectos Macroeconómicos De La Reforma De Pensiones En Chile."
- Devesa-Carpio, José E. and Carlos Vidal-Meliá. 2002. "The Reformed Pension Systems in Latin America." Social Protection Discussion Paper No. 0209. World Bank.
- Diamond, Peter A. 1996. "Social Security Reform In Chile: Two Views. An Economist's Perspective." In *Social Security: What Role for the Future?* Peter A. Diamond, David C. Lindeman, and Howard Young Eds. 1996. National Academy of Social Insurance.
- Edwards, Sebastián. 1996. "The Chilean Pension Reform: A Pioneering Program." National Bureau of Economic Research. Working Paper 5811.
- FIAP (International Federation of Pension Funds Administrators). 2005. "Statistics: historical series." Retrieved April 29, 2005 at http://www.fiap.cl/p4_fiap_eng/antialone.html?page=/p4_fiap_eng/site/edic/base/port/series.html
- General Accounting Office (1999). "Social Security Reform: Administrative Costs for Individual Accounts Depend on System Design." GAO/HEHS-99-131.
- James, Estelle, James Smalhout, and Dimitri Vittas. 2001. "Administrative Costs and the Organization of Individual Retirement Account Systems: A Comparative Perspective." in *New Ideas About Old Age Security*, ed. R. Holzmann and J. Stiglitz, Washington DC: World Bank.
- James, Estelle, Guillermo Martinez, and Augusto Iglesias. 2005. "Postponed vs. Early Access to Individual Accounts and the Fiscal Implications of the Minimum Pension Guarantee in Chile". Forthcoming Working Paper. World Bank.
- Instituto Nacional de Estadísticas. 2005. "Empleo Series." Retrieved May 24, 2005 at <http://www.ine.cl/03-empleo/empleo.htm>
- Instituto de Normalización Provisional. 2003. "Anuario Estadístico, 2003." Retrieved May 24, 2005 at <http://tabancura.inp.cl/inicio/anuario/>
- Kritzer, Barbara. 2002. "Recent Changes to the Chilean System of Individual Accounts." Social Security Bulletin. Vol. 64. No. 4.

- Ministerio de Planeación y Cooperación. 2005. "Distribución De La Población Por Año Según Tramo De Edad." Retrieved May 24, 2005 at <http://www.mideplan.cl/publico/casen.php?secid=4&catid=20>
- Myres, Robert J. 1996. "Social Security Reform In Chile: Two Views. An Actuary's Perspective." In *Social Security: What Role for the Future?* Peter A. Diamond, David C. Lindeman, and Howard Young Eds. 1996. National Academy of social Insurance.
- SAFP (Superintendencia de Administradoras de Fondos de Pensiones). 2003. *The Chilean Pension System*, ed. Alejandro Ferreiro Yazigi. Fourth Ed. Santiago-Chile. Available at <http://www.safp.cl/sis-chilpen/english.html>
- SAFP. 2005a. E-mail to author concerning data on commissions 1981-2004. March 22, 2005.
- SAFP. 2005b. "Preguntas Frecuentes Sobre El Sistema Previsional Chileno Y El Seguro De Cesantía." Title XVII. Retrieved April 28, 2005 at http://www.safp.cl/preg_frecuentes/index.html
- Schmidt-Hebbel. 1999. *Chile's Pension Revolution Coming of Age*. Published in German as: *Chile: Die Revolution des Alterssicherungssystems trägt Früchte*, in Deutsches Institut für Altersvorsorge (editor): *Gesetzliche Alterssicherung, Reformverfahren im Ausland: Ein systematischer Vergleich aus sechs Ländern*. Deutsches Institut für Altersvorsorge, Cologne.
- Valdés-Prieto, Salvador. 2004. "Social Security Coverage in Chile, 1990-2001." Office Of The Chief Economist, Latin America And Caribbean Region, The World Bank Background Paper For Regional Study On Social Security Reform.
- Valdés-Prieto, Salvador. 2005. "A Chilean economist's comment on Larry Rohter's reporting on Chilean Pensions appeared in the New York Times January 27, 2005." Unpublished Memo.
- Walker, Eduardo and Fernando Lefort. 2002. "Pension Reform and Capital Markets: Are There Any (Hard) Links?" Social Protection Discussion Paper No. 0201. World Bank.
- Williamson, John B. 1999. "Privatizing Public Pension Systems: Lessons for the United States from Latin America." Center for Retirement Research, Working Paper 1999-03.
- Williamson, John B. 2005. "Chile's Experience with Partial Privatization". Chestnut Hill, MA: Department of Sociology, Boston College.
- Wagner, Gert. 1983. "Estudio de la Reforma Previsional, Efectos en la Industria y en el País." Institute of Economics. Catholic University of Chile.

CENTER FOR
RETIREMENT
RESEARCH
AT BOSTON COLLEGE

About the Center

The Center for Retirement Research at Boston College was established in 1998 through a grant from the Social Security Administration. The Center's mission is to produce first-class research and forge a strong link between the academic community and decisionmakers in the public and private sectors around an issue of critical importance to the nation's future. To achieve this mission, the Center sponsors a wide variety of research projects, transmits new findings to a broad audience, trains new scholars, and broadens access to valuable data sources. Since its inception, the Center has established a reputation as an authoritative source of information on all major aspects of the retirement income debate.

Affiliated Institutions

American Enterprise Institute
The Brookings Institution
Center for Strategic and International Studies
Massachusetts Institute of Technology
Syracuse University
Urban Institute

Contact Information

Center for Retirement Research
Boston College
Fulton Hall 550
Chestnut Hill, MA 02467-3808
Phone: (617) 552-1762
Fax: (617) 552-0191
E-mail: crr@bc.edu
Website: <http://www.bc.edu/crr>

The Center for Retirement Research thanks its research partners for support of this project: CitiStreet, Prudential Financial, AMVESCAP, New York Life Investment Management, AARP, TIAA-CREF Institute, AXA Financial, Standard & Poor's, and John Hancock.

© 2005, by Trustees of Boston College, Center for Retirement Research. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that the author is identified and full credit, including copyright notice, is given to Trustees of Boston College, Center for Retirement Research.

The research reported herein was supported by the Center's Partnership Program. The opinions and conclusions expressed are solely those of the author and should not be construed as representing the opinions or policy of the Corporate Partners or the Center for Retirement Research at Boston College.