

# Chile

## Government Mandated Private Pension

### Miracle or Pending Crisis?

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*“Chile’s private system of individual retirement accounts adopted in 1981, is based on three important pillars: freedom of choice, private-sector management and property rights in the retirement accounts. In its 18 years, that system has been an enormous success: more than 95 percent of Chilean workers have joined the system, the pension funds have accumulated over \$33 billion in assets; and the average real rate of return has been 11.3 percent per year.”<sup>1</sup>*

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## **Summary**

This paper will acknowledge the Chilean pension system, implemented in 1981, has enjoyed significant success to date. Government mandated savings provided significant investment capital that has been invested in the means of production in Chile. The result of this investment has been increasing per capita income, economic growth, political stability and social contentment.

The paper will go on to critically examine and conclude the Chilean pension system is inefficient and the system’s inherent inefficiencies will lead to a potential crisis in the future. There is a wealth of academic quality papers and studies analyzing the inefficiencies of the Chilean model based on portfolio theory. The objective of this paper is to take this efficiency analysis to the next logical level. What is the impact of inefficiency on the system and what impact might this have on the Chilean government and its actions? This paper moves from the theoretical to the practical implications.

If the inefficiencies in the system will lead to a potential crisis in the future, the government will have a number of options available to it. All of these alternatives, while taking different paths, will suffer the same result; leading to an increase in government

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<sup>1</sup> L. Jacobo Rodriguez, Chile’s Hot Pensions, The Cato Institute, October 30, 1999

deficits and a decline in the Chilean currency. The Chilean government will find itself either in the position of protecting the individual pension accounts of its workers or providing other means for the retirement needs of its citizens. This reality is a direct result of the government's mandate that all workers contribute to individually owned pension savings accounts.

The ultimate conclusion of this paper will be that government mandated private pension systems are a misnomer. Government, for political, social and economic reasons, bears the responsibility of providing for those citizens who have inadequate means to fully support themselves in retirement. Given this reality, governments currently have a number of alternatives available to them in order to provide for its citizens in retirement. These alternatives include the traditional pay-as-you-go system prevalent in numerous countries or the relatively recent development of private pension accounts.

The Chilean pension system, based on its current structure, is not the model to be followed. The Chilean government's rules and regulations result in significant inefficiencies rendering it a vastly inferior model.

The answer, though, is not simply to improve the Chilean model. The ultimate conclusion of this paper is while private pensions can supplement and augment the retirement needs of a country's citizens, the ultimate responsibility to provide for the retirement needs of citizens, who lack adequate private pension resources, is the government. The government, one way or the other, will have the ultimate responsibility so political, social and economic chaos is prevented.

## **History**

Chile, like so many of its neighbors, has a long history of military intervention in political affairs due to persistent social and economic strife. In 1970 a coalition of four political groups, Socialists, Communists, Radical and Christian Democrats, won a plurality in the presidential elections. Salvador Allende became the “first avowed Marxist to be elected head of state in a Latin American country.”<sup>2</sup> Under Allende’s leadership, the government moved towards socialism imposing price controls in order to manage inflation, expropriating the remaining equity in foreign-owned copper mines and nationalizing many sectors of the economy, including the financial sector, transportation, energy production, large scale mining and petrochemicals to name but a few.

Under this economic program, real wages rose sharply, the government budget deficit grew considerably and there was a rapid expansion of central bank credit. While the short-term impact was an economic boom, this boom quickly deteriorated into hyperinflation, a shortage of key products and significant losses in state-run enterprises. “By 1973 inflation had soared to 473%, the public sector deficit had reached 25% of GDP, and the country’s currency reserves had been depleted.”<sup>3</sup> During 1973 support for Allende and his government collapsed. After a number of planned, but not executed military coups, the military under Army Commander General Augusto Pinochet attacked the presidential palace on September 11, 1973 and installed a military government.

To the credit of the military leaders and General Pinochet, they realized the country’s economy was in dire straits and they had neither the experience nor the expertise to implement the necessary changes. Pinochet and the military leaders relied

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<sup>2</sup> President and Fellows of Harvard College, Chile – The Latin American Tiger? Harvard Business School, Rev. march 21, 1999, page 112

<sup>3</sup> Ibid, page 112

upon a number of economist educated in the United States, the majority of which were from the University of Chicago. This group of economists became known as the “Chicago Boys”. The philosophy of the Chicago Boys was based on embracing a free-market economy where the government played a minimal role in the country’s economy. While the government under Pinochet retained control of the country’s economic policies, it did not significantly intervene. The government provided the Chicago Boys with substantial autonomy. Yet, while the government provided autonomy, its authoritarian rule and strong grip on the country minimized any criticism or actions to stall or block the implementation of economic reforms.

### **Background**

In 1980, as part of the initial reforms of the Pinochet administration, Chile passed the Decree Law 3500, partially replacing the state-run pay-as-you-go social security system with a mandatory private pension system for all Chilean workers<sup>4</sup> managed by private administrators. The pay-as-you-go system was transformed from an unfunded system to a fully funded private savings plan.

The three key attributes of the new system included: individually owned pension accounts, administration of the pension funds by private enterprise and a safety net for those workers who met certain requirements, but whose individual pension accounts were not sufficient to fund a minimum pension. “Individual retirements accounts, where workers deposit what was formerly their payroll tax, constitutes the key innovation of this

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<sup>4</sup> Not all citizens of Chile must participate, e.g. military personnel are covered by a military pension and self employed participation is optional

revolutionary reform.”<sup>5</sup> Each worker must deposit 10 percent of the first \$22,000 of earned income in their individual pension savings account, which is managed by one of a number of Administradores de Fondos de Pensiones or AFPs. The worker selects the AFP and can move their pension from one AFP to another under certain guidelines and restrictions. The government provides a safety net for those workers who at retirement do not have enough funds in their accounts to provide a minimum pension. To qualify for this minimum pension a worker must have at least 20 years of contributions. The safety net equals 80 percent of the minimum wage and any shortfall in the individuals existing pension is paid for from government funds. The government limits its safety net to 300,000 retirees. This limitation may have a substantial impact on the effectiveness of this safety net.

The pension fund administrators are private companies approved by the Chilean government and subject to strict supervision set up in an open and competitive market. The main revenues of the AFPs are the fees they charge for managing individual pension accounts. The levels of these fees are set freely by each AFP and include a fixed fee per collection, a pro rata fee on contributions as well as fees for opening accounts. AFPs are not allowed to charge a management fee based on the total funds under management. The United Nations Program for Development’s 2000 report on Human Development in Chile points out that the AFPs charge fees that amount to “more than a fifth of the net contributions to the system”.<sup>6</sup>

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<sup>5</sup> Jose Pinera, *The Bull by the Horns: The battle for Chile’s Social Security Reform*, excerpts of the book by Jose Pinera entitled “El Cascabel al Gato: La Batalla por la Reforma Previsional”, 1991

<sup>6</sup> Roland Song, *Insurance and Pension in Chile*, December 26, 2002

If an AFP goes bankrupt, the shareholder's of the AFP lose their capital. The actual assets owned by the workers are unaffected. If the value of the assets owned by the workers decline, the balance of the workers individual account declines.

Consumers are actively solicited by AFPs in order to improve revenues. Since fees are charged based on contributions, high-income and actively working individuals making contributions are the target market for AFPs. With the performance of AFPs and the fee structure being similar, AFPs compete using hard sell techniques to recruit new accounts with special gifts and incentives. It is believed half of all account holders switch AFPs every six months in order to take advantage of the special officers, including consumer electronics, liquor, mountain bikes, etc.<sup>7</sup>

As part of the pension system, AFPs “must guarantee that the real return of the AFP is not lower than the lesser of (1) the average real return of all AFPs in the last 36 months minus 2 or 4 percentage points, depending on the fund, and (2) 50 percent of the average real return of all AFPs in the last 36 months. If the returns are higher than 2 or 4 percentage points above the average return of all AFPs over the last 36 months, or higher than 50% of the average returns of all AFPs over the preceding 36 months, the “excess returns” are placed in a profitability fluctuation reserve from which funds are drawn in the event the return fall below the minimum return required”<sup>8</sup> in the future.

Jose Pinera, who was appointed Secretary of Labor and Social Security in 1978 and is credited with introducing the Chilean pension system in 1981, has said, “By destroying the link between contributions and benefits, between effort and reward,

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<sup>7</sup> Ibid

<sup>8</sup> Jacobo Rodriguez, 15 Questions and Answers about the Chilean Pension System; Statement before the United States Senate Special Committee on Aging, May 18, 2004

between rights and responsibilities, the pay-as-you-go system carries the seeds of its own destruction.”<sup>9</sup>

### **Political, Social and Economic Effects**

*“ I had the conviction that only fundamental economic reforms based on individual freedom would deliver my country from poverty and underdevelopment, and would create the conditions for a return to democratic rule.”<sup>10</sup>*

*Jose Pinera, former Secretary of Labor and Social Security*

*More important, Chile created a retirement system that, by giving workers clearly defined property rights in their pension contributions, offers proper work and investment incentives; acts as an engine of, not an impediment to, economic growth; and enhances personal freedom and dignity.”*

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Before the Subcommittee on Social Security  
Of the Committee on Ways and Means  
United States House of Representatives  
July 31, 2001*

The Chilean pension system’s objectives were greater than simply providing retirements funds for workers at the time of their retirement. The pension system created forced savings, which fueled economic growth. As we know from macroeconomics,  $S = I$  (savings = investment). By forcing workers to limit consumption by mandating 10 percent of the first \$22,000 of earned income be contributed or invested into the Chilean pension funds, the government created forced savings. In turn, the pension funds

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<sup>9</sup> Jose Pinera, *The Bull by the Horns: The battle for Chile’s Social Security Reform*, excerpts of the book by Jose Pinera entitled “El Cascabel al Gato: La Batalla por la Reforma Previsional”, 1991

<sup>10</sup> Jose Pinera, *The Bull by the Horns: The battle for Chile’s Social Security Reform*, excerpts of the book by Jose Pinera entitled “El Cascabel al Gato: La Batalla por la Reforma Previsional”, 1991

invested heavily in Chile, through investment in Chilean treasury bonds, other government backed bonds, mortgages, bank securities, equities and corporate bonds.

“If we hold technology constant, an increase in capital per person is the only direct determinant of a rise in output per person.”<sup>11</sup> “A higher savings rate will lead to a higher level of capital per person and a higher income per person.”<sup>12</sup> Therefore, a significant outgrowth of the Chilean pension system has been by forcing savings, significant investment monies were available to be invested in financial instruments supporting the Chilean economy resulting in increased per capital income raising the country’s overall standard of living.

What would have been the expected results are supported by the economic performance of Chile since 1981. The forced savings resulted in increased investment in capital and production. This investment in capital and productivity is a significant factor in the economic success of Chile since adopting the private pension system in 1981. Forced savings has been the key ingredient in the national economic objectives of the pension system “as an economic engine” as outlined by Jose Pinera and L. Jacobo Rodriquez above.

As Mark Klugman, Director of the International Center for Pension Reform, stated before the Senate Committee on Banking, Housing and Urban Affairs, “It is fair to say that the PSA system has served as an important anchor for Chilean democracy, a moderating force in historically divisive national politics and a central element promoting restraint and prudence in the execution of economic policy. It is possible to observe the contribution that the system has made in promoting democratic moderation, the positive

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<sup>11</sup> David Colander & Edward Gamber, *Macro Economics*, Prentice Hall 2002, page 131

<sup>12</sup> *Ibid*, page 138

effects it has engendered in building a more productive and participative economy, and the contribution it has made to promote a culture of savings.”<sup>13</sup>

The development of the private pension funds has benefited numerous sectors of the Chilean economy including capital markets, utilities, communications, housing, and large government infrastructure projects. In December 2001, the pension funds represented 55% of Chile’s GDP and was expected to grow to 74% by 2010.<sup>14</sup> Since the pension funds have become the nation’s largest institutional investors, funds are provided from Chilean workers to support the country’s productive sector. These investments in the productive sector are not direct because the legal framework of the pension funds is such that they must invest in financial instruments. (e.g. bonds, stocks and other types of financial securities)

The AFPs hold a significant position in government financial instruments, mortgage backed securities, promissory notes of financial institutions, corporate bonds and to a far lesser extent in corporate equities. In 2001, pension funds owned these percentages of the total outstanding share of the following financial instruments in Chile:<sup>15</sup>

Government backed bonds	57%
Bank issued securities	27%
Mortgage backed securities	55%
Corporate bonds	35%
Corporate equities	7%

“The investments made with social security resources have undoubtedly had a significant and positive effect on the country’s productive sector.”<sup>16</sup>

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<sup>13</sup> Mark Klugman, testimony US Senate Committee on Banking, Housing and Urban affairs, June 25, 1997

<sup>14</sup> The Chilean Pension System, Pension Funds and Their Effects on Markets, page 157

<sup>15</sup> Ibid, page 159

<sup>16</sup> Ibid, page 162

## **Political, Social and Economic Risks**

The vast majority of literature and reports on the Chilean pension system suggest the system has been a tremendous success, yet there are a number of risks. The economic, political and social environments are all part of closed system and are closely linked. Therefore any fault line that develops in one will have a significant impact on the other two. A minor economic problem may create a minor problem politically and socially or vice a versa. The concern is that a major economic, political or social problem may create significant and long lasting problems throughout this closed and interrelated system.

### **Political Risks**

Even though the AFPs are private organizations, “compulsory participation imposes an obligation on the government.”<sup>17</sup> This could be a sizeable contingent liability. If one or more of the pension funds assets are inadequate to support its contributors due to poor investment results, the government will have one of two choices; (1) step-in and protect worker’s investments or (2) allow the worker’s investment in their pension to be lost.

By stepping-in as the United States government did during the Savings and Loan crisis of the late 1980’s, the Chilean government will use government funds to compensate investors for losses. Since the investment criteria for the AFP is very strict and therefore their investment portfolios are very similar, it is unlikely that only one fund would suffer inadequate investment returns. If more than one fund suffered, the

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<sup>17</sup> Dimitri Vittas and Augusto Iglesias, Pension Plans in Chile, July 1998, excerpted from The Rationale and Performance of Personal Pension Plans in Chile by Dimitri Vittas and Augusto Iglesias – County Economics Department, World Bank

government could find itself required to fund some or all of the lost workers' investments. The net result would be either a government sponsored pay-as-you-go system or a similar system would be put in place.

The pay-as-you-go system by its nature is unfunded and imposes a significant burden on future government resources. If significant deficits were the result, the government would be forced to borrow heavily. Currently, the largest investor in government-backed securities is the AFPs. Without their participation, funding would be forced to come from international sources. If AFP investments experience significant losses, most likely the Chilean economy would also be experiencing significant problems as a result of the significant investments of the AFPs in the broader Chilean economy. Poor performance on the part of the economy would impart upon lenders a higher probability of default risk pushing required interest rates substantially higher. If the debt load became too much, the government might avoid the immediate problem of inadequate resources to repay the loan by increasing the money supply. As new money is printed by the treasury and put into circulation, inflation will increase. The currency value will depreciate. The result of the economic chaos is political chaos similar to the Argentinean crisis of 2001.

On the other hand, if the government does not step-in to protect the workers pensions, consumption will fall sharply as people are forced to reduce their consumption, a result of the lost pensions. As consumption slows, the economy slows and government revenues decline. Demand for government services increase due to unemployment and increased poverty. Political instability may result as those effected ban together demanding change. At a minimum the government will run deficits as its tax revenues

decline and government expenditures rise. If significant deficits are the result, the government will be forced to borrow heavily with the ultimate results being similar to if the government had stepped-in to protect the workers' pension funds.

It is possible these two scenarios could come about even if the investments by the pension funds don't fail, but only yield inadequate returns to cover workers in retirement. If the AFPs are unable to pay an adequate retirement to workers, tax revenues will fall as the economy slows due to lower consumption. Greater demand will be placed on the government increasing government expenditures. Again, the result is the same, higher government borrowing, resulting in economic, political and social instability.

### Economic Risks

It was discussed earlier the impact of savings on investment and investment on per capita income. Unfortunately, macroeconomics tells us "the economy will always be driven to an equilibrium in which the level of output per person does not change."<sup>18</sup> This conclusion is due to diminishing marginal productivity; successive increases in savings and investment lead to smaller and smaller increases in output. This move to equilibrium does not happen immediately, but occurs during a transition period. Per capita income does rise during the transition period, but does not grow once the economy has achieved equilibrium. "In the long run, output and capital will grow at the rate of population growth. A higher savings rate does not lead to persistent economic growth."<sup>19</sup>

As we look at the Chilean pension system we can see why this might occur. First, the government-mandated contributions ensure large amounts of funds are made

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<sup>18</sup> David Colander & Edward Gamber, *Macro Economics*, Prentice Hall 2002, page 133

<sup>19</sup> *Ibid*, page 138

available without regard to performance, risk or cost. Imposing excessively strict investment limits by the government undermines the concept of private management in a free market environment and may represent a government direction of funds through the back door.<sup>20</sup> As Olivia S. Mitchell, professor of insurance and risk management and head of Wharton's Pension Research Council recently said "when one sets up a pension system, the goal is to provide retirement security to the pension participants. Funding domestic building projects, or dams, or roads is not really the purpose of a pension system. If you don't have a market mechanism, choosing investment projects and pricing the risk associated with the projects, then its potentially going to be a debacle."<sup>21</sup>

The confluence of government forced savings directed at government sanctioned pension funds, with investments decisions controlled by government regulation may actually cause "diminishing marginal productivity" at a faster rate than if investment decisions were made in a free market environment. In order to generate investment returns, pension funds must put the invested funds to work, but with limited options, pension funds may find themselves investing in approved investments of lower quality. Lower quality investments have a greater probability of achieving sub-par returns or failing. In either case the result is less cash than would otherwise have been available to workers during retirement.

Investment efficiency can be found in standard portfolio theory. Each investor identifies a risk-return combination available from a set of investment opportunities. Once the risk-return combination is determined we can optimize a portfolio of

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<sup>20</sup> Dimitri Vittas and Augusto Iglesias, Pension Plans in Chile, July 1998, excerpted from The Rationale and Performance of Personal Pension Plans in Chile by Dimitri Vittas and Augusto Iglesias – County Economics Department, World Bank

<sup>21</sup> Olivia S. Mitchell, The Long, Winding Road to Pension Reform in Latin America, January 15, 2003

investments. The principal idea behind optimization is that for any risk level, we are interested only in the portfolio with the highest expected returns. Harry Markowitz pioneered this concept of the “efficient frontier”. In Chile the government regulates and restricts investments in certain securities. “Essentially, such restrictions bend the feasible investment frontier inward and away from the efficient region, which is exactly the opposite of the desired effect.”<sup>22</sup>

Much has been written examining the efficiency of the Chilean pension system concluding the system is inherently inefficient (see Garcia undated, Shah 1997 and Pecchenino and Pollard 1999).

The genesis of this paper came from being introduced to a large privately owned transportation infrastructure project during a recent trip to Santiago, Chile. My host in Santiago was very proud of the project. The project owner issued long-term bonds, which were purchased by AFPs. Transportation congestion is a significant issue in Santiago. In order to alleviate traffic congestion, a privately owned firm is building a tunnel underneath a river, which runs through Santiago. The owner of the project will collect tolls, which will be used to repay the bonds. This reminded me of the “Dulles Greenway” a privately owned and built highway in Northern Virginia. This highway, like the Santiago project was financed by long-term bonds, which were to be repaid by toll revenues. In the case of the Dulles Greenway, the actual toll revenue fell well short of the original projections and the owner defaulted on the bonds. The state of Virginia is now responsible for the resulting financial burden.

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<sup>22</sup> Hama Shah, Toward Better Regulation of Private Pension Funds, World Bank policy Research Paper #1791, April 19, 1997, page 18

Is building a toll tunnel under a river in Santiago a good business venture? Is it a good investment from the perspective of debt holders? Clearly, the project is expensive; the cost of engineering and installing a tunnel under a river in the middle of Santiago must be one of the more expensive alternatives. Is it possible, that this is a project that could be financed rather than a project that should have been financed? Is the ability to finance this project a result of too much money chasing too few investment opportunities? If so, what happens to the bondholders if toll revenue falls short of expectations? Could workers who have invested their pension savings in this project through their AFPs lose some or all of their investment? We won't know for many years until the project gets built and the toll road opens for business.

If this project fails, not because of internal problems specific to itself, but rather because it was a poor investment option, it may be more likely other investments made around the same time could also fail. Does the logic follow that if a project that fails had previously been deemed a prudent investment that it is more likely that there would have been other projects that had received investments that had been deemed prudent investments with a similar risk profile to the failed project? Just as the United States savings and loan crisis saw numerous projects and then banks fail, Chile could find itself in a similar crisis with numerous AFP investments failing at the same time.

From an economic viewpoint, the Chilean pension system is inefficient in that an adequate return for a level of risk is unavailable due to government imposed investment restrictions. "These restrictions clearly fail to optimize risk-return tradeoffs since they

direct investments away from, rather than towards, the efficient investment frontier and increase concentration and diversifiable risks.”<sup>23</sup>

### Social Risks

“According to government statistics about half of the work force will not be covered by any pension plan. Many of these excluded people are engaged in the informal economy.”<sup>24</sup> What then? While some of these individuals may be wealthy self-employed entrepreneurs, the significant majorities are low-wage individuals paid in cash without acknowledgement of formal employment status. As Professor Mitchell from Wharton stated “ There are concerns about coverage not being high enough. By no means is it a universal program: People in the agricultural sector and the self-employed tend not to participate in the system. There are still issues related to how much people can afford to contribute and whether they actively contribute.”<sup>25</sup> No safety net will exist for these individuals as they fail to meet the requirements necessary to receive the minimum pension. Vittas and Iglesias write in their World Bank report “However, this provision (exclusion of self-employed workers) leaves a big hole in the Chilean System and is an important factor in the substantially less than universal coverage of the system.”<sup>26</sup> Finally, a United Nations Development Program report estimates that 40% of AFP contributors will require additional assistance.<sup>27</sup>

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<sup>23</sup> Ibid, page 20

<sup>24</sup> Roland Song, Insurance and Pension in Chile, December 26, 2002

<sup>25</sup> Olivia S. Mitchell, The Long, Winding Road to Pension Reform in Latin America, January 15, 2003

<sup>26</sup> Dimitri Vittas and Augusto Iglesias, Pension Plans in Chile, July 1998, excerpted from The Rationale and Performance of Personal Pension Plans in Chile by Dimitri Vittas and Augusto Iglesias – County Economics Department, World Bank

<sup>27</sup> Chile’s Experience with Social Security Privatization – A Model for the United States or a Danger Sign? Issue Brief #4

Will the Chilean government forsake this significant block of its citizens? If so, what will be the impact? As these individuals, due to age and health, see their incomes drop, economic consumption will drop, tax revenues will decrease and government expenditures will rise to meet the demands placed upon it for medical needs and subsistence requirements. Political consequences could follow, as political unrest may result. Is the Chilean government being naïve in assuming it can avoid the needs of this significant group of its citizens as they age?

### **Chile Today**

In its year-end annual economic report in 2004, The Heritage Foundation voiced praise for Chile's recent success, but acknowledged concerns about the future. The Heritage Foundation opened its report on Chile acknowledging "Chile has been a model of economic reform for Latin America since the beginning of the 1980's; yet President Ricardo Lagos, who took office in March 2000, has promoted reversal of some reforms, such as labor deregulation, tax cuts, and spending restraint. These measures raised the cost of investment and cast doubt on whether Chile will remain a model of reform for the rest of Latin America."<sup>28</sup> The Heritage Foundation noted a number of factors of concern, including low economic growth. Chile has experienced low economic growth of 2.1% in 2002. During the previous five years economic growth averaged 2.5 percent per year.<sup>29</sup> In 2003 GDP grew at a rate of 3.2%, an improvement over 2002.<sup>30</sup>

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<sup>28</sup> Chile – The 2002 Index of Economic Freedom, The Heritage Foundation, 2002

<sup>29</sup> Data collected from the 2004 and 2002 Index of Economic Freedom prepared by The Heritage Foundation

<sup>30</sup> The World Factbook, Central Intelligence Agency, revised November 2004

## **Government's Ultimate Responsibility**

Private pension systems are inherently inferior and they cannot remove government's responsibility completely from the need to be the ultimate provider for its citizens in retirement. While private savings, either government mandated or voluntarily saved, can minimize the cost of a government's ultimate responsibility, it cannot remove government's ultimate responsibility.

If the private pension system has strict government controls, such as the Chilean pension system, the result is significant inefficiencies and the potential for suboptimal investment decisions as good money chases poor investments. If the system has little government limitations on investments and competition thereby allowing the pension system to be efficient, funds will fail from time-to-time. If funds fail, the impact of such failure will fall upon government. This is very similar to the savings and loan crisis in the United States during the latter part of the 1980's when savings and loans made high-risk high-return loans and investments. The US government was forced to step in and protect investor funds and incur significant costs stabilizing the system.

Cognizant of the argument made by Dimitri Vittas and Augusto Iglesias that "compulsory participation imposes an obligation on government"<sup>31</sup> the conclusion must be that government cannot avoid the responsibility of protecting its citizens and providing for the retirement of those citizens who do not have the financial ability to do so. The government, by stepping-in, will be in a position to protect the economic, political and social structure of the country. As we proved earlier, any shortage of retirement funds for a country's citizens will result in a reduction of consumption, reduction of tax revenues,

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<sup>31</sup> Dimitri Vittas and Augusto Iglesias, *Pension Plans in Chile*, July 1998, excerpted from *The Rationale and Performance of Personal Pension Plans in Chile* by Dimitri Vittas and Augusto Iglesias – County Economics Department, World Bank

increased expenditures, increased government deficits, increased government borrowing, a devaluing of the country's currency and higher interest rates resulting in economic, political and social problems. Even if the government steps-in and provide funds through social security-like benefits, government expenditures increase dramatically, resulting in increased government deficits, increased government borrowing, a devaluing of the country's currency and higher interest rates resulting in the same economic, political and social problems.

### **Recommendation**

We conclude that the government has the ultimate responsibility for providing for the needs of its citizens who do not have adequate resources to provide for themselves. The only solution, which minimizes the ultimate cost of this responsibility, is to encourage life-long savings and investment on the part of its citizens. Such a program will minimize the ultimate cost to the government.

We acknowledge that government mandated pension accounts are not the answer as they are inefficient. These accounts become the responsibility of the government one-way or the other. We acknowledge that it is generally agreed pay-as-you-go systems shift the burden of retirement costs to future generations and will result in a significant financial difficulties as the costs of those receiving retirement benefits exceeds the resources of the system to make such payments.

The solution is to use the tax code to encourage significant private investment in tax favored individual pension plans such as 401(k) plans in the United States. These saving plans will provide funds that will reduce the cost of retirement, which would fall

upon the government. The cost associated with private investment in pension plans would be a current cost to the government as current tax revenues are reduced. This is very different than deferring the cost of providing for retirement to future time periods and future generation. The key is to encourage using tax advantage accounts so that individual retirement investment proceeds will be available to fund an adequate level of retirement for the majority of citizens. This does not eliminate the responsibility of government to provide an adequate safety net. By encouraging savings the government can limit the cost of this safety.

### **Conclusion**

The Chilean private pension model is similar to weather systems, a fair weather system of high-pressure spinning clockwise produces economic, political and social success. For over 20 years, Chile has been under a fair weather system where mandated pension savings have fueled economic growth, political stability and social wellbeing. The system has worked as the increase in savings has resulted in investment resulting in economic growth. Economic growth has been a boom for Chile and its citizens. Yet, if the weather systems spin is reversed, a low-pressure system may rain on the Chilean parade of success.

Unfortunately, worker funds are invested in high-cost low-return investments as the impact of government regulation moves investment away from the efficient frontier of portfolio management. As investments are limited by government regulation, workers contributions are likely to be invested in investments with diminishing marginal productivity as there is too much money chasing too few high quality investments.

If and when the environment reverses direction, economic problems will lead to social and political unrest. The Chilean government will be forced to address an issue it has, up to this point been able to ignore. The question is – will it step-in, if and when workers' retirement accounts are inadequate or will it allow workers to lose some or all of their savings. If pension funds are not protected, the result will be reduced consumption, reduced tax revenues, increased government expenditures and potentially significant deficits. If this scenario unfolds, the Chilean government will be hard pressed to avoid its responsibility.

Chile is faced with the responsibility of having forced workers to invest 10% of their income into government mandated and sanctioned vehicles for which the government took full responsibility for monitoring and regulating the allowable investments. It would be impossible, both from a political and ethical position, to ignore the demands and needs of workers as funds are lost or become inadequate to fund the retirements of workers. The government will create significant political, social and economic chaos if it does not step in and protect those who invested.

If the government is unwilling or unable to make whole the individual pension accounts, political, economic and social unrest will result similar to the Argentinean crisis of 2001. Significant wealth was lost as the government was forced to allow its currency to float and be significantly devalued. Private pensions funds were lost, economic growth curtailed, unemployment rose, social unrest grew and political instability resulted.

As we have seen, the Chilean government will find it difficult to avoid the repercussions of its policies that have mandated workers contribute savings into an inefficient individual pension system that is highly correlated with the Chilean economy

since the vast majority of the workers savings are invested in Chilean financial instruments supporting the Chilean economy. Like a house of a cards, if either the Chilean economy falters significantly or a rash of AFP investments sour, the entire system that hinges upon regular massive investment from workers, could come tumbling down. If and when this occurs, which seems likely for all of the reasons previously discussed, the only realistic answer the Chilean government will have to minimize the resulting political, economic and social costs, is that the government must step in and protect the private pension accounts. If so, the concept of private pensions is a misnomer. Coupled with its inefficiencies, the Chilean Pension system is a pending crisis waiting to happen.

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