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A Modern Approach to the Regulation of Defined Benefit Pension Plans: An Application to Korea

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Section 1. Introduction

Private pension plans are typically regulated by government. Such regulation is motivated by a number of considerations including information asymmetries between the pension plan sponsor and the plan participants and the non-competitive nature of employer-sponsored pension plans. To remedy these problems, in the United States, pension regulation sets standards for the computation of a pension plan financial status, requires some degree of disclosure of the financial status of the plan to participants, and sets and enforces minimum funding requirements. Employer pension plans in the United States are also regulated owing to the tax advantages accorded pension contributions and investment returns. The purpose of this paper is to review principles for a well designed pension regulatory structure, and a recent Administration proposal to correct structural deficiencies in the U.S. pension regulatory system.

Pension sponsors have inherent informational advantages over plan participants because it is sponsor who invest assets, monitors returns, and compares assets to future payment obligations. Absent reporting requirements, many plan sponsors would lack the incentive to adequately disclose the financial position of the pension fund to participants. Even with adequate disclosure of pension plan financial information, plan participants might not have the expertise to ensure that the plan was currently and likely to remain adequately funded. Because of these informational and expertise asymmetries, without pension regulation, some pension plans would mislead participants by underfunding or not funding the pension plan, while telling participants that their deferred compensation agreement was still in place and that the plan was well funded. This ultimately results in the participants not receiving the retirement income they planned to receive at a time in their life cycle when it is impossible for them to remedy the breach. Pension plan regulation seeks to minimize this type of outcome.

One might argue that reputational effects should temper sponsors' behavior and discourage defaults on pension obligations. This is however not an effective model for private defined benefit pensions. Defaults on employer sponsored pension plans are typically associated with the reorganization or liquidation of the sponsoring firm. Because a sponsor that defaults on its pension obligations has also defaulted on other financial obligations and because its pension customers are limited to its own employees, reputational effects on sponsor behavior are limited. Also from the employee's viewpoint the pension contract is a one-shot commitment that is not subject to renegotiation. That is, employees have one career over which to prepare for retirement and have no effective recourse to default on pension promises at the time of or after retirement. The possibility that a sponsoring firm will default on the contract at some future date is another basis for the establishment of minimum funding rules for defined benefit plans. These rules are designed to ensure that some minimum level of financial backing exists for accrued pension benefits at all times.

Single-employer-sponsored defined benefit pension plan are non-competitive, that is, employee participation – which includes deferral of income - is mandatory and employees do not have the choice of investing retirement assets outside the common retirement trust managed by the plan sponsor. In the United States, pension contributions are held in a joint trust, so that assets that are funded by employees' deferred compensation are under the control of the pension plan. Employees are not given control over the operation of the plan and have no direct claim on the assets in the trust. Because of this arrangement plan assets may be invested in a manner that does not reflect the participant's risk tolerance. In many instances, investments in risky assets by the plan may be more beneficial for the plan sponsor than for the participants. Similarly, the plan sponsor and plan participants may have very different assessments of the appropriate

priority for plan funding relative to other uses of working capital. This is another reason for the establishment of laws and regulation governing minimum funding requirements, the appropriate segregation of assets, prudent and diversified investments and other aspects of pension management.

In the United States, employer sponsored pension plans are regulated at the federal level through authority granted to the Internal Revenue Service and Department of Labor in the Internal Revenue Code and ERISA. These statutes and implementing regulations set standards for plan funding levels (in lieu of capital requirements), asset and liability measurement, the tax treatment of contributions and investments, and required financial reporting to participants and regulators. These laws also regulate a number of non-financial aspects of pension plans such as distribution of benefits among employees and vesting requirements.

The existence of a government guaranty of benefits, like the pension insurance system that exists in the United States or the partial insurance of Retirement Allowances in Korea introduces an additional concern for government, namely, that of moral hazard. If participants are guaranteed to receive pension payments in whole or in part despite the performance of the pension plan, they will have less incentive to be vigilant in monitoring the plan. Guaranties of benefit payments in employer sponsored plans will also provide a greater incentive for workers to exchange future promises of pension payments for current wages. In the United States we have seen some evidence of such gaming of the pension insurance system.

The theme of this paper is the proper regulation of employer sponsored defined benefit pension plans. Recent financial market events have exposed serious structural flaws in the regulatory system governing these plans in the United States. Evidence of such problems include substantial unfunded liabilities in the pension system, estimated currently to be

approximately $450 billion, and very large insurance claims for unfunded pension liabilities as the result of the restructuring or liquidation of major companies in the United States. As of September 30, 2004 (the end of the federal fiscal year in the United States) the government corporation that insures pension benefits -- the Pension Benefit Guaranty Corporation (PBGC) -- had only $39.0 billion in assets to meet $62.3 billion in liabilities. In response to these problems the Bush Administration has proposed a comprehensive reform package that changes the structure of regulation. Perhaps the most important element of this package is a change in the focus of pension funding rules from micromanaging annual required contributions for plans to ensuring that plans have sufficient assets to meet their existing obligations.

We hope that Korea might be able to profit from the United States' experience as a pension regulator, as a new system of Korean employer sponsored private pension plans is developed under the recently passed Employee's Retirement Benefit Security Act. In this paper we will highlight what we think are the most useful lessons that we have learned from our experience and suggest how those lessons might be applied in Korea.

The balance of the paper will be structured as follows. In section two we give an overview of our understanding of Korea's current retirement system focused on the Retirement Allowance Scheme and the recent reforms. In section three we discuss the principles for a well designed pension funding and guaranty regulatory regime. In section four we discuss how we applied these principles in developing the Administration's pension reform proposal and finally in the conclusion we draw possible parallels between the principles and implementation of reforms to the Korean pension system.

Section 2. A Brief Overview of the Pension System in Korea

Korea's rapid transformation from an agricultural to an industrial economy and the expected aging of its populations presents the country with a major public policy challenge -- how to design an economically sustainable retirement system for its workforce. The focus of discussion in this paper will be on the transformation of the existing Korean Retirement Allowance Scheme into a privately sponsored pension system giving special attention given to reforms recently enacted by the government. We will begin, however, by reviewing briefly trends in Korea's population structure and describing the other components of the Korean retirement system.

Korea's Aging Population

Korea's population has shifted from being predominantly rural to overwhelmingly urban in the span of 40 years. In 1960, 30 percent of the population lived in urban areas, by 1999, 88 percent of the population was urban. As expected, such a rapid transition from an agricultural to an industrial society has had profound demographic consequences. At present Korea's population is among the youngest of developed countries; because of rapid declines in both fertility and mortality rates, however, it will become one of the oldest within the next 50 years.[1] Fertility rates fell from 5.4 in the 1950s to 4.5 in the early 1970s to 1.2 -- well below the replacement rate of 2.1 -- by 2002. Life expectancy rose 13 years between 1970 and 2000 and 27 years between the 1950s and 2000. As a result of these changes, the OECD estimates Korea's old age dependency ratio, which at 11 percent in 2000 was third lowest among all member counties, will rise to 67 percent by 2050, one of the highest. According to projections by the

[1] *Ageing and Employment Policies Korea, OECD 2004.* The old age dependency ratio is defined as the ratio of the population aged 65 and over to the population between the ages 20 and 64.

Korean National Statistics Office, population is expected to increase for the next 20 years after which it is expected to begin a substantial and sustained decline. Korea's population was 47.6 million in 2002 and is expected to peak at around in 50.6 million 2020. (OECD 2001) Population is then expected to fall to 44.3 million by 2050 and 35.0 million by 2070. Clearly, Korea's pension systems, both public and private, face daunting demographic challenges.

The Current Pension System

Until recently most older Koreans have typically received nearly all their income from either earnings or support from children. As recently as 1990, the average Korean of 60 or more years of age received 31.9 percent of their income from their own earnings and 54.8 percent from support from their children. Pensions, both private and public, accounted for only 2.8 percent of total income. (World Bank) This will change in upcoming decades. By 2025 most Koreans who reach the statutory retirement age will receive income from one or more of the country's pension schemes. These schemes include the National Pension Scheme, the Occupational Pension Schemes and the Retirement Allowance Scheme and, under the pension reforms that are scheduled to take effect in 2006, employer-sponsored defined benefit and defined contribution plans.

National Pension Scheme (NPS)

The National Pension Scheme, the first publicly sponsored pension system in Korea with widespread coverage, was not established until 1988. The NPS will ultimately provide a defined benefit to a large proportion of Koreans who have been in the labor force. Initially the program covered employees in firms with 10 or more workers; coverage has since been expanded to include farmers, fishermen, the self-employed in urban and rural areas, and employees at virtually all firms with employees. In 2002 coverage was estimated at about 6.5 million workers

and 10 million self-employed or about 58 percent of the labor force. Part time workers, household servants, and the self-employed who do not declare income remain outside the system. The NPS is funded from taxes on earnings. Current tax rates are 9 percent for those employed at firms, with half paid by employers and half by employees. The self-employed were originally taxed a lower rate of 6 percent of earnings, a rate which was to be increased until it reached 9 percent in 2005. The system is currently running substantial surpluses, largely because few benefits are as yet being paid, no workers will be eligible to draw a full pension until 2008, while the gradual expansion of coverage has increased the tax base. The surplus is expected to gradually erode as the system matures, however, and was projected to be exhausted around the year 2049 before recent reforms were enacted. (Phang 2001)

In response to the deteriorating financial condition of the system, the government implemented a series of reform measures in 1998 to shore up the system's long run financial sustainability.[2] These include lowering the accrual rate from 1.75 to 1.5 percent of annual wages which effectively lowers the replacement rate for a worker making 40 years of contributions to 60 percent from 70 percent. The retirement age would also increase from 60 to 65 between 2013 and 2033. In 2003, as a result of the government's most recent review of the pension system's financial sustainability -- required once every five years -- two further reform measures were adopted. Tax rates will increase to 15.9 percent of income by 2030 in equal increments of 1.39 percent every five years. The replacement rate would be cut further to 50 percent in 2008 with grandfathering of vested rights earned before the reform. These reforms are expected to create sufficient reserves to pay benefits through 2070. (Phang, OECD, 2001)

[2] The Pension Reform Board was established in 1997 to recommend changes to the system. The Reform Board recommended more systemic broader reforms than those ultimately adopted.

Occupational Pension Schemes

There are special schemes that exist for three occupational groups: civil servants (including public school teachers), teachers and professors at private schools, and the military. Each of these schemes operates independently from the NPS and each is administered by a separate ministry within the government. Collectively these schemes cover about 1.3 million workers or about 4 percent of the labor force. While there is mobility among the three occupational schemes there is none between any of them and the NPS.

Taxes are higher and replacement rates are quite generous in these special schemes. Taxes are 17 percent of wages for both teaches and civil servants, for example, and replacement rates can be up to 76 percent. All three funds, however, are in poor financial condition. Assets in the military scheme were exhausted by 1977 and the system relies on transfers from general revenues to supplement current tax collections in order to pay benefits. The civil servant scheme's surplus was exhausted by 2001. Assets in the teachers fund are expected to be exhausted by 2018. Even though several reforms were adopted in 2001, which will increase the retirement age and change the indexation of benefits paid from wages to prices, it still appears that wage taxes will have to rise for the current level of benefits to be maintained.

Individual Pension Accounts

Since 1994 individuals have been able to invest in individual pension accounts with financial institutions. Prior to 2001, 40 percent of contributions to such accounts were tax deductible up to a ceiling of 720,000 won, which was equal to approximately 3.5 percent of the average wage. In 2001 the contribution ceiling was raised to 2.4 million won and deductibility was increased to 100 percent of the ceiling. Benefits are taxable when taken.

Contributors may receive an annuity from such accounts beginning as early as age 55 and lasting for at least five years if they make contributions for 10 or more years. Withdrawal prior to that time results in taxation of the inside build up. (World Bank, Phang)

Retirement Allowance Scheme

At present there is no direct analogue in the Korean retirement system to the employer based defined benefit and defined contribution pension plans that exist in the United States. The only employer based retirement vehicle that currently exists is the Retirement Allowance Scheme. This system was incorporated into the Labor Standards Act in 1961, at which time Korea had neither an unemployment insurance program (introduced in 1995) nor a state operated pension system (introduced in 1988). Given the state of development of labor law at the time of their introduction, and the high rate of labor turnover in the Korean Economy, Retirement Allowances have tended to be viewed as more a form of severance pay than a retirement benefit.[3] This view has been reinforced by the ability of separating employees to take their benefits as lump sums and by changes in law in 1996 that allow employees who are still employed to withdraw Retirement Allowances for certain types of purchases including purchases of private houses.

Because retirement Allowances preceded the development of the NPS, the public pension system was designed in some ways to complement retirement allowances. Between 1988 and 1998 employers were required to contribute 3 percent of wages directly to the NPS and an additional 3 percent in lieu of contributions that might otherwise have been made to fund Retirement Allowances. Under this funding system, now phased out, retirement allowances were reduced proportionally.

[3] According to the OECD, the average number of years that a Korean employee remains with the same firm was 5.3 years in 1996 and 5.7 years in 1999. By contrast comparable figures for 1995 were 9.8 years in the EU, 11.3 years in Japan, and 7.4 years in the U.S.

Participation in the Retirement Allowance Scheme is mandatory for all covered firms. Initially coverage applied to firms with more than 30 employees but over time has been extended to all firms with 5 or more employees. Even though expanded significantly, Retirement Allowance coverage extends to only about 27 percent of the labor force. This limited coverage owes to significant employment in small firms and the fact that many temporary workers are not covered by NPS. Expanded coverage is part of the reform package that the government intends to make effective in 2006 (discussed below).

Under the Labor Standards Act, the minimum benefit in a Retirement Allowance Scheme is equal to 1/12 of an employee's final wage or salary for each year of tenure with the employer, i.e. 12 years of service with an employer yields one year of earnings in the form of a Retirement Allowance benefit. The wage base on which the benefit is computed is the average wage over the last three months of employment including all overtime and bonus pay. Employers may pay higher allowances and often increase the size of allowances for employees with longer tenure. Up to one third of firms that pay such allowances are reported to have such progressive benefit structures.

Retirement Allowances are paid for both voluntary and involuntary separations. Although typically taken as lump sums, these amounts can be annuitized by means of a contract between the employer and an insurance company. If annuitized, Retirement Allowances can be a source of considerable retirement income. The World Bank (2004) and the OECD (2001) estimate that an annuitized Retirement Allowance provides a 30 percent replacement rate of the final base wage for a male worker with between 35 and 40 years of credited service.

Retirement Allowances are not required to be funded and, according to observers, typically are not. This lack of funding creates significant risks for employees of firms that

become bankrupt. In the recent economic crisis, it is estimated that as many as one fourth of all those who lost their jobs also lost the retirement allowances that were due them. In reaction the Korean government created a wage guaranty fund that that provides an employee of a bankrupt firm with his last three months of wages plus a Retirement Allowance based on three years tenure with the firm. The insurance is funded by a tax of 0.05 percent of wages from employers.

Tax incentives exist for creating balance sheet reserves for retirement allowances. Up to 50 percent can be deducted if such reserves are held within the company.[4] When created, however, such reserves are not formally segregated from other funds. Some researchers report that such reserves are in fact frequently used by employers as a source of capital for other uses. Full deductibility can be realized if the fund is established at an independent financial institution such as a bank, or an insurance company. However, Korea's Financial supervisory service estimated that in 1999 only 10 percent of liabilities were backed by external funds. Alternatively, all contributions are deductible if a policy is taken with an insurance company to cover the liability. As they currently operate, Retirement Allowances do not function as an integral part of the retirement system. Allowances are typically withdrawn in the form of a lump sum when an employer changes jobs and, as one can infer from the low rates of participation in the individual retirement market, are not invested in retirement savings vehicles. From the employer's viewpoint, because they are largely unfunded, allowances can serve as a source of capital, a loan from employees to employers. International organizations like the OECD and the World Bank have recommended changing the structure of Retirement Allowances to make the system function like an employer based retirement system. (World Bank 2004, OECD 2001)

[4] Fifty percent of reserves are deductible up to the lesser of 40 percent of the estimated retirement allowance that would be paid if all employees retired that year or 10 percent of total compensation for the year.

Current Reforms -Transforming the RAS into a Private Pension System

In 2000 the Korean Labor Institute, with funding from the Ministry of Labor, undertook a research effort make recommendations on the transformation of the current Retirement Allowance Scheme into an employer sponsored pension system. This research and subsequent discussion by employers and employees through the Tripartite Commission resulted in the Commission presenting the government a series of recommendation for reform. These recommendations provided the initial framework for the development of a reform proposal that was passed by the National Assembly in December 2004 but, at this writing, has not yet been signed into law. The target date for implementation of the new system is 2006. Certain overriding guidelines set out in the bill are:

- Labor and management can jointly determine whether to retain a Retirement Allowance Scheme or change to a formal retirement plan. The government will provide tax incentives for changing to retirement plans. Employers must receive the consent of labor before changing from a Retirement Allowance Scheme to a formal retirement plan.
- Both Defined Benefit (DB) and Defined Contribution (DC) pension plans will be permitted.
- Portability will be provided through the investment of lump sum withdrawals and pensions in IRAs.
- Rules on pension fund management will be designed to strengthen the likelihood that workers receive their pensions.
- Business predictability will be enhanced by evenly spreading the burden of retirement benefits.

Although the broad outlines of pension reform have been outlined by the enabling legislation -- the Employee's Retirement Benefit Retirement Security Act -- many of the details

of pension plan governance will be dealt with through an administrative regulatory process. For example, the law does not specify funding requirements for defined benefit plans. These requirements will be determined by the Minister of Labor. The main provisions of the reform package are:

- *Extended Coverage*. Coverage of retirement plans will be extended to firms with four or fewer employees, to employees who work for more than a month for an employer, and to employees who work an average of 15 hours of more during a four-week measurement period.
- *Choice of DB and/or DC Plans*. All workplaces that participate in the new system will adopt a defined benefit or defined contribution pension plan. Firms with fewer than 30 employees may establish individual IRAs for employees if they cannot manage the administration of a formal plan.
- *DB Plan Rules.*
    - DB plans would ultimately take the place of the current Retirement Allowance Scheme. Balances under this system would be merged into a new DB fund.
    - The benefit level will be equal to the annuitized value of Retirement Allowances currently taken as a lump sum under the current system.
    - Ten years of contributions are required for receipt of benefits (vesting in 10 years).
    - Workers can begin receiving benefits at age 55.
    - Funds must be managed under a separate trust by either a bank, insurance company or trust firm.
    - Funding rules. The Employee's Retirement Security Act states that the specific level of reserve requirements for defined benefit plans will ultimately be defined by the Ministry

of Labor and Presidential Decree. Such rules will consider normal cost, pension liabilities and "the estimated present value of the expected contribution income". The details of these rules are especially important because the minimum benefit level is fixed.

- *DC Plan Rules.*
  - Contributions are set at 8.33 percent (1/12th) of an employees total annual wages or salary. This is equivalent to one months wages and is now the minimum Retirement Allowance benefit an employee earns for each year of service.
  - A separate trust operated by a financial institution will be established. Standards of financial soundness of such institutions will be established by Presidential Decree.
  - A conservative option that will ensure no loss of principal must be among investment options.

Section 3 Principles for a Well Designed Pension Funding and Regulatory Regime: Lessons from the U.S. Experience

In this section we discuss four principles that should be the underpinnings of any well designed system of pension regulations. We will discuss the implications of each principle for the workings of an actual regulatory regime, drawing specific examples from the reform proposal put forward by the U.S. Administration for the U.S. single-employer defined benefit pension system. We also discuss the possible results when defined benefit regulations do not embody the principles we propose. Here we draw examples from the current U.S. pension regulation regime. The four principles are as follows:

Principle 1: Pensions are financial intermediaries.

Principle 2: Firms/ plan sponsors are not infinitely lived. It is a basic economic reality that firms fail, become bankrupt and are dissolved due to both individual and secular circumstances. Pension funding regulation must recognize this reality.

Principle 3: Plan sponsors and participants are economic agents and therefore respond to incentives in predictable ways.

Principle 4: Government cannot provide a financial guaranty to protect one group from risk without exposing itself and taxpayers to risk.

1. Pensions are Financial Intermediaries

The first principle is to recognize pension funds for what they are: financial intermediaries. Sponsoring firms take deferred compensation from employees and contribute it on their behalf to pension plans in the form of contributions. In exchange the pension plan promises to supply a stream of future annuity payments or, in some cases, the lump sum equivalent of such payments, in accordance with the plan's design. Although the pension plan is

an independent entity under the law, its financial well being is wholly dependent on contribution and investment decisions made by the sponsoring firm.

Because pension plans act as financial intermediaries they must be held to the same standards of reporting transparency and market value discipline that are standard in most financial sectors. For example, most regulators in other financial areas require that assets be valued at current and not *past* prices. Yet under current ERISA law, pension assets values are not marked-to-market, but rather reflect "smoothed" values based on past prices.

Bader and Gold (2003), referring to U.S. pension practices, discuss five principles of corporate finance that, "are universally accepted in financial economics and almost as universally violated by the actuarial model". Adapted from these, we identify three standards of finance practice that are the basis for the reporting transparency and market value discipline that regulators enforce for most financial intermediaries. We argue that such standards should be should be applied to pension funds.

- Employee exchanges of current for future compensation and valuations of pension assets and liabilities must be conducted at market prices or values.
- Because pension liabilities are not traded in a market there are generally no observable prices. Therefore, pension liabilities should be valued using prices for like liabilities trading in liquid markets. Like liabilities are liabilities that have cash flows that match the liability in amount, timing, and probability of payment. In the case of pension plans, like liabilities are annuity payments from commercial annuity providers.
- All involved parties have a right to timely and complete information about the current market-based values of assets and liabilities.

Voluntary financial trades do not generally take place at non-market values or in the absence of current information on prices. When employers and employee bargain (formally or informally) over compensation, one dimension of the negotiation is the form that compensation will take -- cash wages or salaries or deferred post-retirement pension benefits. This is unambiguously a trade and, in the case of formal negotiations under collective bargaining agreements, the trade is often explicit. If the assets backing the promise of deferred compensation or the pension liabilities (the discounted value of the future pension benefit payments) are not accurately valued because of smoothing, the transaction itself is not being conducted at market prices.

For example, assume that an employee has computed the expected value of receiving promised future benefits based on the degree to which those benefits are backed by assets, i.e. are funded. Based on this expected value, he will decide on an optimal rate of exchange between current wages and future benefit payments in determining the composition of his market basket of compensation. If his information on plan funding is based on smoothed asset values and liabilities, however, the employee is making decisions at something other than market prices. His optimal mix would likely change if he were making his decision on market prices for assets and liabilities.

Similarly, when these smoothed values are presented to shareholders, potential investors and others, they are not being provided with the true value of either the future liabilities or the current stock of assets. Under current U.S. pension law, based on the Employee Retirement Income Security Act of 1974 (ERISA), the actuarial value of plan assets may differ from the fair market value of plan assets; it may be determined under a formula that smoothes fluctuations in

market value by averaging the value over a number of years (Treasury Blue Book (Blue Book), 2005).[5]

The second standard applies specifically to the appropriate method for valuing pension liabilities. Pension liabilities are similar to debt and therefore should be discounted at rates applicable to that debt. This suggests not only that the interest rate should be chosen to match the appropriate degree of creditworthiness or default risk of the pension promise, but also that the interest rates that are used in discounting the liabilities should be matched to the timing of the cash flow, that is, the number of years in the future a benefit payment will be made. Pension obligations should be treated as a series of cash flows with each cash flow discounted using the duration-appropriate zero-coupon rate as the discount rate. Generally, higher interest rates should be used to discount benefit payments expected to be made further in the future, with lower interest rates applying for benefit payments made in the near term.

Bader and Gold (2001) suggest that discount rates should be chosen making reference to the creditworthiness of the plan sponsor. We disagree. Bader and Gold's approach would be appropriate in determining the expected present value of unfunded future benefit payments. Because unfunded benefits are effectively a loan from a pension plan to a sponsoring employer, the sponsor's credit rating would be used to determine the likelihood of repayment, i.e. the likelihood that the benefit payment would ultimately be funded. However, basing the credit standard for the discount rate on the credit worthiness of the plan sponsor leads to an illogical result. For example, under this approach two firms with identical pension obligations would have different measured liabilities if they had different credit ratings, when the promise they have made to their workers (to provide deferred compensation) is identical. In fact, the

[5] In this paper, we discuss some aspects of U.S. ERISA requirements, but do not attempt to provide a comprehensive overview. An excellent short summary is provided in the Treasury Blue Book, 2005.

measured liabilities (and therefore funding requirement) for the financially weaker company would be lower than for the financially healthy company.

Discount rates used for establishing funding requirements should be computed differently. In our view the economically sensible approach and therefore the approach that provides the most meaningful measure of liabilities is one that recognizes that once pension promises are made and backed by assets, there is a high probability that they will and should be kept. In developing our approach to pension liability discounting, we adopted high quality corporate bonds as the appropriate source of rates.

Under current law there are two relevant discount rates, one chosen by the actuary as part of the actuarial valuation and calculation of the minimum funding requirement and another determined by law which is used in the computation of current liability. Current liability is a measure that is defined as part of a backstop minimum funding rules put in place in 1987 to require poorly funded plans to improve their funding. Regardless of the minimum funding requirement computed by the actuary, if a plan's funding as measured by current liability falls below certain thresholds then deficit reduction contributions (in excess of the actuarially determined minimum funding requirement) are necessary.

The discount rate that is used as part of the actuarial valuation is based on the actuary's best estimate of anticipated investment experience in the plan. The interest rate must be the actuary's best estimate of the future earnings on plan assets. (Blue Book, 2005) This approach is at odds with standard financial practice. There is no reason why the rate of return on assets used to fund a debt should be used as the discount rate on debt. As Bader and Gold (2001) note, corporate debt is not discounted using the firms projected return on corporate assets, therefore it is inappropriate to discount pension liabilities at that rate. Moreover, the discount rate used as

part of the actuarial valuation is typically a single rate rather than a yield curve as would be necessary for accurate valuation of the liabilities.

The discount rate used in computing current liability is not an actuarial judgment, it is a standardized assumption set in law. In past law the discount rate has been based on a four year weighted average of the rate of interest on the 30-year Treasury bond. A current temporary law specifies that the interest rate used to determine current liability be based on the weighted average of the rate of interest on long-term corporate bonds. These standardized assumptions are inaccurate both because they do not use current market rates and because they do not reflect the timing of future cash flows.

These flaws in measurement of liabilities and the permitted smoothing of assets cause current law measures of assets and liabilities to be inaccurate and misleading. Two recent real world examples provide evidence of how misleading these inaccurate and smoothed values can be. In its last filing prior to termination, Bethlehem Steel reported that its pension plan was 84 percent funded on a current liability basis. At termination, however, the plan was only 45 percent funded on a termination basis -- with total underfunding of $4.3 billion. Similarly, in its last filing prior to termination, the US Airways pilots' plan was reported to be 94 percent funded on a current liability basis. At termination, however, it was only 33 percent funded on a termination basis. (Kandarian Testimony, September 15, 2003).

These two standards, using market values of assets and correctly and accurately measured pension liabilities, are incorporated into the Administration's defined benefit reform proposal. The proposal requires the use of current market values of assets. The plan also requires that the discounted value of pension liabilities be determined using a series of interest rates drawn from a yield curve for high-quality zero-coupon corporate bonds. In Section IV we discuss the

Administration proposal in more detail including other changes that improve the accuracy of pension liability valuation.

The third standard of financial practice-- the need for pension plan participants, regulators and investors to receive timely and accurate information about pension plan assets and liabilities -- is obvious. Our defined benefit pension reform proposal includes several improvements to plan disclosure and transparency.

2. Plan sponsors are not infinitely lived.

The second principle that underlies our reform proposal and, we argue, any effective pension regulatory regime is an explicit recognition that plan sponsors and therefore pension plans are not infinitely lived. This fact has important implications for the design of pension regulations, because it implies that failing firms will default on any existing obligations at the time of their failure. In particular, it suggests that, even abstracting from fairness issues, private pensions are ineffective intermediaries for intergenerational transfers. Pay-as-you go private pension systems guarantee future defaults. To the extent that pension funding rules allow for accrued liabilities to be unfunded, pension plans operate on a partial pay-as-you-go system.

Table 3.1 below shows the average cumulative default rate of corporate bond issuers as computed by Moody's Investor's Service (January 2005). This table indicates that, over time, even some of the highest rated companies experience significant financial difficulties and ultimately some of them default on obligations. For example, 2 percent of firms with the highest credit ratings at the beginning of the sample (1970) defaulted over a 20 year period. Looking at companies with a Moody's rating of Ba the table indicates that 10.72 percent have a default within 5 years and 37 percent have a default within 20 years. For firms in the Caa-C rating, nearly four-fifths of the firms, 78.53 percent, default within 20 years.

Average Cumulative Default Rate by Credit Rating, 1970-2004
Selected Data

Years	Moody's Credit Rating						
	Aaa	Aa	A	Baa	Ba	B	Caa-C
1	0.00	0.00	0.02	0.19	1.22	5.81	22.43
3	0.00	0.03	0.22	0.98	5.79	19.51	46.71
5	0.12	0.20	0.50	2.08	10.72	30.48	59.72
7	0.30	0.37	0.85	3.12	14.81	39.45	68.06
10	0.63	0.61	1.48	4.89	20.11	48.64	76.77
15	1.22	1.38	2.74	8.73	29.67	57.72	78.53
20	1.54	2.44	4.87	12.05	37.07	59.11	78.53

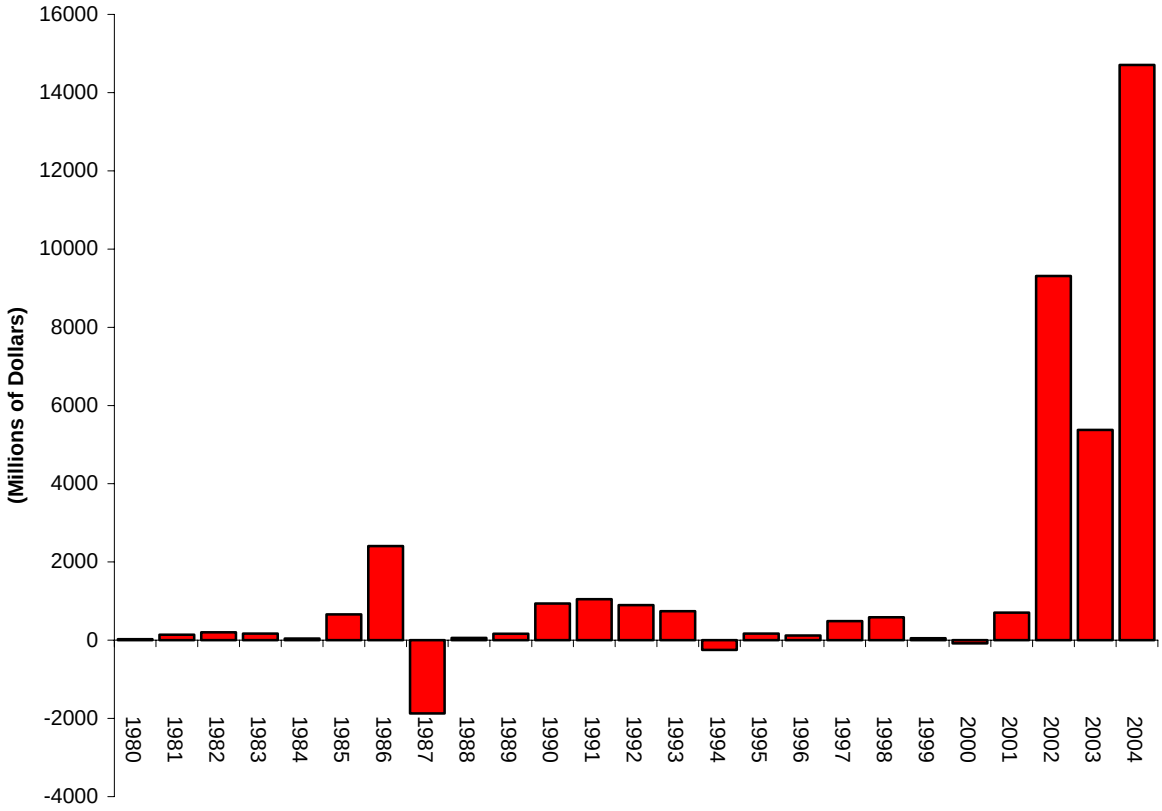
Source: Moody's Investor Services, Global Credit Research, Default and Recovery Rates of Corporate Bond Issuers, 1920-2004, January 2005.

In the U.S., defaults on pension sponsor commitments result in claims on the defined benefit pension guarantor, the Pension Benefit Guaranty Corporation (PBGC). PBGC was created as a federal corporation by ERISA in 1974 and protects the pensions of nearly 44 million workers and retirees in more than 32,000 private defined benefit pension plans. Figure 3.1 shows the time series of dollar claims on the PBGC, clear evidence that plan sponsors can and do default on pension obligations due to failing financial heath, bankruptcy and liquidation. The figure indicates that (in nominal terms) claims in 2002, 2003 or 2004 are, by far, the largest claims in PBGC's history.

During the penultimate economic downturn in the early 1990s, the pension insurance program absorbed large claims – $600 million for the Eastern Airlines plans and $800 million for the Pan American Airlines plans. More recently, the PBGC has taken in steel and airline plans that have had extremely large amounts of unfunded liabilities. Steel plan claims – resulting from plan sponsor defaults on obligations – have included $1.3 billion for National Steel, $1.9 billion for LTV Steel, and $3.9 billion for Bethlehem Steel. Airline claims have included a $600

million claim for the U.S. Airways pilots' plans in February 2003 and a $2.3 billion claim for the terminated U.S. Airways plans covering flight attendants, machinists, and other ground employees in January 2005.

Figure 3.1
PBGC Claims 1980 to 2004

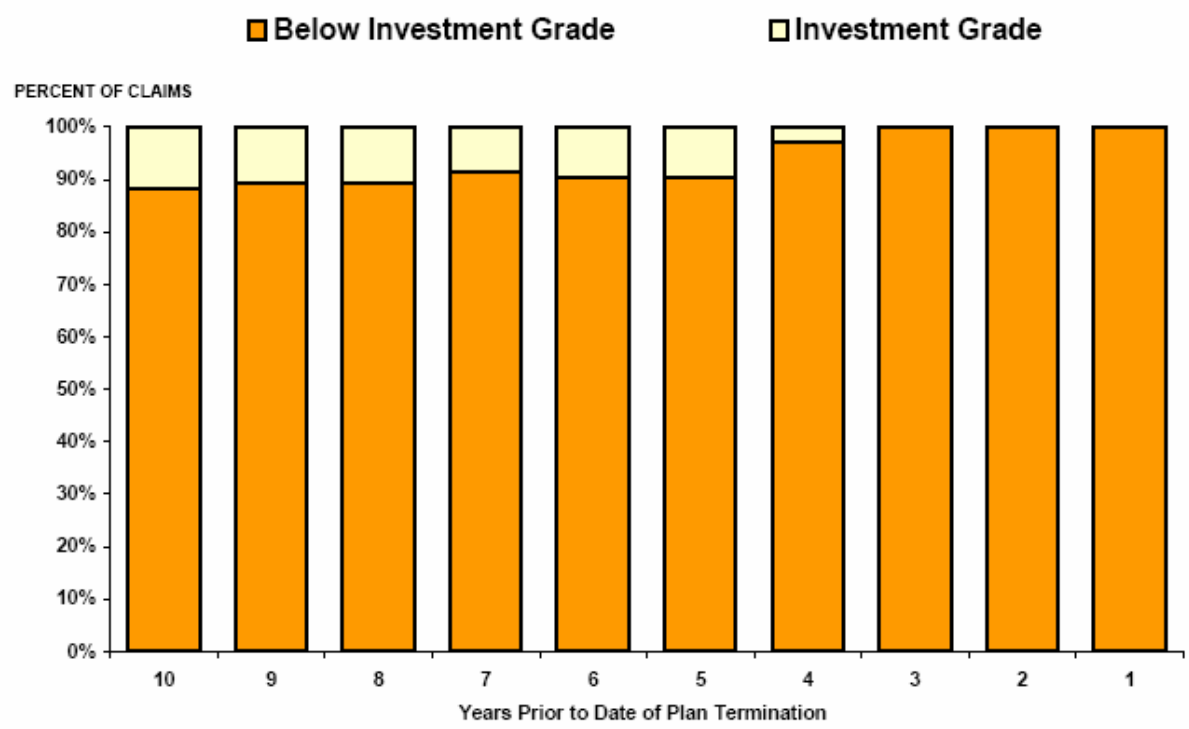


Source: Authors calculations based on data from PBGC Annual Reports

Figure 3.2 shows that firms generally have a below investment grade credit rating for several years prior to defaulting on pension obligations triggering a claim on the PBGC. This suggests that while defaults are certainly not easily predictable far in the future (many other plans with below investment grade credit ratings did not default), a low credit rating for a plan sponsor is a clear warning sign that any responsible regulator should take into account.

Figure 3.2

Debt Ratings for Sponsors in 27 Large PBGC Claims



Source:PBGC

The list of companies whose financial difficulties have resulted in defaults on pension obligations and, in claims against the PBGC, in enlightening. It includes many companies, who, in their day, were industry leaders and were undoubtedly considered excellent credit risks and companies with strong futures. The list of sponsoring firms that have defaulted on their pension obligations includes such former retailers Bradlees, Caldor, Grand Union, and Payless Cashways; steel makers including Bethlehem, LTV, National, Acme, Empire, Geneva, and RTI; other manufacturers such as Singer, Polaroid, Harvard Industries, and Durango; and airlines such as TWA, United Airlines, and US Airways. This list underscores the fact that the future is uncertain and almost any firm – regardless of how secure it appears to be today – may face

significant financial hardships that result in plan termination and pension obligation default due to either individual and secular circumstances.

In this sub-section we have used claims against the U.S. pension guarantor as a proxy for losses arising from the default on pension liabilities. In fact, even in the U.S. where some level of plan participant benefits are guaranteed, termination of underfunded pension plans can lead to worker benefit reductions. In many cases these benefit reductions have been significant. In pension systems without a pension guaranty system, plan participants bear all of the losses through benefit reductions. In either case, pension obligation defaults may put the taxpayers at greater risk of paying for broken pension promises. In a system with a guarantor, sufficient claims may ultimately lead to a bailout of the pension guarantor and in systems without a guarantor, participant benefit reductions may result in more participation in public welfare systems.

There are three primary applications of this principle to pension regulation:

(1) Regulations should set a goal for plans to maintain assets sufficient to fully fund benefits accrued by plan participants or pension plan liabilities, where assets and liabilities are measured accurately and meaningfully as described above. When plan assets fall short of plan liabilities, plan sponsors should be required to remedy that shortfall by funding up in a timely manner;

(2) Plans with sponsors in financial difficulty or potentially heading towards financial difficulty should be held to stricter standards that require funding to a target that includes both the accrued liabilities and other costs incurred when a plan is terminated; and

(3) Plans should be prohibited from incurring additional liabilities when they are significantly underfunded. Restrictions on the addition of new benefits limit liability growth as a plan becomes progressively underfunded relative to its funding target.

In the Administration's pension reform proposal (described in detail in the following section) each of these elements is applied in a meaningful manner. In addition to the requirements to mark assets to market and to use an accurate and meaningful method for discounting plan liabilities, we have proposed setting accrual-based funding targets based on these meaningful and timely measures. (Under current law, several different measurement methods and concepts are allowed and/or required.) The funding target for any plan reflects the financial health of the plan sponsor.

Current pension funding rules focus on prescribing annual contributions that sponsors must make to move gradually toward a long term funding target. This approach has resulted in plans being significantly underfunded for long periods of time. A regulatory regime that allows significant long-term underfunding does not, in our opinion, reflect the underlying principle of explicit recognition that pension plan sponsors and therefore pension plans are not infinitely lived. One need only look at recent examples from the steel and airline industries to recognize the basic unfairness and human cost resulting from not recognizing and incorporating this principle into pension regulation. Our proposal requires sponsors that fall below minimum funding targets to fund up towards their target in a timely manner and imposes benefit restrictions on significantly underfunded plans, especially those sponsored by companies in poor financial health.

3. Plan sponsors and participants are economic agents and therefore respond to incentives in predictable ways

The third principle critical to an effective pension regulatory regime is that plan sponsors and participants are economic agents and respond to incentives in predictable ways. In the

context of a pension regulatory regime, this takes the form of providing incentives for plans to make contributions sufficient to maintain adequate funding levels. We identify four important mechanisms that provide plan sponsors with adequate incentives to fund pension obligations. . These four mechanisms are: (1) funding rules that require plans to make-up funding shortfalls (relative to a meaningful funding target) in a timely manner; (2) benefit restrictions that limit liability growth as a plan becomes progressively underfunded relative to its funding target; (3) a meaningful system of premiums that reflects the risk that a plan imposes on the guaranty system (in systems that include a pension benefit guarantor or guaranty mechanism), and (4) tax incentives that encourage plans sponsors to contribute more than the minimum required contribution. The importance of these mechanisms is not simply to force plans to fund-up quickly, reduce the rate at which new obligations accrue, and to compensate the insurance fund for risk. Their importance is also that rational, forward looking managers will respond to these regulations by taking steps to ensure that plan assets are closely matched with plan obligations on an ongoing basis.

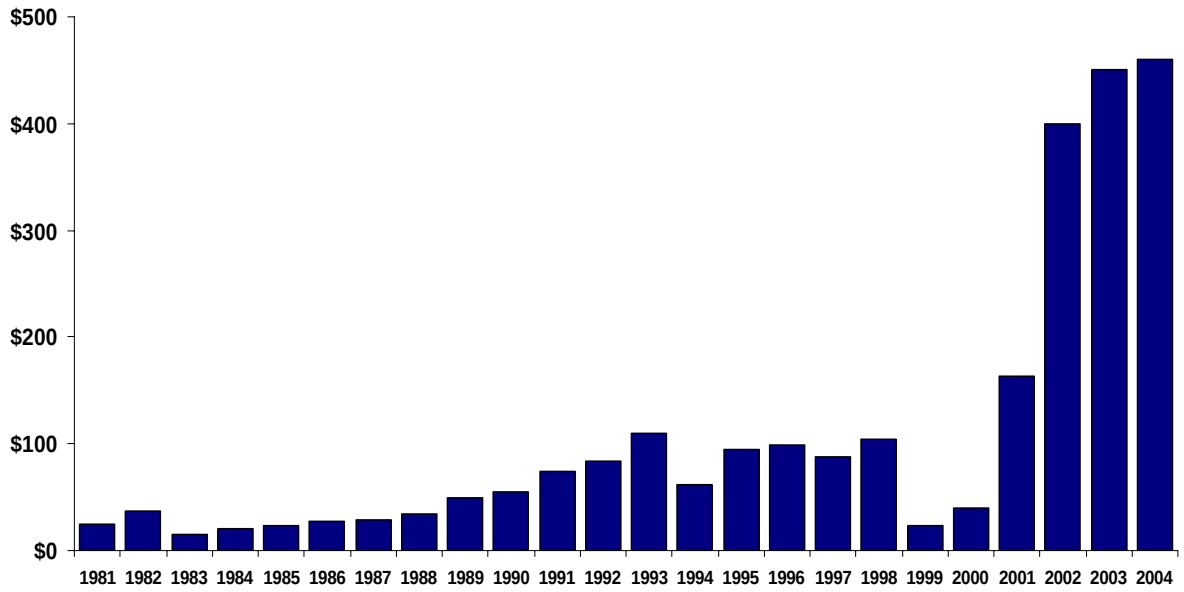
In the U.S., the current pension regulation regime has failed to ensure adequate plan funding, in part because the pension funding rules provide sponsors with inadequate incentives to adequately fund accrued liabilities. The interaction of these inadequate plan funding rules with a pension guaranty system that charges premiums that do not effectively reflect the risks underfunded plan sponsors pose to the insurance system, creates an incentive for financially weak plan sponsors to make generous pension promises rather than increase wages. Employees agree to this arrangement because the PBGC provides a guaranty of many of these pension benefits. Because the current insurance system is not properly designed it is subject to this type

of moral hazard and gaming. Figure 3.4 shows the result of a system with such weak and perverse funding incentives.

Figure 3.4

Underfunding of Underfunded Single Employer Pension Plans

Billions of Dollars



Note: 2004 data is estimated.
Source: PBGC

Under current U.S. law, plans are generally not required to make up funding shortfalls in a timely manner. Table 3.4 provides a summary of the required amortization of funding shortfalls under current law. Under the ERISA rules, the amortization period that applies depends on the source of the unfunded accrued liability; if unfunded accrued liability is attributable to an actuarial loss, the amortization period is 5 years, but if it is attributable to a plan amendment the amortization period is 30 years. If the plan is subject to the deficit reduction contribution (DRC) rules, the minimum required contribution for the year is based on a complex

formula that includes a contribution related to current underfunding that generally amortizes that shortfall over a period of 4 to 7 years. The DRC, however, has been ineffective in ensuring adequate plan funding because it is based on a liability measure that is inaccurate and plans do not become subject to the DRC sufficiently quickly when they become underfunded.[6] The lack of a consistent requirement to make-up funding shortfalls in a timely manner reduces the incentive to keep plans well funded.

Table 3.3
Current Law Amortization Periods

Type of Shortfall	Amortization Period
Standard ERISA Rules	
Plan Amendment	30 years
Actuarial Loss	5 years
Deficit Reduction Contribution	4 to 7 years

Benefit restrictions are critical because they limit liability growth as a plan becomes progressively underfunded relative to its funding target. It is important to arrest the growth of liabilities when plans are becoming dangerously underfunded in order to ensure that plan participants stand a reasonably high chance of collecting benefits that they accrue. Under current law, sponsors of underfunded plans can continue to provide for additional accruals and, in many situations even make benefit improvements. For this reason, companies have an incentive to

[6] The deficit reduction contribution applies only when the actuarial value of the plan's assets is less than 90 percent of current liability. In addition, the deficit reduction contribution rules do not apply if the actuarial value of the plan's assets is between 80 and 90 percent of current liability, provided that the plan's assets were at least 90 percent of current liability in 2 consecutive years out of the last 3 years. (Treasury Blue Book, 2005)

provide generous pension benefits, rather than increase current wages, and employees may go along because of the PBGC guaranty. If a company's plan is poorly funded, the company should be precluded from adopting further benefit increases unless it fully funds them, especially if it is in a weak financial position. As noted above, the Administration's proposal includes a set of benefit limitations that reflect both the plan sponsors financial health and degree of underfunding relative to their funding target.

Finally, when a pension regulatory system includes a pension benefit guarantor or guaranty mechanism, a meaningful system of premiums that reflects the risk that each plan imposes on the insurance system is critical. A premium structure that not does not accurately reflect a plan's true risk level encourages irresponsible behavior by both plan sponsors and plan participants. The absence of proper risk-based pricing creates a system subject to "moral hazard" because the guarantor bears the risks associated with negotiated agreements between employers and employees. In this situation, both the employer/plan sponsor and plan participants have an incentive to increase levels of unfunded accrued benefits up to the guaranty limit of the guarantor.

As discussed above, the U.S. system includes a guarantor, the PBGC. The current PBGC premium structure relies heavily on flat-rate rather than risk based premiums. The current PBGC premium structure does not effectively reflect the risk of plan termination. The current "variable" premiums reflect only a portion of the PBGC's "exposure" to each pension plan because the current exposure measure is a poor measure of the plan's underfunding. The weakness of the current premium structure is exacerbated by rules that exempt many underfunded plans from paying a variable premium in many situations. As a result a plan can be substantially underfunded and still pay no variable premiums. For example, despite substantial

underfunding, in 2003 [do we have this figure for 2004?] only about 10 percent of participants were in plans that paid *any* risk-based premium.

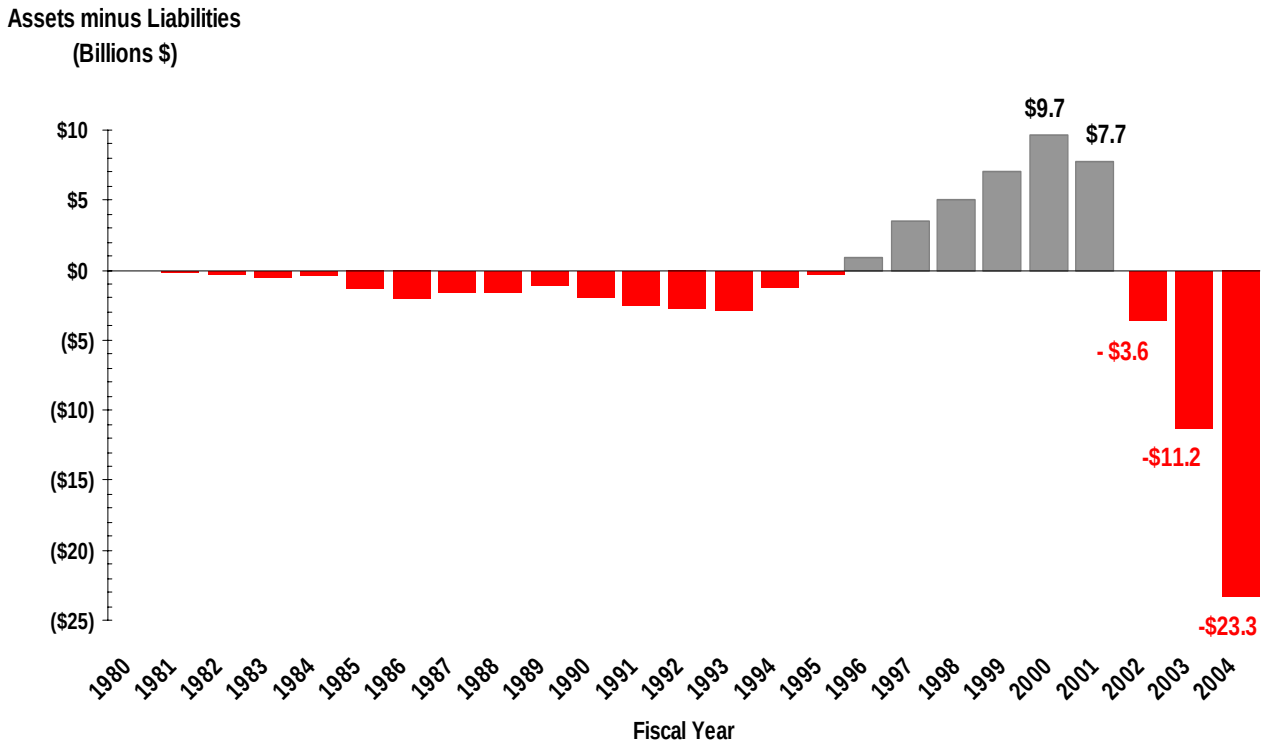
Under the Administration proposal, premiums will better reflect the risk a plan poses to the system. The risk-based premium will be based directly on the same meaningful measure of underfunding used for plan funding requirements and therefore also reflects the health of the plan sponsors. Therefore risk-based premiums will be charged to all plans with assets less than their funding target.

4. Government cannot provide a financial guaranty to protect one group from risk without exposing itself and taxpayers to risk.

The previous three sub-sections have discussed principles that, when appropriately implemented in a pension regulatory system, require that the amount of risk that plan sponsors are able to shift to the guarantor and the government is minimal. It is a universally accepted principle in financial economics that risks do not disappear simply by being shifted among parties. As the examples from current U.S. law discussed above demonstrate, this principle does not underlie the current U.S. pension regulatory system. The risk in this case relates to the possibility that due to investment losses or plan sponsor financial problems, the plan terminates with assets that are less than accrued pension obligations. When plans are allowed to be continually underfunded relative to meaningfully and accurately measured liabilities and when liabilities are not meaningfully or accurately measured, that has the effect of shifting risk to plan participants, in the U.S. case the pension guarantor and potentially taxpayers. The same issue applies to a guarantor with premiums that do not appropriately reflect risk. A pension regulatory system that allows plan sponsors to shift risk does not reduce the amount of risk, rather, simply

exposes other parties to that risk. Figure 3.4 shows the net position of the U.S. pension guarantor, the PBGC.

Figure 3.4
Net Position, U.S. Pension Benefit Guaranty Corporation



Source: PBGC

The PBGC's single-employer insurance fund posted record deficits at the end of both fiscal year 2003 and 2004. In 2004 the PBGC reported a deficit of over $23 billion. This large negative net position reflects PBGC's assumption (and likely future assumptions) of obligations of pension plans whose sponsors defaulted on their obligations.

Section IV – Case Study – Our Reform Proposal

The goal of the Administration's proposed defined benefit pension reform is to enhance retirement security. The reforms are designed to ensure that plans have sufficient funds to meet

accurately and meaningfully measured accrued obligations to participants. Our proposal is to fundamentally reform the rules governing pension plan funding, disclosure and PBGC premiums, based on the principles discussed in Section 3. These reforms will increase the likelihood that workers and retirees actually receive the benefits that they've earned and will reduce future insurance costs that will be borne by sound plan sponsors.

The Administration's proposal is designed both to simplify funding rules and to enhance pension plan participants' retirement security. The federal government has an interest in defining and enforcing minimum prudent funding levels, but many other funding, investment, and plan design decisions are best left to plan sponsors. Under this proposal, pension plans would be required to fund towards an economically meaningful funding target – a measure of the currently accrued pension obligations. Plans that fall below the minimum funding target would be required to fund-up to the target quickly. Plans that fall significantly below the minimum acceptable funding level would also be subject to benefit restrictions.

4.1 *Meaningful and Accurate Measures of Assets and Liabilities*

Principles 1, 2 and 3 discussed above, each suggest that a critical component of any pension regulatory regime is accurate measurement of plan assets and liabilities. Therefore, correctly and accurately measuring pension assets and liabilities is central to the Administration defined benefit reform plan. The proposal requires that all pension plan liabilities be measured on an accrual basis using consistent rules and standards.

Within the consistent rules, liability is measured using assumptions that are appropriate for a financially healthy (investment grade credit rated) plan, and alternatively using assumptions that are appropriate for a less healthy (non-investment grade) plan that is more likely to find itself in a position of default on pension obligations in the short to medium term (1 to 10 years).

The present value of accrued benefits calculated using assumptions appropriate for a healthy plan sponsor is termed On-going Liability, and accrued benefits calculated using assumptions appropriate for less healthy firms is termed At-Risk Liability.

Salary *projections* would not be used in determining the level of accrued benefits. Expected benefit payments would be discounted using a timely and accurate corporate bond spot yield curve. Retirement assumptions will be developed using reasonable methodologies, based on the plan's or other relevant recent historical experience. The plan requires the use of current market values of assets.

As noted above, the purpose of the at-risk assumptions is to estimate the liabilities that would accrue as a plan heads towards termination owing to deteriorating financial health of the plan sponsor. . There are assumptions that differentiate measurement of liability in an ongoing plan and a plan that appears to be approaching termination. The first is to recognize the acceleration in retirement rates that often occurs at failing or unhealthy firms (as participants retire to claim pension benefits prior to plan termination). The second is to recognize that, in the same situation, plan participant will typically elect a lump sum distribution if available. Third, the assumptions include appropriate annuity provider costs associated with terminating the plan. Table 3.2 provides an overview of the critical differences between the ongoing and at-risk liability assumptions.

Table 4.1

Assumptions Appropriate for Ongoing and At-Risk Liability

	Ongoing Liability	At-Risk Liability
Discount Rate	---------- Yield Curve ----------	
Mortality Assumptions	---------- Set by Law ----------	
Retirement Assumptions	Developed using relevant recent historical experience.	Acceleration in retirement rates – individuals retire at the earliest early retirement opportunity.
Lump Sum Payments	Developed using relevant recent historical experience.	Acceleration in lump-sum election. Alternate, if higher, liability calculated by assuming *every* eligible participant taking an immediate lump-sum.
Transaction Costs	Not included	Included. Calculated by formula.

Under our proposal, assets will be valued based on market values on the valuation date for determining minimum required and maximum allowable contributions. No smoothed actuarial values of assets will be used as they mask the true financial status of the pension plan.

An important aspect of our liability measurement approach is the use of the yield curve to discount pension plan liabilities. Accuracy requires that the discount rates used in calculating the present value of a plan's benefit obligations satisfy two criteria: the discount rates must reflect the timing of the future payments, and they should be based on current market-determined interest rates for similar obligations. The Administration proposes to replace the current law method with a schedule of rates drawn from a spot yield curve of high grade (AA) corporate

bonds averaged over 90 business days.[7] Discounting future benefit cash flows using the rates from the spot yield curve is the most accurate way to measure a plan's liability because, by matching the maturity of the discount rate with the timing of the obligation, it properly computes today's cost of meeting that obligation.

4.2 Accrued Liabilities Funded

In Section 3.2 we discussed the notion that plan sponsors are not infinitely lived and that one appropriate regulatory response to this fact was to ensure that pension plans fund to the level of accrued liabilities. Timely required funding of any shortfalls below a funding target based on accrued liabilities also creates an incentive for plans to maintain adequate funding as discussed in Section 3.3. The Administration proposal uses appropriately measured accrued liabilities as the plan funding target and requires plans to fund any shortfalls in a timely manner. As discussed above, current rules focus on prescribing annual contributions that sponsors must make to move gradually toward a long term funding target and this approach has resulted in plans being significantly underfunded for long periods of time. Also, as discussed above, reflecting the principle that plan sponsors are not infinitely lived, under the Administration proposal the funding targets will vary depending on the financial health of the plan sponsor. Plans sponsored by financially health (investment grade rated) firms will use 100 percent of Ongoing Liability as their funding target. Less healthy (non-investment grade rated) plan sponsors will use At-Risk Liability as the funding target, therefore, all else equal, less healthy plan sponsors will fund to higher targets.[8]

[7] For more information on the construction of the yield curve, see U.S. Department of Treasury, Office of Economic Policy White Paper, Creating a Corporate Bond Spot Yield Curve for Pension Discounting, February 7, 2005. http://www.treas.gov/offices/economic-policy/reports/pension_yieldcurve_020705.pdf

[8] The proposal includes a detailed description of the transition rules that govern the phase in of the higher funding target when a plan changes status from health to at-risk. See the Treasury Blue Book for more information.

Sponsors that fall below minimum funding levels would be required to fund up towards their target in a timely manner. If the market value of plan assets is less than the funding target for the year, the minimum required contribution for the year would be equal to the sum of the applicable normal cost for the year and the amortization payments for the shortfall. Amortization payments would be required in amounts that amortize the funding shortfall over a 7-year period. The initial amortization base is established as of the valuation date for the first plan year and is equal to the excess, if any, of the funding target over the market value of assets as of the valuation date. The shortfall is amortized in 7 annual level payments. For each subsequent plan year, if the shortfall increases, the amount of the increase is amortized over the following 7 years. If the sum of the market value of assets and the present value of future amortization payments exceeds the funding target, no new amortization base would be established for that year and the total amortization payments for the next year would be the same as in the prior year. When on a valuation date, the market value of the plan's assets equals or exceeds the funding target, then the amortization charges would cease and all existing amortization bases would be eliminated.[9]

4.3 Benefit Restrictions

If a company's plan is poorly funded, the company should be precluded from adopting further benefit increases unless it fully funds them, especially if it is in a weak financial position. Benefit restrictions reflect the notion that plans are not infinitely lived as discussed in Section 3.2 and create an incentive for plan sponsors to adequately fund their pension plans as discussed in section 3.3. As noted above, the Administration's proposal includes a set of benefit limitations

[9] This draws on the description in the Treasury Blue Book.

that reflect both the plan sponsors financial health and degree of underfunding relative to their funding target.

The proposed benefit restrictions will limit liability growth as a plan becomes progressively underfunded relative to its funding target. It is important to arrest the growth of liabilities when plans are becoming dangerously underfunded in order to ensure that plan participant will collect benefit that they accrue. Under current law, sponsors of underfunded plans can continue to provide for additional accruals and, in many situations even make benefit improvements. Plan sponsors in financial trouble have an incentive to provide generous pension benefits, rather than increase current wages, and employees may go along because of the PBGC guaranty. This increases the likely losses faced by participants and large claims to the PBGC. To guard against this type of moral hazard, if a company's plan is poorly funded, the growth in the plan's liabilities should be limited unless and until the company funds them, especially if the company is in a weak financial position.

Table 4.3 shows the relationship between the level of underfunding and plan sponsor financial health in determining appropriate benefit restrictions. As the table indicates, no non-bankrupt plan sponsors face benefit restrictions until they are 20 percentage points below their required funding target. Below 20 percentage points under the funding target, benefits become progressively more restricted as the plan becomes more underfunded. Benefits are more severely restricted for plan sponsors in poorer financial health, reflecting their higher likelihood of default.

Table 4.3
Proposed Benefit Restrictions

Percentage Points Below Required Funding Level (Target)	Bankrupt Sponsor	Non-Investment Grade Sponsor (At-Risk Liability Target)	Investment Grade Sponsor (Ongoing Liability Target)
0 to 19	No benefit increases No lump sums No accruals	No new restrictions	No new restrictions
20 to 39	No benefit increases No lump sums No accruals	No benefit increases No lump sums	No benefit increases
40 or worse	No benefit increases No lump sums No accruals	No benefit increases No lump sums No accruals	No benefit increases No lump sums

4.4 Plan sponsors able to fund plans during good times

Allowing plan sponsors both the opportunity and the incentive to maintain adequate plan funding is critically important. Many believe that the inability of plan sponsors to build sufficiently large funding surpluses during good financial times under current rules has contributed to the current underfunding in the pension system. The proposal addresses this problem directly by creating two funding cushions that, when added to the appropriate funding target, would determine the upper funding limit for tax deductible contributions. The proposal addresses this problem directly by creating two funding cushions that, when added to the appropriate funding target, would determine the upper funding limit for tax deductible contributions. Every plan will be allowed to fund to at least at-risk Liability. The first cushion is designed to allow firms to build a sufficient surplus so that plans do not become underfunded solely as a result of asset and liability values fluctuations that occur over a business cycle. Plan sponsors would also be able to build a second funding cushion that allows them to pre-fund for

salary or benefit increases. In addition, every plan will be allowed to fund to a level of funding corresponding to the total cost of closing out the plan (at-risk liability). Under our proposal, allowing plan sponsors the opportunity to prefund and therefore limit contribution volatility, is a critical element and reflects the importance of providing appropriate positive as well as negative incentives to induce desired behavior.

4.5 PBGC Premium Reform

Sections 3.3 and 3.4 discuss problems with the current structure of the pension guarantor's premium system. In brief, the current pension system does not provide sufficient revenues for PBGC to pay all future benefit obligations to participants of failed pension plans, it fails to provide incentives for plans to remain adequately funded, and it does not charge premiums that reflect the risk of a sponsor's default.

The Administration's premium reform is designed to address these problems The current flat-rate premium of $19 per participant would be updated immediately to reflect wage growth since 1991 and would be updated annually in future years using the Social Security Administration's Average Wage Index. Under ERISA, this index is used to increase the maximum benefit guaranty limit. Had this index been in effect for 2005, the flat-rate premium for 2005 would be $30 per participant.

Risk-based premiums would be charged to all plans with assets less than their funding target under the Administration's funding reform proposal. The premium rate per dollar of underfunding will be identical for all plans. The role of risk-based premiums is to provide PBGC with the revenue – above and beyond that derived from flat-rate premiums and investment income – necessary to meet expected future claims and to retire PBGC's deficit over a reasonable time period. In addition, risk-based premiums play an important role in providing

incentives for plans to maintain adequate funding levels. The premium rate per dollar of underfunding will be reviewed and revised periodically by the PBGC Board consistent with meeting these goals. Risk-based rate adjustments will be computed based on forecasts of the PBGC's expected claims and of its future financial condition.

4.6 Enhanced Disclosure

Under the Administration's reform proposal, all PBGC-covered, single-employer defined benefit plans would be required to disclose the plan's ongoing liability and at-risk liability to participants on an annual basis. In addition required annual disclosures would include a presentation of the funding status of the plan for each of the last three years. The funding status would be shown as a percentage based on the ratio of the plan's assets to its funding target. In addition, the disclosure would include information on the company's financial health and on the PBGC guaranty.

Conclusion

The Korean National Assembly has recent enacted into law a bill, The Employees Retirement Benefit Security Act of 2004, that creates for the first time a private pension system in Korea. The statute, to our reading, leaves open a number of important implementation issues to pension regulations. In our opinion this is an important opportunity to design a regulatory regime that draws on the experience of existing systems and that embodies the principles discussed in this paper. A system that follows these principles creates appropriate and adequate incentives for plans to fund pension promises adequately. The principles are:

- *Measure assets and liabilities using current market prices and interest rates*. Mis-measurement of asset and liabilities can mislead plan participants, regulators and

investors about the true state of the pension plan and can lead to plan underfunding relative to the real accrued benefits. Smoothing asset and liability values is therefore inappropriate. Experience tells us that when situations arise that require that liabilities be discharged both participants and sponsors are best served when assets and liabilities are measured accurately.

- *Require that pension plans fully fund accrued liabilities.* Requiring that accrued liabilities always be funded simply recognizes that many pension plan sponsors will ultimately fail. Institutionalizing underfunding in a pension system guarantees that such failures will be accompanied by pension defaults and losses to plan participants and the pension guarantor, if one exists. Lax funding rules should not be used to subsidize or encourage participation in defined benefit pension plans.
- *Use benefit restrictions to limit the growth liabilities in underfunded plans.*
- *Provide incentives and opportunity for plans to fund above minimum required levels.*
- *If pensions are guaranteed, insurance premiums should reflect default risk.* As described, a pension guarantor that does not appropriately price the guaranty it provides, is subject to moral hazard.

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