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**The Role for Self-regulation and Voluntary Compliance Incentives  
in the Design of Pension Systems  
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## **The Role for Self-Regulation and Voluntary Compliance Incentives in the Design of Pension Systems**

Being in Moscow, a city whose origins date to Neolithic times, it is easy to appreciate how recent is the development of pension plans. Although pension-type funds were established in some mining communities in Europe as early as the Middle Ages, it was not until 1889 that the first national public pension plan was established by Germany. Many other countries quickly followed in establishing their own programs, with the United States being a relative latecomer. The U.S. Social Security program was not enacted until 1935. In fact, some U.S. companies established private pension plans well before Social Security.

My aim is to provide a broad overview of self-regulation and compliance incentives in the context of U.S. experience. What we mean by self-regulation and compliance incentives is that the government establishes financial rewards and penalties, and requires release of information, that encourage private firms to act in ways that serve the interests of pension plan participants. Serving their interests simultaneously serves the public interest in a system that provides secure pensions for all citizens.

As an example of an appropriate incentive, the tax law might provide for reduced taxes on company income if the company provides pension benefits that are available for all employees. The tax benefits would not be available for a company that provides pensions only for senior officials. Information requirements can also be extremely important. Companies may be required to publish audited financial reports on their pension plan assets. With such information, for example, workers may be less willing to accept employment with a firm that maintains a financially weak pension plan, for fear that pension benefits would not be available as promised. Just as maintaining good wages and an attractive work environment helps firms to

attract high-quality workers, so also does maintaining a strong pension plan, provided that workers have the information necessary to distinguish strong from weak pension plans.

The fundamental advantage of relying on incentives is that companies are motivated by profits and risk of loss to make sound business decisions. Company managers have, or should have, the information necessary to pursue efficient strategies, for which they will be rewarded. Regulatory oversight should focus on compliance with the tax law, for example, and not substitute the regulators' business judgment for the judgment of firm managers. Otherwise, two parties—manager and regulator—are both making the decisions. At best, two people are doing the work of one; at worst, the lack of clarity about who is in charge and who is responsible for results damages the quality of the decisions made and the firm is simply less productive than it otherwise would be.

As an application of this principle, Federal Reserve bank regulators do not try to substitute their judgment for bank management's judgment, but instead focus on the quality of a bank's internal information systems and risk-management practices. Bank examiners do look for evidence of accounting irregularities and fraud, but more importantly require that banks themselves maintain strong internal systems that make fraud difficult or impossible. Thus regulators concentrate on what they do best, and leave bank management to make business decisions day by day.

U.S. experience with Social Security, with private plans and with the regulation of private plans is relevant to developing an understanding of incentives and compliance issues in the pension context. I believe that the economic principles involved have broad applicability; nevertheless, exactly how they apply to other countries will depend on numerous matters of

historical experience, characteristics of financial markets and knowledge of participants. I hope that my observations on U.S. experience provide some insights relevant in the Russian context.

Let me reflect for a moment on my general approach to public policy issues such as the design and regulation of the U.S. pension system. I try to think about actual experience in the context of economic theory to provide appropriate analytical structure. Economists can learn from experience the way engineers in the 19<sup>th</sup> century learned from the collapses of railroad bridges, which were all too frequent, or the explosion of boilers as steamships replaced sailing ships. Engineers understand the importance of determining the sources of accidents, and routinely study such events. Similarly, careful study of economic problems can help make the economy safer and the market system more efficient.

Before proceeding, I want to emphasize that the views I express here are mine and do not necessarily reflect official positions of the Federal Reserve System. I thank my colleagues at the Federal Reserve Bank of St. Louis for their comments. Patricia S. Pollard, Research Officer in the Research Division, provided special assistance. However, I retain full responsibility for errors.

### **Basic Features of Defined-Benefit and Defined-Contribution Pension Plans in the United States**

Earlier sessions in this conference have focused on basic characteristics of pension plans and on investment policy issues. Nevertheless, I'll review these topics also in the interest of an orderly presentation of my topic.

There are two basic types of pension plans—defined-benefit and defined-contribution. Defined-benefit plans—whether public, like Social Security, or private—promise pension benefits based on a predetermined formula. Benefits typically are based on length of service and

salary in the final years of service. Most private defined-benefit plans are payable as an annuity. A worker receives a monthly retirement benefit no matter how long he or she lives.

Defined-contribution plans make no promises regarding future pension benefits. Rather, this type of plan specifies the annual contribution to a retirement savings plan; the contribution is typically a percentage of the worker's salary and is often matched to some degree by an employer contribution. The actual amount available to the worker upon retirement depends upon the accumulated contributions plus the investment return. Examples of defined-contribution plans include employee stock ownership plans, profit-sharing plans and 401(k) plans. The latter are the most common and may incorporate aspects of the other two plans.

Another surface distinction between private defined-benefit and defined-contribution plans is that workers generally do not contribute a portion of their salary to the former plans. Nevertheless, pensions are obviously valuable and the right way to think about these promised benefits is that they are a form of worker pay like salary, except that payment is delayed. In contrast, with a 401(k) plan the employee contributes out of current salary and the employer's contribution is tied to the participation of the employee. Both types of plans are heavily regulated and their characteristics are significantly affected by income-tax laws.

### **Historical Sketch of Defined-Benefit Plans**

Although the focus of my remarks is on private pension plans, I begin with the Social Security System, given that Social Security remains the main source of income for most U.S. retirees. Ninety percent of those 65 and over receive Social Security benefits and for 65 percent of these individuals Social Security accounts for 50 percent or more of their income. Yet, Social Security, like most public pension programs, is under stress. According to the 2003 report by the

Board of Trustees of the Social Security System, beginning in 2018—a mere 15 years from now—tax receipts will be insufficient to cover benefit payments. At some point, the United States will most likely have to raise taxes and/or reduce benefits to maintain the viability of the Social Security System.

Two main factors are responsible for the long-term insolvency of public pension systems—demographics and increases in the generosity of the systems. Two ongoing demographic trends are key. First, people are living longer. In 1940, life expectancy in the United States was 61 years for men and 66 years for women. Thus, a boy born in 1940 was not even expected to be alive by the time he was eligible to collect Social Security. Those men who turned 65 in 1940 were expected to collect Social Security for 12 years while their female counterparts were expected to average 13 years of benefit payments.

The change in life expectancy between 1940 and today is striking. The typical 65-year old in the United States today is expected to collect Social Security benefits for 16 years if a man and 19 years if a woman. The trend toward longer lifespan is likely to continue. A child born today in the United States is expected to live well past retirement age. Under current Social Security law, even taking into account the scheduled increase in the normal retirement age to 67, upon retirement this child is likely to collect benefits for 18 years if male and 21 years if female.

The second key demographic fact is that people are having fewer children. The baby boom that occurred following World War II resulted in a sharp rise in the average number of children, peaking in the United States at 3.7. The fertility rate currently hovers close to the replacement level of 2.1 and is not expected to rise.

These two developments are responsible for a decline in the number of contributors to the Social Security System relative to the number of beneficiaries. In 1955, there were almost 9

workers for each beneficiary. Today there are slightly more than 3 workers for each beneficiary. Experts estimate that by 2030 there will be two contributors for every beneficiary.

These demographic trends make financing the public pension system more difficult. This difficulty is compounded by changes that increased the generosity of benefits. The early post-war era was a period of rapid economic growth. During this time, the goal of most public pension systems shifted from keeping retirees out of poverty to allowing them to maintain their pre-retirement standard of living. Congress increased benefits without corresponding increases in tax rates. As a result, by the late 1970s Social Security receipts were insufficient to cover benefit payments and a small trust fund that had accumulated was in danger of being depleted. Faced with the revenue shortfall and well aware of the changing demographics, the U.S. government took steps in the 1980s to increase Social Security revenues and to gradually raise the retirement age from 65 to 67. A fundamental change was the decision to increase payroll tax rates sufficiently to accumulate a trust fund to fund the retirement of the baby boom generation. Although this trust fund will provide a cushion to the system once revenues drop below benefit payments in 2018, it is not a long-term solution. Given current contribution and benefit levels and the best estimates of demographic trends and labor productivity, the Social Security Trust Fund will be exhausted before mid-century.

Private defined-benefit plans preceded the Social Security System. The American Express Company established the first private pension plan in the United States in 1875. It was the railroads, however, that developed the standard model for private pension plans. In 1900, the Pennsylvania Railroad created a noncontributory, defined-benefit plan that provided a pension to all workers upon reaching age 70. The pension was based on length of service and average wage

in the last 10 years of service. Of course, only a relatively small percentage of workers in 1900 lived to age 70.

Until relatively recently, defined-benefit plans were the main employer-sponsored retirement benefit plan. Defined-benefit plans require no action on the part of the employee and the employer assumes all the investment risk. The pension is a guaranteed amount, providing the employer remains solvent.

In practice, however, the guarantee was incomplete, as many employees so sadly learned after it was too late for them to protect their retirement income. Before extensive reforms in 1974, employers were completely free to determine when a worker's rights to a pension were vested. By "vesting" we mean that the employee gains legal rights to pension assets and can upon retirement receive a pension in an appropriate amount given the employee's salary and years of service. In 1965, for instance, 40 percent of the workers in pension plans were in plans that awarded vesting only at the normal retirement age. An older employee who lost his job just before normal retirement age would be left with absolutely nothing. Such a person was unlikely to be able to work long enough with another firm to qualify under that firm's pension plan. Moreover, pension plans were often inadequately funded and could be terminated at the firm's discretion without requiring compensation to the covered workers.

A noted example arose in 1963. Studebaker Corporation, which at the time was the oldest major automobile producer in the United States, closed its last domestic manufacturing plant and terminated its pension plan. The plan was heavily underfunded so that after covering benefits for existing retirees, few assets remained. Nearly 4,000 workers between the ages of 40 and 59 received only 15 percent of the accumulated value of their pensions. Younger workers received nothing as they were yet to be vested.

One of the lessons of this experience is that workers may not have the knowledge and information necessary to determine whether their company's pension promises are likely to be kept. In principle, fully informed workers should demand that pension plans be properly funded and managed so that the pension assets will be secure even if the company suffers extreme financial reverses leading to bankruptcy. A company pension, after all, is a form of deferred compensation that a worker has as much right to expect to receive as his or her paycheck at the end of the month. In practice, U.S. experience suggests that workers often do not properly monitor their firms' financial management to ensure the safety of pensions.

The termination of the Studebaker pension plan led to calls for legislative reform and oversight of private defined-benefit plans in the United States. This effort culminated with the 1974 enactment of the Employee Retirement Income Security Act, commonly known as ERISA. ERISA and subsequent amendments to the act set minimum standards for private pension plans with respect to participation, vesting, funding, reporting and disclosure of financial information. ERISA limits a firm's ability to exclude workers from pension coverage and established maximum work requirements for vesting rights. Under current rules, full vesting must occur within 5 to 7 years of an employee's entrance into the plan. A company cannot avoid paying a pension simply by firing a worker shortly before retirement.

### **Major Issues with Private Defined-Benefit Plans**

Many private defined-benefit plans are experiencing considerable stress today. The same demographic facts that have created deep problems for the Social Security System are stressing many private companies. A number of older companies have declining employment, both because of the changing demographics of the U.S. labor force and because they are in industries

that are shrinking for a variety of reasons. These companies have, or soon will have, a large number of retired workers relative to the number of active employees. It is difficult for these firms to earn large enough profits to finance their pension obligations.

A pension plan is considered adequately funded if its assets are sufficient to meet the present value of its liabilities. Conditions in financial markets in the past few years have resulted in declines in the assets of many pension plans. At the same time, declining interest rates raised the present value of pension liabilities. The investment policies of many pension funds were not adequate to withstand the large stock market decline that started in 2000.

The present value of a plan's liabilities depends on the age structure of participants as well as the number of years a participant is expected to collect benefits. Prior to 1995, pension plans could make their own assumptions about mortality to determine the expected duration of benefits. Although many firms relied on standard mortality tables, other firms assumed that the life expectancy of their workers and retirees was below average. Such an assumption lowered the calculated present value of the liabilities of the plan, which could make it appear to be fully funded.

Allowing firms to make their own mortality assumptions was a gigantic regulatory loophole; I find it amazing that the loophole was not closed until 1995. Firms are currently required to use mortality tables prescribed by the Secretary of the Treasury. The calculation of expected future pension liabilities is a very similar problem to that faced by life insurance companies, which must also calculate their expected future cash outflows based on the life expectancy of policyholders and the terms of life-insurance contracts.

The future stream of expected pension outlays can be expressed as a single present-value amount by discounting the stream by the appropriate interest rate. The choice of the interest rate

can make a huge difference. Some countries require a fixed discount rate be used, but the United States does not. Congress had mandated that the 30-year Treasury bond rate be used. The government's decision in 2001 to no longer issue 30-year bonds eliminated the usefulness of this measure. As a temporary substitute, firms have been allowed to use a corporate bond yield.

Although there has been much controversy over the choice of interest rate in recent years, the larger problem is that most pension plans have not invested in assets of similar character to the liabilities. The comparison with practice by life insurance companies is instructive. Life insurance companies have concentrated their investments in fixed dollar assets maturing on a similar schedule to the expected future cash outlays as policyholders die. This practice of matching the durations of assets and liabilities is a standard feature of bank portfolio management as well as of life insurance companies. Pension funds, on the other hand, have traditionally invested a large fraction of their assets in common stock, even though their pension liabilities are defined in dollar amounts that can be determined quite accurately in actuarial terms.

In the same way that U.S. regulation of life insurance companies developed in the late 19<sup>th</sup> century, regulation of investment practices of pension funds could evolve to reduce the risk that the funds will fail. In the meantime, we rely heavily on pension insurance through ERISA, which established mandatory insurance for defined-benefit plans run by private firms. The Pension Benefit Guaranty Corporation (PBGC), a U.S. Government agency, operates this program.

However, the pension insurance system has a number of defects that require correction. With any type of insurance arrangement, the possibility of moral hazard arises. In the insurance context, moral hazard is reflected in changed behavior, such as when an owner of a car neglects

to lock it knowing that the insurance company will replace the car should it be stolen. It appears that some U.S. companies have permitted their pension fund assets to fall below pension liabilities knowing that the pension funds are insured by the PBGC.

Although moral hazard cannot be entirely eliminated, there are standard practices adopted by insurers to reduce its severity. Two key methods are through the use of partial insurance and risk-related premiums. The PBGC incorporates the first principle through statutory limits on the maximum pension guarantee. This feature of the system ensures a minimum pension in the event a plan is terminated, but retirees whose pensions exceed the guarantee and workers whose expected pensions exceed the guarantee have an incentive to monitor the financial condition of the pension plan.

Many and perhaps most employees do not understand how partial the federal insurance through PBGC is, and accordingly their monitoring is incomplete. It might be possible to make this incentive work better, perhaps by requiring companies to send annual statements to their employees reporting the financial state of their defined-benefit plans and the size of the guaranteed pension the employee would receive in the event the company fails. Currently, only underfunded plans must provide this type of information to plan participants.

Workers and retirees, however, no matter how well informed are at a disadvantage in enforcing their pension rights. Usual competitive forces permit workers to move to other jobs if they are dissatisfied with current pay and working conditions, but that constraint is obviously ineffective for a worker or retiree with vested pension rights. Plan participants can seek redress through the court system, but they may not have the financial resources to battle companies in the courts. This argument suggests an important role for government in monitoring pension plans and enforcing pension regulations.

The second method of controlling moral hazard is the application of risk-based insurance premiums. Unfortunately, in its early years the PBGC did not employ risk-based premiums. Every firm paid the same premium, initially a mere \$1 per participant per year for a single-employer plan. The premium was too low and the flat premium structure, with premiums unrelated to risk, provided little incentive for firms to properly fund their plans. Indeed, for the first 14 years of PBGC's existence, a firm could voluntarily terminate an underfunded plan. Terminations, in combination with the low premium, led to a series of deficits in the system. The PBGC had no authority to raise premiums despite the deficits but had to request congressional approval to do so. Even with Congress twice raising the premiums, in 1978 and 1986, the deficits continued. The problem, clearly, was less with the management of PBGC than with the underlying law determined by Congress.

Finally, in 1988, Congress instituted a variable-rate premium that applied to underfunded plans. But still the deficits continued. Why? Part of the problem was that the variable-rate premium was capped at a level that was too low to provide a significant incentive for firms to strengthen the most underfunded plans. That is, it was simply cheaper for firms to pay the small extra insurance premium than to add funds to the underfunded plans.

According to the PBGC, the plans that paid the maximum premium accounted for 80 percent of the underfunding yet provided only 25 percent of the total revenue from premiums. Subsequent legislation, in 1994, phased out the cap on premiums.

Currently, any firm offering a defined-benefit pension plan pays an insurance premium of \$19 per year for each plan participant. For firms whose pension assets are less than 90 percent of the present value of pension liabilities, an additional premium is assessed. This premium is nine cents for each \$1,000 (or fraction thereof) of underfunding. Because the extra premium is well

below the rate of interest, firms have no incentive to borrow funds to add to weak plans; the incentive afforded by the extra premium is for all practical purposes worthless.

The premium penalty is combined with mandatory contributions which in principle could take care of the problem. Firms with plans that are less than 90 percent funded are required to make minimum contributions to the plan to reduce the funding deficiency within 3-5 years. There are, however, many exceptions to this rule that have the effect of permitting continuing underfunding for many firms. For example, if a plan is at least 80 percent funded this year and was more than 90 percent funded in the past two years the mandatory contributions do not apply.

Legislative changes have also made it no longer possible for a firm to voluntarily terminate an underfunded plan. Now a plan can only be terminated if the firm meets the financial duress criteria established by the PBGC. Even though financial duress criteria make it more difficult to terminate a plan, it is still true that firms that meet this test are able to terminate their plans, leaving their employees with greatly reduced pensions.

This restriction on terminations and the new premium structure, combined with the strong U.S. economy in the 1990s, resulted in a series of surpluses for the PBGC for a few years after 1995. Nevertheless, the fundamentals of the system were not sound. In 2002, as a result of several large plan terminations, the PBGC recorded the largest deficit in its history. Concern about the health of the PBGC is also related to the recent sharp rise in the number of underfunded pension plans and the extent of the underfunding. In 2002, underfunding of single-employer pension plans reached \$300 billion. This past July the U.S. General Accounting Office designated the PBGC as a “high risk” program in need of careful monitoring.

The idea behind financial duress criteria and other exceptions that permit underfunding is that forcing a company to fully fund its pension plan might lead it to drop the plan, or even force

the company into bankruptcy. The idea is quite similar to “regulatory forbearance” by banking regulators in the 1980s. The hope then was that weak banks and savings institutions might be able to build capital over time and recover their strength. In practice, what happened is that many of these financial firms took undue risks and eventually failed anyway. The cost to the U.S. taxpayer of resolving failed savings institutions was in the neighborhood of \$150 billion; the amount was much higher than it would have been had action been taken sooner. That expensive lesson led to new legislation and more disciplined regulatory practices that substantially strengthened capital in banking institutions.

The underfunding coupled with the need to find a replacement for the Treasury bond rate has led to calls for changes to the way liabilities are calculated. There is a multitude of proposals. To ensure the long-run viability of the private defined-benefit pension system we need to focus on measures that will increase the level of funding for these plans rather than papering over the problems with the hope that money will be there when younger workers reach retirement age.

We need to provide proper incentives for firms to fund their plans. One possibility is through proposals that would limit the ability of underfunded firms to increase the generosity of the pension plans. Such a provision would be similar to the standard provision in bond contracts that prohibits a company from paying dividends to shareholders if capital falls below a certain level.

Some have suggested that the solution to the PBGC’s deficit is to raise insurance premiums. The base-rate premium has not been increased since 1991. Pushing up premiums, however, increases the cost of running a defined-benefit plan relative to a defined-contribution plan. It is essential that premiums be risk-based. If the base premium is too high, what appears

to be an insurance premium becomes, in effect, a tax on financially healthy firms to support weak firms. An excessive premium may lead a firm to terminate a well-funded plan leaving a higher proportion of underfunded plans and thus raising rather than reducing the risk of future deficits to the PBGC. For this reason, the long-run viability of the pension insurance system requires that insurance premiums reflect actual risk as closely as possible.

U.S. experience with bank regulation and deposit insurance is instructive. One lesson we have learned from banking crises is that financially weak firms have a greater incentive to engage in risky behavior than other firms, particularly if there is no additional insurance cost to the firm. This understanding led to changes in the way premiums are applied for deposit insurance. Currently, premiums for deposit insurance are based on two factors: the capital adequacy of the bank and the risk characteristics of the bank. There are three categories of capital adequacy: 1) well capitalized; 2) adequately capitalized; and 3) under-capitalized. Likewise, there are three categories of risk: 1) financially sound; 2) exhibiting weakness that if uncorrected would increase the probability of a loss to the deposit insurance fund; and 3) a substantial probability of a loss to the fund. Banks that are well capitalized and financially sound pay no deposit-insurance premium. As capitalization and/or risk rises, the deposit insurance premium rises.

Such a system could be applied to pension insurance. For firms that fully fund their pension plans and follow conservative investment policies matching asset and liability durations, this system would provide rewards in the form of low or no premiums. The more underfunded the pension plan, the less conservative the investment policies and the weaker the financial condition of the firm sponsoring the pension plan, the higher would be the premiums assessed by the PBGC. Current practice tends toward regulatory forbearance for financially weak firms,

whereas the appropriate approach is to charge higher premiums for such firms. Weaker firms are more likely to terminate a plan because of financial distress. For example, according to the PBGC, nearly 90 percent of companies whose plan terminations resulted in large claims on the system had junk-bond credit ratings for 10 years prior to the termination. In short, the PBGC should use the premium structure to encourage companies to follow sound practices.

Although the PBGC is a government agency, it receives no tax revenues. Instead, it is self-financed, relying on premiums and asset returns to operate. However, it is probably safer to say that the PBGC has not *yet* received taxpayer support. If the PBGC could not meet its obligations, a typical assumption is that the U.S. taxpayer would provide support, as was the case with the failure of the Federal Savings and Loan Insurance Corporation. The burden of bailing out the PBGC could hit at the same time as taxpayers are asked to meet shortfalls in the Social Security system.

As a final item in my discussion of problems with defined-benefit plans, it is important to recognize that there is a complicated interaction between plan funding and the corporate tax law. For example, permitting firms to deduct excessive plan contributions before calculating corporate income subject to tax would permit firms to escape tax, while preventing adequate deductions would lead to underfunding of pension plans. This important subject of interaction of pension regulation and the tax system goes beyond the scope of this lecture, but must not be neglected.

### **Historical Sketch and Major Issues with Defined-Contribution Plans**

My concerns do not imply that I would support the phase-out of defined-benefit plans in favor of defined-contribution plans. Defined-contribution plans have become increasingly

prevalent but there is an advantage to retaining both types of plans because their risk characteristics are different. With defined-benefit plans, companies bear the investment risks. With defined-contribution plans, all investment risks lie with employees. A mix of the two types of plans spreads the investment risks across all parties.

In 1978, 84 percent of workers covered by an employer-sponsored pension were in defined-benefit plans. In that same year the Revenue Act added section 401(k) to the Internal Revenue Code. This change allowed workers to contribute a portion of their salaries, tax-free, to an employer sponsored retirement savings plan. These 401(k) plans have transformed retirement savings in the United States. By 1998, only 14 percent of workers with pension coverage were in defined-benefit plans exclusively. In contrast, 56 percent were in defined-contribution plans exclusively and 30 percent participated in both types of plans.

There are various reasons for the spread of defined-contribution plans. For workers, these plans generally provide greater control over retirement savings including a range of investment options and are more portable than defined-benefit plans. It is relatively simple for a worker to switch employers without losing any benefits. For employers, defined-contribution plans provide greater cost predictability than defined-benefit plans and are less costly to operate.

Nonetheless, defined-contribution plans are not without their weaknesses relative to defined-benefit plans. With defined-contribution plans, the individual assumes all of the investment risk. It is possible for an individual to deplete the funds in his or her account prior to retirement through withdrawals or loans against the account or gross mismanagement of the funds. Many workers also fail to annuitize their accounts upon retirement leaving them open to the risk of outliving their resources. If the government too readily protects individuals who deplete their retirement funds, then knowledge of the policy creates moral hazard that probably

increases the likelihood of depletion. The cost to the taxpayers of such a policy could also be considerable.

Some of these concerns can be overcome through increasing the financial education of workers. But education alone will not be successful if the incentives are wrong. Some well-informed individuals will simply exploit poorly designed features of whatever plan is in place.

Overall, there is no one best form of a pension plan. A combination of defined-benefit plans (whether they be public or private) and defined-contribution plans should be encouraged because the different risk characteristics of the two types of plans make them natural complements rather than substitutes. However, an issue I have time to mention but not discuss is that administrative simplicity is an important goal. It is surely better to have a single well-designed plan than two poorly designed plans.

### **A Regulatory Framework for Getting the Incentives Right**

Governments will be involved for many years, and perhaps indefinitely, in regulating private pension plans. Taxpayers are ultimately responsible for shortfalls in retirement savings, either through supporting guarantees of pension plans or through financing public assistance provided to retirees who lack sufficient resources. Regulation must ensure that minimum funding levels are met and that prudent investment rules are followed. That said, it is important for regulation to strive to be as simple as possible, both to reduce the cost of compliance to businesses and to make it easy for workers and retirees to monitor the behavior of the firms. And, of course, government also has an obligation to taxpayers. Obligations to retirees, future retirees and taxpayers can be met if the pension system is efficiently designed. Incentives to

encourage private behavior that is in the public interest are an essential feature of efficient design.

There are several dimensions to a set of efficient incentives. One important consideration, certainly, is that we want to discourage rather than encourage risky behavior. In the United States, premiums for pension insurance that inadequately reflect risk give firms with underfunded plans an incentive to adopt riskier behavior. In addition, the ability of firms to voluntarily terminate their underfunded plans also increased this behavior. Changes have been made to address some of these problems but it may be time to restructure premiums to better reflect credit risk.

Regulation should not, however, be so risk-focused that it prevents firms and individuals from undertaking any risk. Let me give an example clarifying this point. The decline in the stock market in the past few years has reduced the assets of many individuals with 401(k) accounts. One way to eliminate this investment risk is to require all 401(k) assets to be invested in U.S. government securities. Such a regulation would reduce the investment risk associated with these accounts but it would also reduce their expected return. Furthermore, such a policy would raise warning signs regarding the government's objectives. Having captive holders of government bonds makes it easier for the government to neglect its own financial health by running large budget deficits.

U.S. banking regulation provides some guidance. Regulators insist that banks monitor and control risk rather than eliminate it. Banks with higher capital can take more risk because they have a cushion to shield depositors and the deposit insurance fund against losses.

In the United States, three legal rules govern the activities of pension plan administrators, who have the legal status of fiduciaries. A fiduciary has the responsibility of acting in the

interest of beneficiaries, and not his own interest. The three rules are the exclusive purpose rule, the prudent man rule and the diversification rule. The first obligates fiduciaries to act in the best interests of the plan's participants and beneficiaries—not the best interests of the firm sponsoring the plan. The second rule requires the fiduciary to act with the same care, skill, prudence and diligence that a prudent person would take. The third rule requires the fiduciary to diversify the plan's investments by type, geographic area, maturity and industrial classification to minimize the risk of losses.

Neither the prudent man rule nor the diversification rule set quantitative limitations on portfolio holdings. Indeed, the only quantitative restriction on defined-benefit plans in the United States is that they cannot invest more than 10 percent of the plan's assets in the firm's own securities and real property. This limitation reduces the risk that a sharp drop in the plan's assets will occur if the firm encounters financial difficulties.

Experience in recent years, with the sharp drop in the stock market, suggests that the prudent man rule might need to be interpreted to require that underfunded plans more closely match asset and liability durations and that asset characteristics should be more closely aligned with the fixed dollar nature of pension liabilities. Overfunded plans should have more investment freedom, as they do not create a risk to pension beneficiaries or taxpayers.

The diversification rule does not apply to 401(k) plans. Although most 401(k) plans allow the participant some flexibility in determining the allocation of his or her investments, firms and employees are free to ignore principles of sound portfolio management, such as adequate diversification. A firm may determine the allocation of both its own contributions and employees' contributions to a 401(k) plan. One such firm that followed this approach was Color Tile. Around 80 percent of the funds in Color Tile's 401(k) plan were invested in its own assets.

In 1996 the firm filed for bankruptcy and the value of its stock plummeted resulting in large losses to the plan's participants.

The Color Tile bankruptcy prompted the passage of legislation to apply a 10-percent limit on company stock holdings in the assets of 401(k) plans. The limit, however, only applies to the participant's contributions to plans where the firm determines the portfolio composition of the plan's assets. Under current law, employers may control the allocation of the firm's contributions to 401(k) plans and may restrict a participant's ability to reallocate these contributions. That is, a firm may make its contribution to an employee's 401(k) plan in its own stock.

The stock market decline and particularly the collapse of the stock values of a few notable companies have led to some to call for an application of the 10-percent restriction on the employer's contribution to a 401(k) plan. There is no easy answer. The benefits of diversification are well established and as such support restrictions on mandated holdings of a firm's stock. Indeed it may make sense for a worker to hold a portfolio of assets whose risk characteristics are negatively correlated with the risk to employment. That is, an employee would not want to lose his income as a result of the poor performance of his firm *and* have the value of his assets fall at the same time. On the other hand, requiring employees to hold company stock gives them a long-term stake in the company and thus the incentive to make sure the company is profitable.

These are not simple issues, but my instinct is that the long-run confidence in the U.S. pension system would be improved by restricting to some degree the fraction of the firm's contributions that can be in its own stock. The rationale for such a restriction is that the interests of plan participants—especially retirees—and the sponsoring firm are not the same. Perhaps a

50 percent cap on company stock would still retain a significant incentive encouraging worker productivity while providing significant diversification protecting pension benefits. Particularly in the context of a new pension system, it would probably make sense to maintain a relatively low cap on company stock until the system becomes established and people become confident in its soundness.

A key aspect of regulation is establishing sound accounting standards. Increasing the disclosure and transparency of financial information regarding pension plans is essential if participants are to monitor the financial health of these plans. Here again there is room for improvement in the U.S. system. According to the executive director of the PBGC, participants in terminated plans are often surprised to learn that their plan was underfunded.

It is also important to recognize that of how regulations may give preferences to one type of retirement savings plan over another. In the United States, the shift from defined-benefit plans to defined-contribution plans was supported by regulatory changes. Employee contributions to a 401(k) plan are tax-free but employee contributions to a defined-benefit plan must come from after-tax income. More importantly, the costs of operating defined-benefit plans are higher than defined-contribution plans. Because of economies of scale in the operation of defined-benefit plans, the cost-disadvantage of defined-benefit plans is particularly marked for small employers. One study has estimated the cost of a defined-benefit plan as averaging \$850 per participant per year for a small firm with 15 participants, whereas the cost per participant declines to \$56 for a large firm with 10,000 participants.<sup>1</sup> Congress has made efforts to create defined-contribution plans that can be easily set-up by small businesses, such as Simplified

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<sup>1</sup> Olivia S. Mitchell, "International Models for Pension reform," Pension Research Council Working Paper 98-5, 1998.

Employee Pension Plans or SEPs, but no such effort has been made to encourage defined-benefit plans.

An often-overlooked area is the need for financial education. If we are to encourage workers to assume more responsibility for their retirement savings we need to make sure they have the proper tools to monitor the activities of their firm's defined-benefit plans or make decisions regarding portfolio allocations in their defined-contribution plans. The Federal Reserve System has taken a lead in this effort, creating a web site ([www.federalreserveeducation.org/fined](http://www.federalreserveeducation.org/fined)) and materials devoted to personal financial education.

Another area where the Federal Reserve has a role to play is in maintaining overall financial stability. It should be clear that there is a link between the health of the financial system and the health of the pension system. Despite recent problems in equity markets, the U.S. financial system remains healthy. The banking system in particular is in strong financial condition. That strength has been important in limiting the extent of the recession of 2001, and helping to sustain the economy in the face of the large decline in the equity markets.

A private pension system will clearly work better in an economy with well-developed financial markets. A good capital market is important in providing a range of assets to meet the needs of those saving for retirement and those drawing upon these savings. One area where even in the United States financial markets are lacking is in the ready availability of annuities. With the increasing reliance upon defined-contribution plans, the availability of low-cost annuities and an understanding of their role are increasingly important.

Although it is much easier to introduce a pension plan in an economy with well-developed capital markets, it is also true that the pension system can be an important source of

saving for a growing economy. The need of pension managers to find good investments will strengthen the capital market.

### **Concluding Comment**

The United States, as I hope I have explained, does not have a perfect pension system. Indeed, the system suffers today from a number of serious strains and poor design features. Nevertheless, there are ways to address these strains and to strengthen the system over time. Without question, the central feature of a program to strengthen the system is to focus on policy changes that create better incentives for the private sector to act in the public interest.

There are three core principles in the design of better incentives for the pension system. One is to focus above all on the interests of plan participants, understanding that pension rights reflect compensation firms pay to employees on a deferred basis. Deferred compensation belongs to plan participants and not to firms. Second, financial incentives should be aligned as closely as possible to actual costs and risks, as with risk-based insurance premiums. Third, information on plans should be complete and readily available. All plan characteristics and regulations should be reviewed regularly to be sure that no unintended consequences are undermining the pension system.

To return to one of my opening comments, we are fortunate that the engineers whose bridges fell down did not give up building railroads. Developing sound practices and institutions takes time; progress requires a willingness to study the sources of problems and to address them. The task is ongoing and never finished.