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The Development of Industrial Pensions in the United States in the Twentieth Century

Samuel H. Williamson

A survey of the development of pensions in the United States, addressing such issues as what employees want from pensions, what incentives the employer has to create pensions, and what desirable effects industrial pensions have on the economy.

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Summary findings

Pensions are retirement insurance: They offer protection in case you live long enough to quit collecting a paycheck and can stop working. In the United States, pensions are provided by both public and private sectors. Private sector pension funds are the largest formal financial institution for life-cycle saving, with assets of trillions of dollars.

Pensions developed when more traditional forms of life-cycle saving became more difficult to carry out, job tenure increased, and there was a movement away from the spot labor market. Employers wanted to create a stable, experienced work force that was reluctant to leave — that is, a stock of firm-specific human capital. Thus they had an incentive to create a deferred wage. And workers wanted retirement insurance that was secure. As developing countries begin to employ an older work force with longer job tenure, the demand for defined benefit pensions will rise.

Which institution can best provide pensions: the employer, a financial intermediary, or the state? If markets fluctuate because of financial instability, workers will prefer defined benefit plans, and they will want them to be provided by the institution in which they have the most faith.

Funding is important in the long run. Sound accounting practices would dictate that the cumulative reserves match pension liabilities as they accumulate. The regular contribution to these funds would be the deferred part of the wage. But historically, in the United States, pensions were funded only when profits were high or tax incentives or regulation dictated.

Developing countries will need a sound corporate tax structure and must be willing to forgo some immediate tax revenue, to create a large pension savings fund.

This paper — a joint product of the Finance and Private Sector Development Division, Policy Research Department, and the Financial Sector Development Department—was presented at a Bank seminar, "Financial History: Lessons of the Past for Reformers of the Present," and is a chapter in a forthcoming volume, *Reforming Finance: Some Lessons from History*, edited by Gerard Caprio, Jr. and Dimitri Vittas. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Daniele Evans, room N9-061, telephone 202-473-8526, fax 202-522-1955, Internet address pinfo@worldbank.org. November 1995. (21 pages)

The Development of Industrial Pensions in the United States during the Twentieth Century

by

Samuel H. Williamson

This paper was presented at a World Bank Seminar, "Financial History: Lessons of the Past for Reformers of the Present," and is a chapter in a forthcoming volume, Reforming Finance: Some Lessons from History, edited by Gerard Caprio, Jr. and Dimitri Vittas. The author wishes to thank the participants at that seminar and the editors for their comments.

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Pensions are retirement insurance—they offer protection in case you live long enough to quit collecting a pay check and are able to head for the links and beaches in Florida. In the United States pensions are provided by both the public and the private sectors. The private sector funds pensions to the largest formal financial institution for life-cycle saving, with assets measuring in the trillions of dollars.

Societies have always had to take care of their dependent elderly and disabled. Historically, the United States has honored some of its retired citizens with generous pensions, from Civil War veterans to today's corporate executives. Others have been more or less ignored, and they have fared poorly. Since the turn of the century, industrial- or company-provided pensions have been important providers of retirement insurance.

Creating Pensions

Several economic and social issues arose in the historical development of pensions, concerning employees, employers, and the general economy. These issues relate to three questions: what do employees want from pensions, what incentives does the employer have to create pensions, and what are the desirable effects of industrial pensions for the general economy?

Employees wanted primarily retirement insurance. If they felt that company pensions provided a better and safer return on life-cycle savings, they would prefer that pensions be provided by employers. In addition, workers did not want to lose their pensions if they left the firm before reaching retirement age. Thus they wanted pensions that were vested and portable.

Vesting means that after working for an employer for a certain number of years, your pension is guaranteed even if you leave the firm. Portability is the ability to take the pension funds that have accumulated when you leave a job and apply them to a pension at another firm. Portability is an issue today in the United States because people who frequently change jobs have lower pensions than workers with long tenure.

Employers have several possible motives for offering pensions, which are connected with the rise of internal labor markets. Pensions can entice workers to stay with the firm, thus reducing turnover and saving training costs. They can also help to impose mandatory retirement, so that the company can save on the wages of older workers who may have falling productivity and open new positions on the promotion ladder. Many workers in the late nineteenth and early twentieth centuries argued that mandatory retirement would remove people with seniority and allow everyone to advance. It was also thought that mandatory retirement would remove older workers whose age was a disability that could lead to accidents. But eventually researchers found that older workers were not more accident prone than younger ones.

Pensions could be used to enforce discipline among workers, by threatening striking workers with the loss of their pensions and by bringing back pensioners to replace strikers. Finally, pensions were established to express appreciation for loyal service, to provide for older workers, and to create good will in the public eye for taking care of the elderly.

As the work force aged, the burden on the state of providing benefits for the elderly rose. A growing occupational pension system would take some of this burden off the state. Pensions would also promote higher labor productivity (consistent with the goals of employers) and a high national saving rate, which is dependent on the method of pension funding.

Funding Pensions

Should retirement insurance be financed on a pay-as-you-go basis, or should it be funded as future benefit liabilities are accrued? A pay-as-you-go system would allow for retirement insurance without a financial market. Thus, people often had large families to provide for their "social security." On the other hand, if funded, pensions become an important source of savings.

This dilemma was originally spelled out by Paul Samuelson (1958) when he asked "whose chocolates you are going to eat." In his world people live through two periods. In the first period they worked to produce a chocolate, and in the second period they ate the chocolate. Retirees can eat the chocolates produced by current workers, assuring these workers that they can eat the chocolates of the next generation. In this scenario—that of a pay-as-you-go pension plan—there is no need for a capital market or a place to save the chocolate for retirement.

But one generation may not trust or may decide not to burden their children and so begin to save. They make enough chocolate themselves to support their retirement, and thus a capital market is born.[1] This generation's pensions are now funded. In the United States private pensions are largely funded, while public pensions are pay-as-you-go.

Historically, company pensions were financed from current revenue. Workers were not required to contribute, nor did firms set aside funds for future liabilities—these pensions where financed on a pay-as-you-go basis. But today both employees and employers contribute large sums to pensions. Social

[1]. They may have to produce twice as much in order to take care of their parents and save for their own retirement.

Security, on the other hand, was always a contributory plan. But it was used to fund retirees from the outset, thus it is a pay-as-you-go plan.

Today there are two general types of private pensions. In a defined contribution, or money purchase plan, employee and employer contributions are put into a fund. When the worker retires, benefits are equal to an annuity, which is determined by the value of the accumulated assets and the life expectancy of the worker. In defined benefit plans, on the other hand, workers receive a pension determined by a formula based on years worked and average salary.

The Social Security system in the United States is a contributory, defined benefit program. But as presently designed, the system is projected to go bankrupt in the next thirty years. One of the many suggested cures is means testing, in which the amount of social security benefits is based on the financial status of the pensioner. This system is used in most other industrial countries today. There are nearly no means-tested private pensions in the United States.

The Historical Development of Pensions in the United States

Formal pensions evolved from a long-standing historical practice of making transfers to the elderly (figure 10.1). Farmers, artisans, and merchants passed their means of production on to their heirs in return for support in old age. Often this transfer was accomplished gradually within the family, with older members assigned less-taxing tasks in the shop, on the farm, or at home. An important part of this process was the transfer of the farm or business with its productive assets. For those without children, this transfer could be made to neighbors or to the church.

In the post-Civil War period the percentage of the labor force earning wages began to rise and fewer workers were accumulating a work-connected productive asset to pass on to their children. While average incomes were higher off the farm, they often peaked in mid-career. The fall-off in income may have already begun when workers were in their mid-forties, but the trend grew more pronounced when they became superannuated or disabled. These factors created an incentive to find new methods of planning for old age. Most workers had the choice of raising a large family and relying on their offspring to take care of them or accumulating financial assets to live on in their later years. To avoid depending on family or charity, workers had to find new ways of accumulating assets while still at the peak of their earning capacity.[2] Many surveys taken before the turn of the century show that substantial numbers of workers reported saving more than 12 percent of their prime-year incomes. Overall, the national saving rate was close to 20 percent in the last decades of the nineteenth century.[3] These savings were sometimes invested in bank accounts, but more often were used to finance home ownership or invest in a variety of insurance funds. Hundreds of labor unions, employers, and benefit societies developed saving funds and insurance plans for the benefit of workers.

Tontine Insurance

One type of popular policy sold by insurance companies was tontine insurance. A worker's premium payments to the insurance company were split with one portion covering the cost of simple term insurance and the remaining portion invested in a savings fund that accumulated interest over the life of the policy. The pool of accumulated assets was distributed only to the policy holders who survived to the end of the policy term. Thus if you died, your funeral was covered. If you lived, you received a lump sum payment that was much greater than what you could have earned from regular savings. This was a

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[2]. Throughout the nineteenth century the traditional strategy of relying on the support of grown children had fallen from favor (Ransom, Sutch, and Williamson 1992). Between 1870 and 1940 the birth rate in the United States fell from forty-one to eighteen per 1,000.

[3]. The national saving rate estimate is based on the work of Gallman (1966). Our earlier work and that of other researchers with household budget data has documented the impressive saving rates that characterized late-nineteenth century industrial communities. See Ransom, Sutch, and Williamson (1992).

good retirement insurance plan. So popular were these policies that by 1905 almost two-thirds of all insurance was tontine insurance, and 9 million polices had been sold to a nation with only 18 million households. But in 1906, after a public scandal of alleged mismanagement and impropriety in the insurance industry and an extensive investigation that exposed abuses in the handling of tontine insurance funds, the State of New York prohibited any further issue of tontine insurance. Other states quickly followed suit, and the individually-purchased pension disappeared.[4]

Welfare Capitalism

During this period business leaders became interested in different forms of welfare capitalism. Partly in attempt to counter the rising influence of unions and partly out of benevolence, some larger corporations created their own relief organizations to assist their workers. These organizations provided medical assistance and hospital care as well as disability, accident, and life insurance.

At this time firms were having a growing problem with the incapacity of older workers.[5] To deal with this problem, many informal pension systems were created within companies throughout the nineteenth century. Minutes of directors meetings refer to long-serving employees and specify pensions as rewards for their faithful service.[6] The next step was taken when companies realized that it was more efficient for every worker to retire at a certain age with a pension, than to try to determine retirement on an individual basis.

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4. For a discussion of the tontine business, the insurance investigation, and the abolition of tontine insurance see Ransom and Sutch (1987).

5. It was not unusual for companies to keep their disabled and superannuated workers on the payroll by putting them in positions that were less strenuous. They were also likely to pay them less.

6. Some companies had rules that pensioned all their superannuated workers, but did not tell the employees to avoid a disincentive to save.

The First Industrial Pension

Although a few plans emerged in the nineteenth century, the major innovation came with a new type of pension created in 1900 by the Pennsylvania Railroad. This new form of retirement insurance was also a new instrument that could be used in its internal labor market. The plan's innovations included universal coverage, mandatory retirement, and no individual contributions—which had never existed in the scope or combination put together by the Pennsylvania Railroad.

Other firms, particularly railroads, had been experimenting with formal pensions. For example, in 1884 the management of the Baltimore & Ohio Railroad created a relief package that included a pension with its life and disability insurance. But this plan was available only for members of its relief organization, who were required to contribute to it to belong.[7] The Pennsylvania plan was very different and set the standard for industrial pension plans; it was imitated for the next twenty-five years by most companies that created their own plans.

The Pennsylvania Railroad, one of the largest employers in the country, also had a relief organization called the Voluntary Relief Department. It was started in 1886 and provided death and disability benefits. At the start of the program, the directors stated that as soon as a surplus had accumulated, they would start paying pension benefits to members of the Voluntary Relief Department when they retired. This practice began in 1900 when retiring members received pensions based on how long they had contributed to the department.

Why, then, would the company create a noncontributory, defined benefit industrial pension when this other plan had just started to pay benefits? Several explanations have been offered, but the primary

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[7]. After bitter complaints by the unions, it was changed to a voluntary plan.

reason was the desire to impose mandatory retirement on all older workers who, on average, no longer provided services that justified their salaries. In other words it was thought that most workers older than seventy were earning a wage that exceeded their marginal product, a situation called "wage tilt."[8] But the firm wanted to reward its faithful employees in their retirement.[9] As labor turnover in those days was quite high, the company concluded from studying their payroll records that these benefits would not be very expensive. Pensions were paid from current expenses and amounted to less than 1 percent of the wage bill.[10]

This new pension plan was a major departure from the idea of providing a pension only to workers who were members of a contributory, voluntary relief department, where the pension received was based on length of membership.[11] Since not all older workers had also been long-standing members of the Voluntary Relief Department, mandatory retirement would have meant that many would receive little or nothing. Whether motivated by benevolence, public relations, or a desire to maintain labor peace, the railroad felt that it could not retire some of its older workers without providing some income, particularly because up to this point workers may have felt they had an implicit contract to work for the line for life. They had not planned on mandatory retirement.

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8. "Wage tilt" refers to a pay schedule in which workers are paid less than their marginal product early in their career and more than their marginal product toward the end of their career. Theoretically, this wage package is thought to be more efficient, however, it requires mandatory retirement. See Laezer (1979).

9. Workers received 1 percent of their average wage over their last ten years times the number of years worked. Voluntary retirement was possible at age sixty-five for those with thirty years of service.

10. Gratton (1990) presents an excellent description of the creation of the plan and the problems that came up later because the railroad did not anticipate the fall in turnover that took place.

11. Data that I have collected from a division of the Pennsylvania Railroad shows that the average annual turnover of membership in the Voluntary Relief Department was 42 percent between 1889 to 1910. Membership averaged 64 percent of the employees and could not be mandatory because unions had successfully lobbied several states to pass laws forbidding it.

When the pension was started, it covered all workers seventy and older regardless of their years of service. But the plan also imposed a new maximum hiring age of thirty-five. The firm explained that this upper limit was necessary to ensure that future workers would work long enough for the firm to justify their receiving a pension.

Following the Lead of Pennsylvania

The Pennsylvania plan was widely imitated by other railroads in the next seven years. By the end of 1905 eighteen U.S. railroads had adopted formal pension plans covering 35 percent of railroad employees in the country. Most railroads in Europe offered pensions earlier than those in the United States, but European railroads were government enterprises and thus provided civil service pensions.

Within a few years pension plans offered by large companies in other industries proliferated rapidly. By 1930 more than 3.6 million workers were covered by formal industrial pensions. Although this number represents less that 20 percent of all industrial workers, the majority of large firms had adopted plans, and pension schemes were widely regarded as part of the package of pay and benefits that a "progressive" employer would offer. [12]

Pensions began in the railroads, where growth was rapid, followed by utilities, banking, and manufacturing. Formal pensions were more likely to be found in large firms: 64 percent of covered workers were employed by companies with more than 25,000 employees. Of the seventeen firms that

[12]. This number (3.6 million) is computed in the appendix, which is available from the author. The figure excludes a sizable number of additional workers covered by informal pensions and group annuity plans (Lebergott 1964, Table A-4, p. 513).

held assets worth more than three-quarters of a billion dollars, only two did not offer pensions at this time.[13] And of the 200 corporations with the most financial assets, eighty-seven had formal pensions.

Nearly all of these plans were noncontributory—they started as pay-as-you-go plans, which gave full credit for past service to all current workers regardless of age. None of the large companies required their workers to contribute to their pension. Of all workers covered, 95 percent were covered by noncontributory plans.

Most pension plans included all employees. Only fifty-six plans out of almost 400 excluded some workers, and half of these excluded only officers, "higher employees," or office workers. There appears to have been no exclusions in the larger firms. There were approximately 60,000 pensioners in 1927, more than half of whom were former railroaders. The average pension was $605, although pensions varied widely by industry.[14] Salary data for manufacturing show that the average replacement ratio (pension/worker income) was 35 percent in that industry.

Funding Reserves and Noncontributory Pensions

While many firms were beginning to confront the issue of funding by the time of the Depression, there was still much progress to be made.[15] Insurance companies and actuarial organizations were attempting to educate management, but many firms probably underestimated the costs because they underestimated

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13. General Motors and Standard Gas and Electric were the two exceptions—General Motors because it was too new and Standard Gas and Electric because it offered an informal plan.

14. More precisely, 21.2 percent of the average pensions by industry were in the $400 to $499 range; 33.8 percent, $500 to $599; and 28.9 percent, $600 to $699. (Williamson 1992 p. 54).

15. Thirty percent of covered employees worked for companies that had set up a separate trust fund or contracted with an insurance company. The rest of the plans either carried reserves on their balance sheets (19 percent) or paid pensions out of current operating expenses (59 percent, mostly the railroads). (Williamson 1992, p.55).

how fast their work force would age. Latimer (1932) estimated that by 1928 total accrued liabilities of all industrial pension plans were only between 13 and 16 percent covered.

Most of the early industrial plans were noncontributory, with all of the costs borne by the employer. Employers may have established such a system because they wanted to maintain complete control. The rules of these plans clearly stated that the employee had no contractual right to a pension, the plan could be abolished at any time, and with dismissal or voluntary departure workers would forfeit all claim to retirement benefits. Initially, most states prohibited any compulsory deductions from wages.

Another factor influencing this choice was the tontine effect. Firms could keep the expected costs of pensions low if they took advantage of the low probability that workers hired at a young age would stay with the firm until they qualified for a pension. By continually replacing drop outs with young new workers, the firm expects that it will only have to provide pensions for the small number of faithful workers who stay.

Firms did not want to collect contributions from workers because they would be, at least morally if not legally, obliged to return them if a worker left before retirement. If workers had higher discount rates than the return that firms could earn on these funds, current wages could not be fully adjusted to compensate for the cost. In this case a contributory pension would be a competitive disadvantage.

For workers expecting to stay with the firm until retirement, the noncontributory plan is a nice exchange. They do not want to contribute and thus reduce their current salaries, and they believe that since they have not received any less salary than their coworkers who do drop out, they will receive a "free" annuity when they retire.

Where Did the Unions Stand?

At the beginning of the century labor leaders had been either neutral or antagonistic toward company pensions. They saw pensions as a means to confiscate workers' wages, which would be returned only if workers were loyal to the firm, and, therefore, reluctant to follow the policies of the union. Although it is difficult to find evidence that workers pressured their employers to create pensions, there is also no evidence that the rank and file opposed pensions. But once firms began providing pensions, ample evidence shows that workers were interested in their survival and expansion.

At this stage unions chose to compete by setting up pensions of their own, and by 1930 more than one million union members were covered by union pension plans. Unfortunately, many of these plans failed during the Depression because they were pay-as-you-go, and the young workers dropped out (Williamson 1992).

Cycles between Contributory and Noncontributory Plans

All large pension plans and most other plans were noncontributory until 1926. Following this date, and until World War II, most new plans required workers to contribute.[16] From 1942 through the 1950s, noncontributory plans dominated. And for the past thirty years contributory, defined contribution plans have been more prevalent (table 10.1).

One explanation for the change in 1926 was the impact of the court case involving the sale of the packing firm, Morris and Company, to Armour and Company. Morris and Company had set up a contributory pension in 1909 that was so generous that employee contributions would not cover its cost. When the company was near bankruptcy in 1923, it was sold to Armour. The amount of money in the

[16]. Eighty percent of the newly covered workers, even in this later period, were covered by a few large noncontributory plans. Most contributory plans were not defined contribution or money purchase plans, but defined benefit plans to which employees contributed.

pension trust fund was $7 million less than the estimated liabilities. Armour refused to make up the difference, and the employees sued. The Illinois Supreme Court ruled against the employees in 1925, and the surrounding publicity caused a reexamination of pension funding.

After the bad publicity died down, employers had a new attitude toward establishing pensions:

- Pensions were seen more as an employee fringe benefit. Firms could no longer think of pensions as a luxury that they could discontinue any time without damaging company reputation and incurring high legal costs.
- Some workers wanted a system in which funds were more secure financially and in which they could count on receiving their contributions back at any time.[17] Because after 1921 interest earned on pension trusts was tax-free, high-wage-earning workers would see pensions as a superior way to save. And, as contributions were usually matched by employers to be received only at retirement, there was a strong tontine effect, desirable to both worker and the employer.
- Many of these new plans were voluntary, so employers could encourage those workers that they wanted keep, and not have to worry about the rest.
- Some of these new plans were "money purchase" plans, or what is known today as defined contribution plans. Such plans reduce employers' risks of uncertain turnover and mortality rates and of financial market variations.

The Depression and the Railroads

[17]. Most contributory pensions returned contributions when a worker left. Withdrawal rights varied from promises to return everything the worker contributed plus 6 percent to six plans that provided no claims at all. A majority promised to returned contributions plus 4 percent. Partly because current workers were given credit for previous service when plans were started, these plans were often no better funded than some of the noncontributory plans.

Most private pension plans survived the Depression. Company-provided railroad pensions were the exception. Railroad employment had been declining in the twenty years leading up to the Depression. Because of the Depression and the effectiveness of efficient wage contracting, worker turnover had fallen considerably. Thus the average age of railroad workers was much higher than that of workers in many other industries.

Partly because of Interstate Commerce Commission accounting rules, nearly all railroads were running pay-as-you go pensions, paying benefits out of current expenses. By 1932 most lines had cut pension benefits, but the decrease was usually about the same percentage as the fall in railroad worker wage rates.

Railroaders were heavily unionized and had strong political allies. They forced the government to create a public pension for railroad workers with portability and vesting after ten years. Workers could thus get credit for all their railroad work, regardless of line and whether or not they were still working on the railroads at age sixty-five.

When the Railroad Retirement Act was finalized in 1937, the government took over an industrial pay-as-you-go system. The railroad lines did not give the government any funds based on past services of these workers. I see no reason why the railroad pensions would have failed if the government had not taken them over. Freight and passenger rates charged were controlled by the Interstate Commerce Commission and were set on a cost-plus basis. In principle, rates could have been raised to cover rising pension costs.

Social Security

Social Security began as a funded system, that is, participants had to contribute for several periods before qualifying to receive benefits. This system was very different from industrial pension systems at the time. In particular, the soon-to-retire worker did not get full credit for past years of work, as railroad workers did under the Railroad Retirement Act, nor as with most private plans begun thirty years earlier. The U.S. plan was also different from plans in many other countries in that benefits were not means tested. Social Security was not designed to bail out the private pension system as much as to cover the rest of the work force. Although some plans revised their benefits so that they were tied to the Social Security System, most pension rules did not change.

World War II and Afterward

The Wage and Salary Stabilization Regulation Act of 1942 is often regarded as the origin of favorable tax treatment of pensions. But its main intention was to tighten up coverage regulations, particularly to prevent discrimination in favor of a minority of employees that might be, for example, just officers and shareholders. The Act mandated that a qualified plan had to cover at least 70 percent of employees or 80 percent of eligible employees. But this Act did not have a vesting rule.

> "A very serious effort was made in the suggested 1942 legislation to require vesting of pension expectations as a condition for deductibility of employer contributions. . . . employer threats to discontinue non-vested plans brought to Congress an avalanche of protests from older workers who saw their pension prospects endangered." (Robbins 1949, p. 15)

On the surface this act should have reduced the incentive to create new contributory or noncontributory pensions. It offered no new tax advantages and tightened the rules for awarding tax exempt status. But two other factors were far more important—both results of World War II: the large increase in corporate and income tax rates and the freezing of wage rates in the tight labor market.

In 1942 wages and salaries were frozen to contain inflation during the war, creating a strong incentive to find ways to pay a deferred wage, that is, a pension. Employers saw the pension as an alternative inducement to keep employees from leaving in search of higher wages elsewhere. Employees were happy with this arrangement because they would receive their deferred wages after the War, when personal tax rates would be lower. There was little incentive to make workers contribute from their after-tax income, since employers' contributions reduced tax liability at the high war rates by as much as 80 percent. Thus employers could pay a dollar in deferred wages which cost as little as 20 cents.

In 1946 wage controls were lifted and a trend toward contributory plans began. By now, however, organized labor had changed its attitude about pensions. Also in 1946, a union of Inland Steel filed a grievance with the National Labor Relations Board over the company's compulsory retirement policy. In 1949 the courts ruled that the terms of a pension plan are subject to mandatory collective bargaining, on the grounds that although they are not wages, they do constitute "other conditions of employment." With court backing, unions now preferred that the employer bear all the risk, and because worker contributions were no longer tax deductible, noncontributory plans offered a clear advantage to both sides.

The Employment Retirement Security Act of 1974

Until 1974 most regulations on pensions were intended to protect the Treasury from lost tax revenue. The Employment Retirement Security Act was passed to protect the employee and the pensioner. The main components of this act imposed rules requiring full vesting in a maximum of fifteen years, encouraging actuarial soundness and imposing fiduciary responsibility.

Corporations had to be more financially responsible for their pension liabilities. They had to join the Pension Benefit Guaranty Corporation (PBGC), which, within limits, insured underfunded plans against termination. If a plan terminated, the PBGC could claim the assets of the firm's pension fund and up to 30 percent of the corporation's net assets to settle the costs.

Recently, many employers have moved away from defined benefit plans. Several factors have contributed to this trend, among them increased benefits from Social Security and a more rapid increase in life expectancy of older workers.[18] This development increased costs, which employers preferred to share with employees. Other factors included the continued increase in the number of regulations governing the establishment of a defined benefit plan, and the creation of 401(k) plans, which allowed employees' contributions to be tax deductible.

Conclusions

Pensions grew when more traditional forms of life-cycle saving became more difficult to carry out, job tenure increased, and there was a movement away from the spot labor market. Employers wanted to create a stable, experienced work force that was reluctant to leave, that is, a stock of firm-specific human capital. Thus they had an incentive to create a deferred wage. Workers wanted retirement insurance that was secure. As developing countries began to employ an older work force with longer job tenure, the demand for defined benefit pensions will rise.

Which institution can best provide pensions: the employer, a financial intermediary, or the state? If markets fluctuate because of financial instability, workers will prefer defined benefit plans, and they will want the institution that they have the most faith in to provide them.

Funding is important in the long run. Sound accounting practices would dictate that the accumulation reserves match pension liabilities as they accumulate. The regular contribution to these

[18]. Life expectancy at age sixty-five had increased by 2.4 years in the first sixty years of the century (to 14.3 years), and by another 2.4 years in the next twenty-five years.

funds would be the deferred part of the wage. But historically, in the United States pensions were funded only when profits were high or tax incentives or regulation dictated. Developing countries will need a sound corporate tax structure and be willing to forgo some immediate tax revenue to create a large pension savings.

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Table 10.1

Number of Pension Plans by Type, 1900-46

Period in which plans became effective	Contributory plans		Noncontributory plans		Total
1900 - 1925	75	(16%)	406	(84%)	481
1926 - 1929	69	(73%)	25	(27%)	94
1930 - 1939	425	(82%)	92	(18%)	517
1940 - September 1, 1942	526	(62%)	317	(38%)	843
September 2, 1942 - 1944	1,101	(26%)	3,107	(74%)	4,208
1945 and 1946	439	(37%)	750	(63%)	1,189

Source: Williamson (1992); Robbins (1949).

Figure 10.1

The Development of Industrial Pensions in the United States

1860 to 1900
Babies or bank accounts: the growth of life-cycle saving and the expansion of capital markets.
1900 to 1926
Large companies start pensions as a part of the changes in internal labor markets.
1926 to 1930s
Funding and demographic shocks begin to change pension formats.
Depression
Railroads pensions are taken over by the Federal Government.
A few others fail, but the number of plans continue to grow.
Social Security and the Wagner Act are passed.
1942 to 1945
Wage controls and the tax laws change.
1949
NLRB ruling that pensions are subject to mandatory bargaining is upheld in the courts.
1974
The Employment Retirement Income Security Act (ERISA) is passed.

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