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WORKMEN'S ACCIDENT COMPENSATION INSURANCE: JAPAN'S LESSER KNOWN SOCIAL INSURANCE SCHEME

by

C. Arthur Williams, Jr.

Despite the important protection it provides workers with job-related injuries or diseases, Workmen's Accident Compensation Insurance (WACI) is one of Japan's lesser known social insurance systems. Furthermore its relationship to workers' compensation programs in the United States is commonly misunderstood. The purpose of this paper is (1) to summarize the major provisions of the Japanese program and (2) to compare the Japanese and United States approaches.

I. Workmen's Accident Compensation Insurance Summarized

The Workmen's Accident Compensation Insurance Program (WACI) will be summarized as to (1) historical background, (2) relationship to tort liability, (3) employments covered, (5) benefits provided, (6) administration, (7) costs, and (8) private employers' liability and supplementary workmen's compensation insurance.

Historical Background

Except for some earlier benefits for government employees, workers' compensation started in Japan with the Mine Ordinance of 1890. This Ordinance required mine owners to provide employee injury "assistance" unless the worker was seriously negligent. The next step was the Mine Act of 1905 and the Factory Act of 1911, each of which became effective in 1916. These two Acts established standards relating to work conditions, including employment injury assistance. The Factory Act covered factories and other dangerous establishments employing at least 15 (later 10) workers. These Acts established the responsibility of the employer for employment injuries regardless of fault, based on the German, British, and other European workers' compensation laws of the late 1800s and early 1900s. The assistance, however, was not called compensation and no insurance mechanism was established to guarantee that the benefits would be paid.

The Health Insurance Act of 1922, not implemented until 1927 because of the Great Kanto Earthquake, established for mine and factory workers a government insurance program that provided for participants with both job-related and non-job-related injuries and diseases (1) medical care and (2) temporary disability benefits for up to 180 days. Mine and factory owners remained directly responsible for longer term job-related dis-

abilities and deaths.

As a result of 1931 legislation both health insurance benefits and employee injury assistance were extended to cover employees in the construction and forestry industries. The health insurance scheme was amended in 1938 to provide medical care and temporary disability benefits as long as the worker was in a morbid condition, thus further reducing the employee injury assistance obligation of employers. In 1939 a special insurance program was established for seafarers that provided benefits in case of old age, death, or disability, including job-related death or disability.

A workers' pension insurance scheme, established in 1941, provided for workers who had been employed some minimum period benefits for retirement and for long-term disabilities, both job-related and non-job-related. In 1944 a welfare pension insurance scheme replaced the 1941 program. For job-related disabilities and deaths, the 1944 scheme eliminated the qualifying work period and provided higher benefits relative to those paid for non-job-related disabilities and deaths. Thus by 1944 Health Insurance and Welfare Pension Insurance had covered the occupational injury and disease obligations originally imposed on employers by the Mine Act and the Factory Act.

Japan's modern approach to workers' compensation started with the 1947 enactment of (1) a Labor Standards Act that replaced the former "assistance" terminology with the concept of "compensation" and (2) the Employment Injury Insurance Act that created a government insurance fund to provide compulsory insurance for covered employers. The Labor Standards Act applied to all employers except those employing family members living in the same household and domestic employees. The Employee Injury Insurance Act covered only certain categories of employers and excluded those below a certain size. The benefits prescribed under both laws were originally identical. Over time, however, the Employment Injury Assistance Act, but not the Labor Standards Act, was amended many times and is now the major workers' compensation law.

The prescribed benefits initially included medical care, except for small medical expenses; short-term disability income following a waiting period for up to three years; and lump sum benefits for long-term disabilities and death. Employer contributions varied according to the industry in which the employer was engaged. Some significant amendments, that will become more meaningful later in this paper, include the following:

- 1951 Employer industry-based contributions modified according to the employer's own experience.
- 1952 Disability benefits automatically indexed annually to reflect changes in average national earnings.
- 1960 Lump sum disability payments after 3 years replaced by long-term disability pensions for permanently and totally disabled workers still undergoing significant medical treatment.
- 1965 Covered employment definition extended to include more employers. All medical expenses paid even if small.
Waiting period for short-term disability shortened to three days. Lump sum payments replaced by pensions for all workers with permanent partial disabilities listed in a schedule and in death cases.

New adjustment for dealing with duplication of benefits under other social insurance schemes.

National treasury subsidy toward administrative expenses.

- 1969 Covered employment extended to all enterprises employing five or more employees.
- 1970 Benefits for long-term disability and death increased.
- 1973 Commuting accidents covered.
- 1974 Special benefits system introduced to increase wage replacement rates for disability and death claims.
- 1975 Covered employments extended to current level.
- 1976 Workers' welfare services established separately from the insurance benefits.
- 1977 Several changes affecting persons receiving a lifetime pension:
 - 1. Benefits for top three disability grades changed from a uniform wage replacement rate to one that varied by disability.
 - 2. Long-term disability benefits started 18 months, not three years, after the first date of medical treatment.
 - 3. Pension index system for long-term disabilities changed to reflect national average earnings fluctuations of at least 10 percent (later to 6 percent) since the worker was injured or contracted the disease instead of 20 percent.
 - 4. Bonuses considered as well as wages in determining long-term disability benefits.
- 1980 Relationship between WACI benefits and civil code recoveries amended.

Relationship to Tort Liability

Under WACI an employee reserves the right to sue his or her employer alleging that the employer's negligence contributed to the worker's injury or disease. However, any tort liability recovery is reduced by WACI payments or any supplementary compensation provided under a labor agreement. For example, the worker may recover (1) that portion of his or her wage loss not covered under either WACI or a supplementary benefit and (2) an allowance for pain and suffering, an intangible loss that is not covered by WACI.

Employments Covered

WACI covers about 34 million workers or about 85 percent of the persons engaged in private industry in Japan. Most public employees and employees of public corporations are covered under separate worker's compensation systems, but all employees of private undertakings are covered automatically except for two groups. Mariners are covered under Seamen's Insurance. Employees who work for a small employer (less than 5 employees) engaged in agriculture, forestry, or fishing are covered only if the Ministry of Labor sanctions a request for coverage by the employer or a majority of the employees.

Self-employed persons and owners of smaller enterprises are not covered automatically, but they also may seek voluntary coverage.

Injuries and Diseases Covered

The program covers both injuries and diseases that are job-related. Determining whether the injury or disease arose out of employment is often a difficult task. For example, a heart attack suffered at home may be job-related while a heart attack suffered at work may not be. Back injuries and many diseases are also the source of considerable controversy. Intentionally inflicted injuries and diseases are not covered. Benefits may also be reduced in whole or in part if the worker is guilty of a crime or of gross negligence.

Japan specifically covers injuries incurred while the worker is commuting to and from work.

Benefits Provided

WACI provides three types of benefits: (1) medical care or medical expense reimbursement, (2) disability pensions or lump sums, and (3) death pensions or lump sums. More details on each of these three categories of benefits are provided below.

Medical Care or Medical Expense Reimbursement. All medical expenses incurred because of a job-related injury or disease are covered. A worker requiring medical care for this reason can be treated without charge at a Workmen's Accident Hospital or some other specifically designated hospital. If he or she prefers, however, the worker can choose his or her own medical provider, pay the bill, and be reimbursed later.

Disability Pensions or Lump Sums. The disability benefit depends upon whether the worker has suffered (1) a temporary disability, (2) a permanent total disability, or (3) a permanent partial disability.

A worker who is temporarily disabled receives a tax-free *temporary disability compensation* benefit equal to 60 percent of his or her prior average daily wage plus a special benefit equal to 20 percent of that prior wage. The minimum daily benefit is 60 percent of 2,670 yen or 2,136 yen. Higher-paid workers receive 80 percent of the wage loss no matter how high that wage may be. No benefit is provided for any bonus losses.

The WACI benefit does not start until the fourth day of disability, but the employer must pay the worker 60 percent of his or her wage loss during the first three days. The temporary disability benefit stops when the worker either (1) is no longer disabled or (2) qualifies for a permanent disability benefit. The temporary disability benefit is automatically adjusted to preserve the worker's standard of living during any quarter in which the national average earnings exceed by at least 20 percent or are less by at least 20 percent than the national average earnings when the injury occurred or the disease started.

Permanent total disability benefits fall into two categories. Long-term disability compensation benefits are paid to workers with permanent total disabilities who are still recovering medically from their injury or disease one and a half years after the date of their first medical treatment. Fortunately the number of persons in this category is small. A worker in this condition receives a temporary total disability benefit for one and a half years after which he or she receives a lifetime income that depends upon whether the degree of the disability is Class 1, 2, or 3.

The law specifies for each of 14 disability classes disabilities that belong to that class.

If a worker has a disability that is not listed in the schedule, that disability will be placed in the class whose listed disabilities are considered to produce the same degree of disability.

Scheduled Class 1 disabilities include such impairments as hearing impediments or disturbances in the nervous system that cause the worker to require constant care and attention, blindness in both eyes, and the loss of both lower limbs upward of the knee joint. Illustrative scheduled Class 2 disabilities are the nervous system problem noted for Class 1 but the person only occasionally requires care and protection, vision in both eyes of .02 or less, and the loss of both lower limbs upward of the foot joints. Scheduled Class 3 disabilities include, among others, the nervous problem noted above, but the worker does not require as much care and protection, blindness in one eye with vision in the other eye of .06 or less, and the loss of all fingers of both hands.

A worker with a Class 1 disability receives an annual pension equal to 313 times the workers' prior average daily earnings or 86 percent of the average annual wage. The Class 2 disability pension is 277 times the prior daily earnings or 76 percent of the average annual wage. For Class 3 disabilities the wage multiple is 245, producing an annual pension equal to 67 percent of the average annual wage.

In addition a worker with a Class 1, 2, or 3 disability will receive respectively 86, 76, or 67 percent of his or her annual bonus loss.

This pension benefit is indexed to match changes in national average earnings. Specifically, each year during which national average earnings are either at least 6 percent higher or 6 percent lower than national average earnings the year the worker was disabled the initial pension is increased or decreased by the actual percentage increase or decrease.

The second category of workers with permanent total disabilities, those who have recovered medically from their injury or disease, receive a physical handicap pension. Physical handicap compensation for a permanently and totally disabled person consists of the long-term disability compensation paid those who have not recovered medically plus a lump sum payment that varies with the degree of disability. For a Class 1 disability the lump sum is 3,420,000 yen, for Class 2 3,200,000 yen, and for Class 3 3,000,000 yen. If at the time this lump sum is paid, national average earnings are at least 6 percent more or 6 percent less than the national average earnings when the person was injured or contracted the disease, the lump sum is adjusted by the percentage change.

Permanent partial disability benefits are paid to workers with lesser disabilities after they recover medically from their injury or disease. Until they recover medically, these workers receive temporary total disability benefits. Workers with the more serious permanent partial injuries (Classes 4 through 7) receive a physical handicap benefit similar in type (pension plus lump sum) to, but lesser in amount than, the permanent total disability benefit. Workers with less serious disabilities (Classes 8 through 14) receive only a lump sum benefit. Scheduled Class 4 handicaps are illustrated by vision in both eyes of 0.06 or less, the loss of one upper limb above the elbow joint, and the loss of both legs above the lisfranc's joint. Examples of scheduled Class 7 handicaps are blindness in one eye and vision in the other eye of 0.6 or less, loss of one leg above the lisfranc's joint, and the loss of both testicles.

The benefits paid workers with a Class 4 through 7 handicap include (1) a pension equal to a stated percent of the sum of the worker's annual earnings and any bonus plus (2) a lump sum that does not depend upon the worker's prior earnings. How the stated percent and the stated amount vary according to the handicap class is shown below:

Handicap Class	Stated Percent	Lump Sum
4	$213/365 = 58.4$	¥2,640,000
5	$184/365 = 50.4$	2,250,000
6	$156/365 = 42.7$	1,920,000
7	$131/365 = 35.9$	1,590,000

Both the income-related pension and the flat lump sum are indexed to reflect increases in national average earnings in the manner described above for long-term disability compensation.

The physical handicap compensation for a less serious Class 8–14 disability is a lump sum. Scheduled Class 8 handicaps include blindness in one eye, one lower limb shortened by 5 centimeters or more, and loss of a spleen or one kidney. Examples of scheduled Class 11 handicaps are heavy damage in one eyelid, 10 teeth or more repaired dentally, and the loss of the third or fourth finger of one hand. Class 14 handicaps are illustrated by damage to one part of an eyelid, the loss of function of the little finger in one hand, and deformities affecting the external appearances of males.

The lump sum paid a worker with a Class 8–14 handicap is (1) a stated percent of the sum of his or her annual earnings and any bonus plus (2) a stated amount. The stated percent and the stated amount vary according to the handicap class as follows:

Handicap Class	Stated Percent	Stated Amount
8	$503/365 = 137.8$	¥650,000
11	$223/365 = 61.1$	290,000
14	$56/365 = 15.3$	80,000

These lump sum benefits are also indexed to reflect changes in average national earnings of plus or minus 6 percent since the worker was injured or contracted the disease.

Death Pensions or Lump Sums. The death benefits for work-related accidents and diseases include (1) a funeral service allowance and (2), depending upon who are the survivors, an income-related pension or lump sum plus a supplemental flat lump sum.

The funeral service allowance, payable to those who hold the funeral service, is 205,000 yen plus 30 times the deceased worker's average daily earnings. If the worker did not die in the year in which he or she contracted the disease, the worker's average daily earnings are adjusted to reflect changes in average national earnings since that time.

Only family members can receive the income-related pension or lump sum. Family members include the worker's spouse, children, parents, grandchildren, grandparents, and brothers and sisters who were being supported by the bread-winner at the time of his or her death. To be eligible for a pension, however, instead of a lump sum, family members other than a wife must satisfy some other age or disability requirements. For example, a husband must be either over 60 years old or disabled. The annual pension is a stated percent of the sum of the deceased's prior annual earnings and any bonus. The stated percent is a function of the number of dependents. For example, for one survivor the

stated percentage is 35 percent; for five or more survivors the percentage is 67 percent. Like the annual permanent total disability benefit, the annual survivorship benefit is adjusted automatically to reflect annual changes in national average earnings. The pension continues until the beneficiaries fail to satisfy the age or disability requirement. The spouse loses his or her benefit if he or she remarries. If the survivors are dependent family members who do not satisfy the other eligibility requirements, the death benefit is a lump sum equal to 1,000 or less times the sum of the worker's prior average daily earnings and 1/365 of the annual bonus. Both groups of survivors receive a supplemental lump sum of 3,000,000 yen.

Case Experience, 1972-1982. Table 1 shows the number of cases with paid benefits from WACI during each of the years extending from 1972 through 1982. Each case represents one type of benefit payment. A single injury may develop more than one case. For example, an injured worker may receive during the same year medical care, a temporary total disability benefit, and a permanent partial disability pension or lump sum. The number of cases has increased over the decade, but not as much as the number of covered workers. New beneficiaries have declined as a percent of the total and in absolute number. Cash benefit cases have increased slightly relative to medical expense cases. Permanent disability and death pension cases have doubled as a percent of total cases.

Table 2 shows the dollar benefits paid for each type of benefit shown in Table 1. The dollar benefits in 1982 were almost four times the 1972 total. Cash benefits became more important relative to medical benefits. Permanent disability and death pension benefits doubled as a percent of the total benefits paid. The effect of the 1977 amendments on lifetime pensions is striking. If these cases had been fully reserved, a concept to be discussed shortly under "Financing", the dollar cost of these cases would have been higher absolutely and relatively.

Duplication of Benefits. Steps have been taken to reduce the overlap among WACI, Health Insurance, and Employees' Pension Insurance. Job-related injuries and diseases are not covered under Health Insurance. WACI long-term disability compensation, physical handicap pensions, and death benefit pensions are reduced in principle by half of the equivalent benefits provided under Employees' Pension Insurance.

Administration

WACI is administered by the Ministry of Labour Division of Workmen's Compensation. If a worker or an employer is not satisfied with a decision on a claim for benefits, he or she may appeal the decision to WACI referees located in each Prefectural Labour Standards Office. If the worker or employer is dissatisfied with the appeal decision, he or she may request a second review by the Labour Insurance Appeals Committee.

Appeals by employers on decisions concerning insurance contributions may be directed at the first level to the Director of the Prefectural Labour Standards Office, at the second level to the Minister of Labour, and, following these administrative appeals, to a judicial court.

If the employer is guilty of gross negligence, WACI will pay the employee but seek

Table 1
Workmen's Accident Compensation Insurance Cases with Paid Benefits, by Type of Benefit, 1972-1982

Year	Cases			Percent of Total							
	Thousands of workers	Per 100,000 workers	Percent new beneficiaries	Permanent total disability-not				Other permanent disability			
				Medical	Temporary disability	medically recovered	Pension	Pension	Lump sum	Funeral allowance	Death Pension
1972	4,604	1,653	30.8	72.9	21.6	.9	2.3	1.4	1.4	.1	2.3
1973	4,584	1,594	29.9	72.6	19.4	.9	2.7	1.4	1.4	.1	2.8
1974	4,485	1,519	27.8	68.4	19.5	1.0	3.1	1.4	1.4	.1	3.3
1975	4,332	1,491	25.4	69.4	20.5	1.1	3.7	1.2	1.2	.1	3.9
1976	4,589	1,584	24.7	69.5	20.2	1.1	3.7	1.1	1.1	.1	4.1
1977	4,829	1,645	23.6	69.4	20.0	1.4	3.8	1.1	1.1	.1	4.2
1978	5,077	1,698	22.5	69.2	20.0	1.5	3.9	1.1	1.1	.1	4.3
1979	5,254	1,708	21.5	69.1	19.9	1.5	4.0	1.0	1.0	.1	4.4
1980	5,415	1,701	20.3	68.9	19.9	1.6	4.1	1.0	1.0	.1	4.5
1981	5,464	1,668	18.8	68.6	19.8	1.6	4.3	.9	.9	.1	4.7
1982	5,444	1,621	17.7	68.2	19.7	1.7	4.5	.9	.9	.1	4.9

*Under .05

Source: *Japan Statistical Yearbook* (Tokyo: Prime Minister's Office Statistical Bureau, various years)

Table 2
Workmen's Accident Compensation Insurance Benefits Paid, by Type of Benefit, 1972-1982

Year	Total		Percent of Total									
			Permanent total		Other permanent		Disability		Death		Funeral	
	Billions of yen	Index	Medical	Temporary disability	disability-not medically recovered	Pension	Lump sum	disability	Pension	Lump sum	allowance	Lump sum
1972	161.0	100	43.4	24.4	2.9	4.7	15.6		6.8		.5	1.6
1973	183.0	114	40.9	24.8	3.2	5.6	15.4		8.2		.5	1.5
1974	232.4	144	43.4	24.1	2.9	5.4	14.2		8.2		.4	1.4
1975	287.6	179	40.6	23.2	3.3	7.2	13.2		11.1		.4	1.0
1976	343.1	213	43.4	22.2	3.1	6.7	12.9		10.4		.3	1.0
1977	410.3	255	40.8	21.2	5.3	8.2	11.6		11.7		.3	.8
1978	477.6	296	42.4	20.7	5.7	8.0	10.9		11.1		.3	.8
1979	520.1	323	41.3	21.2	5.9	8.3	10.8		11.5		.3	.7
1980	567.3	352	40.0	21.3	6.3	8.9	10.3		12.2		.3	.7
1981	605.8	376	39.2	21.1	6.5	9.3	9.9		13.1		.3	.6
1982	635.0	394	38.8	21.0	6.6	9.7	9.5		13.5		.3	.6

Source: See Table 1.

recovery from the employer of the amounts paid.

Other Benefits

In addition to providing the insurance benefits described above, the WACI system provides the following "labor welfare services":

1. Services designed to return injured employees to work (for example, rehabilitation facilities and artificial limbs).
2. "Relief" services (for example, special supplements; scholarships for injured workers, their children or survivors; and attendant allowances).
3. Safety and health services (for example, medical examination centers and aid to accident prevention organizations).
4. Services designed to secure proper working conditions (for example, ten percent of unpaid wages when an employer becomes bankrupt).

Most of these services such as rehabilitation and artificial limbs are directly related to workers' compensation. A few such as the payment of unpaid wages deal with general working conditions.

Financing

WACI is financed mainly by employer contributions, but a subsidy from the National Treasury covers some of the administrative expenses. Employer contributions currently average about 1.1 percent of covered payroll, but vary among industries. Employers are divided into 54 industrial categories. The rates vary from 12.9 percent for employers constructing new hydroelectric power stations and tunnels to 0.5 percent for several classes such as warehouses, banks, insurance companies, and manufacturers of electric machinery, equipment, and supplies. The industry rates include a 0.1 percent charge for the coverage of commuting accidents plus an additional percentage based mainly on the recent benefit experience of each industry.

Instead of paying their industry rate large employers (generally those with 100 or more workers but also smaller firms in the more hazardous industries) are rated in part on the basis of their own benefit experience. Their experience rate is the industry rate times the ratio of the employer's actual losses during the past three years to the losses the employer would have experienced if he or she were the average employer in the same industry. The experience rate, however, cannot be 40 percent less than the industry rate nor 40 percent more than that rate.

Table 3 shows WACI receipts and expenditures for three recent years. Receipts exceeded expenditures each year. The compensation benefits exceed those shown in Table 2 because they include the special supplements that were mentioned earlier as one of the "labor welfare services."

Private Workers' Accident Comprehensive Insurance

Private insurers sell workers' accident comprehensive insurance that includes two coverages. The first is supplementary compensation coverage that pays the insured's employees any supplementary workers' compensation benefits specified in the labor

Table 3
Workmen's Accident Compensation Insurance
Revenues and Expenditures, 1981-1983
(Billions of Yen)

	1981	1982	1983
Receipts:			
Employers' contributions	921.7	946.7	934.9
Interest	20.0	27.0	34.6
National subsidy	2.3	2.3	2.3
Total	944.0	976.0	971.8
Expenditures:			
Compensation benefits	723.9	758.0	778.3
Workers' welfare and administrative expenses	110.7	114.7	122.0
Total	834.6	872.7	900.3
Balance	109.4	103.3	71.5

Source: Workmen's Compensation Division, Japan Ministry of Labour.

agreement or in some other way. These benefits include supplementary death benefits, physical handicap benefits, long-term disability compensation, and temporary disability benefits. The benefit may be expressed either as a flat amount that is not related to the worker's wage or an amount that is related to that wage. To illustrate the flat amount approach, the benefit might be 10,000 yen in case of death or a physical handicap plus 1,000 yen per day after three days as an income replacement benefit. To illustrate the income-related approach, the benefit might be the worker's average daily wage for 100 days in case of death or a physical handicap plus 100 percent of lost wages as an income replacement. Under the income-related approach WACI benefits are subtracted from the private benefit to determine the insurer's liability. Through endorsements the policy can be extended to cover non-occupational diseases and commuting accidents. Many employers who provide similar supplementary benefits under their labor agreements prefer to self-insure this obligation.

The second private coverage is employers' liability insurance. This insurance protects the employer against liabilities imposed by the Civil Code because of negligence for employee losses that exceed payments by WACI, private supplementary compensation, and compulsory automobile liability insurance.

II. Comparison with Worker's Compensation Programs in the United States

Many persons believe that because WACI was established in 1947 it is patterned closely after workers' compensation insurance programs in the United States. The resem-

blances are strong, but so are the differences. A brief comparison of the Japanese and United States systems is useful because (1) it reveals the unique character of the Japanese system and (2) clarifies the principles upon which it is based. The discussion will be divided into the same sections as the summary of the Japanese program.

Historical Background

Unlike the Japanese scheme, which is a national program, workers' compensation in the United States is mainly a state designed and administered program. Wisconsin and New York are generally credited with establishing in 1911 the first workers' compensation programs. By 1920 all but six states had such programs. By 1939 all states but one had such a system and that state enacted its program in 1948.

Prior to the establishment of workers' compensation employees sought recoveries under the tort liability system. The employers' obligations were established by case law or under employers' liability statutes. At first employers had some special defenses against such suits (for example, the employer was not generally responsible for the negligent acts of the injured worker's fellow employees.), but by the turn of the century these special defenses had become less common. Nevertheless, considerable dissatisfaction existed with the tort liability approach to industrial accidents. Employees hesitated to sue their employers; their chances of winning the suit were low; years often passed before the case was settled; awards commonly bore little relationship to the extent of the workers' injuries; and the legal and administrative expenses involved were high. Employers were upset by the constant threat of suits and by occasionally large awards. By 1911, following numerous government studies of workers' compensation programs in Germany and Great Britain, the stage was set for the start of workers' compensation insurance, the first social insurance program in the United States.

Because the state programs vary widely in details, the following discussion will be limited to the more common provisions in state programs.

Relationship to Tort Liability

When workers' compensation was introduced in the United States employers and employees accepted a social compromise. Employers became responsible for all industrial injuries and diseases, regardless of who was at fault. Workers' compensation became the exclusive remedy of the employee against the employer for industrial injuries and diseases; i.e. employees lost the right to sue the employer for these injuries and diseases even if the employer was at fault. Workers were compensated for their medical expenses and income lost because of disability or death. No compensation was provided for the pain and suffering the worker might endure because of an industrial accident or sickness.

A major difference, therefore, between the United States and Japanese systems is that Japanese workers can still sue their employers under the Civil Code. In the United States some exceptions have developed to the exclusive remedy doctrine (for example, in some states under a "dual capacity" doctrine an employee can sue the employer as the manufacturer of a defective product if the work injury was caused by such a defect) but the basic doctrine remains the same. In adopting the exclusive remedy doctrine, the

United States adopted the German approach. By not adopting this doctrine Japan followed the lead of Great Britain.

Employments Covered

In the United States about 86 percent of the civilian wage and salary workers are covered under workers' compensation. Common exclusions under state programs are farm laborers, domestic workers, and railroad workers, the latter group being covered under a special federal employers' liability program enacted in 1908. About one fourth of the states exclude employers with less than a certain number (3, 4, or 5) of employees.

Japan and the United States, therefore, cover about the same proportion of their workers, but the workers excluded are defined somewhat differently.

Covered Injuries and Diseases

Like Japan, state programs in the United States cover injuries and diseases arising out of and in the course of employment. Self-inflicted injuries or diseases are not covered, but an employee's gross negligence does not affect his or her right to recover. The major difference between the two nations is that in the United States the employee is not covered enroute to and from work until he or she enters the premises of the employer. Japan specifically covers commuting accidents.

Insurance Benefits

Workers' compensation programs in the United States provide the same three types of insurance benefits as does WACI.

Medical Care or Medical Reimbursements. United States programs, like WACI, cover all of the workers' medical expenses. No U.S. jurisdiction, however, operates special workers' accident hospitals.

Disability Pensions or Lump Sums. Disability benefits in the United States include those paid for (1) temporary total disability, (2) temporary partial disability, (3) permanent total disability, and (4) permanent partial disability.

Temporary total disability benefits are generally 66 2/3 percent of the worker's prior gross earnings, but the weekly benefit cannot exceed a stated maximum or be less than a stated minimum. Except in a few states the maximum weekly benefit is equal to or less than the state average weekly wage. Generally the benefit starts on the fourth or the eighth day of disability. If the worker is disabled for more than, say, 14 days, he or she is compensated for the waiting period. Many states limit the duration of temporary total disability benefits to a stated number of weeks such as 350.

Because 80 percent of a Japanese worker's salary not including the bonus is close to 66 2/3 percent of a U.S. worker's salary, the percentages used to calculate the weekly benefits in the two nations are comparable. In both countries this income is tax-free. A major difference, however, is the maximum limit imposed on the weekly benefit in the United States. A second important difference is that unless the disability lasts longer than a specified period, U.S. employers are not required to pay the worker any benefits during the waiting period of three or seven days. Finally, few United States programs

index temporary total disability benefits.

Temporary partial disability benefits, a little used category, resemble temporary total disability benefits except that the basic benefit is $66 \frac{2}{3}$ percent of the reduction in wages caused by the partial disability. Japan has no such benefit.

Permanent total disability benefits in the United States usually continue the weekly temporary total disability benefit amount for the remainder of the worker's life, but 11 states limit the benefits to a stated number of years or an aggregate dollar amount. Some states index the weekly benefit to changes in prices or the state average weekly wage; most do not. To qualify for these benefits, the worker must be unable to engage in any occupation for which he or she is reasonably fit by education, training, or experience. Workers with certain impairments such as blindness, complete loss of hearing, or the loss of both legs are usually either assumed or presumed to be totally disabled, but others may qualify because it is believed they will never be able to return to work, even on a partial basis. Whether the worker has recovered medically from the injury or disease does not affect the income replacement benefit.

For a person considered permanently and totally disabled in the United States with a Japanese Class 1 through Class 3 disability, the Japanese benefit will usually be higher for the following reasons. First, the percentage replacement rate will always be the same or higher. Second, Japan does not have any maximum weekly benefit. Third, if the worker has recovered medically from the injury or disease, he or she will receive a physical handicap pension that will include in addition to an income-related pension a substantial lump sum award. Fourth, the annual pension is indexed to changes in average national earnings.

In many cases, a U.S. worker with a Class 2 or 3 disability would not qualify for a permanent total disability benefit. On the other hand, more research is required to determine whether some workers considered permanently and totally disabled in the United States would not be considered in Japan to have a Class 1, 2, or 3 disability.

Permanent partial disability benefits are the most frequently debated category of benefits in the United States. Generally permanent partial disability benefits follow a period of temporary total disability. The worker is not eligible for permanent total disability benefits, but either is found or presumed to have suffered some permanent partial reduction in income because of a permanent physical or mental handicap. Benefits are either scheduled or unscheduled. Scheduled benefits are paid to workers with specified impairments. The benefit is usually the weekly temporary total disability benefit amount times the number of weeks prescribed for the specified impairment. The benefit may be paid in installments or in a lump sum. For example, in one jurisdiction the prescribed number of weeks is 288 for the loss of (or loss of use of) a leg, 160 for one eye, 312 for an arm, 75 for a thumb, and 15 for a little finger. The schedules vary among the states as to the impairments that are scheduled, whether partial loss of use of a member is included, and if so, on what basis, and the number of weeks the benefit is paid for each handicap. A few states reduce the number of weeks for older workers. As is true in Japan, this benefit is continued even if the employee returns to work. The most common explanation of this approach is that the benefit represents the average loss in earning capacity

associated with the specified impairments. Basing the benefit on the person's physical and mental capacity instead of the employee's actual wage loss following maximum medical improvement (1) removes an important disincentive to the employee's return to work and (2) avoids the often difficult question of the extent to which the employee's failure to return to work or return at a lesser wage is caused by the impairment. This approach has been criticized because (1) the actual economic loss for each impairment differs among occupations (for example, an accountant who loses a leg may as a result lose little or no income while a truck driver may lose considerable income) and (2), if the award is at least in part, merely an award for the impairment, it should not be tied to prior earnings. Furthermore, if the schedule includes partial loss of use and impairments other than the loss of eyesight, hearing, or a body member (for example, a back impairment), disability determinations can be extremely difficult.

For unscheduled impairments, the benefit is also commonly based on the presumed loss of earning capacity, not the actual wage loss. For example, the effect of the impairment may be expressed as a percent of the loss of the "whole person". The worker may receive, say, $66 \frac{2}{3}$ percent of his or her earnings, subject to minimum and maximum weekly benefits amounts, for a number of weeks equal to the impairment percentage times the number of weeks stated in the law for loss of the "whole person". Alternatively the worker may receive, say, $66 \frac{2}{3}$ percent of the wage loss times the impairment percentage for the number of weeks specified for loss of the "whole person". In some states the specified benefit is $66 \frac{2}{3}$ percent of the actual *reduction* in wages caused by the impairment. In practice, however, in most of these states the cases are settled under compromise and release settlements for lump sums based presumably on loss of earning capacity.

A few states, notably Florida, have adopted a modified wage loss approach to all permanent partial disability cases. For example, Florida provides two benefits. The first is a small impairment benefit that is not related to the worker's earnings. The benefit is \$50 for each percentage of impairment up to 50 percent and \$100 for each higher percentage up to 100 percent. The second is a wage loss benefit payable for up to 525 weeks of payments equal to the difference between 85 percent of the worker's prior earnings and the worker's earnings after the healing period, subject to a maximum weekly benefit.

Except for the special flat amount supplement, Japan's permanent partial benefit most closely resembles the usual scheduled permanent partial disability award in the United States. The benefit depends upon an evaluation of the worker's physical and mental condition, not whether the employee returns to work. On the other hand, the benefit amount is related to the workers' prior earnings which means that it is based on the presumed loss of earning capacity. Consequently the arguments presented earlier in favor of this approach in the United States and, with some modifications, the opposing arguments also apply to Japan. Japan's approach, however, is unique in two important ways. For Class 4 through 7 disabilities the benefit is a lifetime pension instead of payments for a specified number of weeks. The benefit thus has a lower present value for older persons and others with lower life expectancies. This relationship is more consist-

ent with the presumed earning capacity loss than the United States approach, which usually ignores difference in life expectancies. Second, the annual pensions and the lump sums payable for Class 8 through 14 disabilities are indexed to changes in national average annual earnings.

For workers with disabilities that would be considered Class 1 through Class 14 handicaps in Japan the Japanese benefits are higher. More research is needed to determine whether some U.S. workers without such disabilities qualify for permanent partial disability benefits.

Death Pensions or Lump Sums. Death benefits under U.S. programs include (1) a funeral expense allowance and (2) an income-related benefit for survivors. The funeral expense allowance is a lump sum, usually between \$1,000 and \$3,000. The income-related benefit, limited to family dependents, is a weekly benefit that may or may not depend upon the number of survivors. For example, in some states the wage replacement rate may be 50 percent for a surviving spouse with one child, and 66 2/3 percent for a spouse with two or more children. In over half the states, however, the rate is 66 2/3 percent for a surviving spouse with or without children. In all states the weekly benefit is limited to a maximum amount. The spouse's benefit may be continued until the spouse dies or remarries, but almost half of the states limit the benefit to a stated number of years, a specified dollar amount, or both.

For the average worker Japan provides a funeral service allowance that includes an income-related amount. For the average worker the funeral service allowance is about the same as in the United States. Japan's income replacement benefit is higher. The benefit includes both flat and income-related amounts; the benefit for most survivors is a lifetime pension; and the death benefit is indexed.

Administration

The administration of U.S. workers' compensation insurance programs varies widely among the states. In six states a state fund insures the obligations of employers. In four of these six states employers may obtain permission to self-insure their exposure. In 32 states, unless they obtain permission to self-insure, employers must purchase insurance from private insurers. Disputes between employers or their insurers and employees are handled by a state agency with the right of appeal to the courts. In the remaining 13 jurisdictions state funds compete with private insurers for business. Consequently, except in the six states with exclusive state funds, the administrative arrangements are substantially different from those in Japan. In all but three states some employers can self-insure, an option not permitted in Japan.

Financing

U.S. workers' compensation programs are financed by employer contributions which in 1982 averaged about 1.7 percent of covered payroll. In most states in the United States employers are either (1) class rated, (2) experience rated, or (3) retrospectively rated. Many states also permit (4) schedule rating.

Class-rated employers pay a premium that depends mainly upon which of over 600

industrial classes apply to their payrolls. This approach is similar to Japan's rating by industry except that the number of classes is much larger and small employers are commonly assessed an extra flat expense charge. Only small employers, roughly those with annual class premiums of \$2,500 or less, pay the class rates.

Larger employers must be experience-rated. The class premium is modified according to (1) the most recent three-year experience of the employer relative to that of the average employer in the same industry class and (2) the credibility or statistical reliability of that relative experience. In accordance with the Law of Large Numbers the larger the employer's expected (not actual) losses the higher the credibility of that experience.

For employers with premiums in excess of about \$5,000 the experience-rated premium is discounted because the administrative and other servicing costs do not increase proportionately with the size of the employer.

Retrospective rating is optional. Under this plan the employer pays a premium that varies directly with his or her actual loss experience during the policy period subject to the constraint that the retrospective premium cannot exceed a stated maximum premium or be less than a stated minimum premium. The employer pays an advance premium based on expected losses. After the policy period ends and the loss experience is known, the insurer either returns part of this advance premium or collects additional premium. Variations of this plan are available that permit the employer to share part of the income the insurer would otherwise earn by investing the premium paid in advance of the time it pays the expenses and benefits.

Under schedule rating the insurer can modify the experience premium based upon its assessment of safety programs and other factors that it believes will affect the employer's future experience.

Except in the six exclusive fund states many private insurers write workers' compensation insurance. In most of these 45 states all insurers charge initially the rates developed by a private rating organization and approved by the state insurance department. In recent years, however, price competition has become more common. A few states now limit the role of the rating organization to the issuance of advisory rates and no longer require prior approval of rates.

The U.S. pricing system is thus more complex than Japan's. Usually all insurers charge the same price, but variations among insurers are becoming more common. More pricing plans exist; class rating divides employers into more industrial classes; and experience rating considers the credibility of the employer's relative experience, not just the relationship between the experience of the individual employer and the industry class.

Workers' compensation costs in the United States average about 1.7 percent of covered payroll compared with 1.1 percent in Japan. Table 4 presents cost data for both nations from 1950 through 1982. Workers' compensation cost Japanese employers more than U.S. employers until 1963 when the cost to both groups of employers was .99 percent of payroll. Costs in Japan tended to decline from 1950 to 1971-1973 after which time they tended to increase. The current cost is less than the cost during each of the years prior to 1962. U.S. costs, on the other hand, increased rather steadily from 1950 to 1980 after which they have decreased.

Table 4
Estimated Workers' Compensation Costs as a Percent of Covered Payroll,
Japan and the United States, 1950–1982

<u>Year</u>	<u>Japan</u>	<u>United States</u>	<u>Japan/United States</u>
1950	1.41	.89	1.6
1955	1.32	.91	1.5
1960	1.22	.93	1.3
1965	.89	1.00	.9
1970	.76	1.11	.7
1975	.93	1.32	.7
1976	.92	1.49	.6
1977	.92	1.71	.5
1978	.93	1.86	.5
1979	.94	1.95	.5
1980	1.13	1.96	.6
1981	1.16	1.84	.6
1982	1.10	1.72	.6

Source: Japanese data provided by Workmen's Compensation Division, Ministry of Labour. United States data from *Social Security Bulletin, Annual Statistical Supplement, 1983* (Washington, D.C.: U.S. Department of Health and Human Services, Social Security Administration, 1984), p.224.

Private Supplementation

Like many Japanese employers some U.S. employers supplement workers' compensation benefits with extra benefits arranged privately. These extra benefits, however, are less common than in Japan.

Why Does Worker's Compensation Cost Less in Japan?

Workers' compensation may cost less in Japan than in the United States for many reasons, of which the following seven should be carefully examined:

1. The benefits provided by the Japanese workers' compensation law may be lower.
2. The Japanese administrators may be less inclined in marginal cases to find that (1) an injury or disease is job-related, (2) a worker is disabled, or (3) the disability is serious.
3. The mix of industries in Japan may be less hazardous on the average.
4. Japanese workers may be injured less frequently and their injuries may be less severe.
5. The desire to stay at work or return to work may be stronger in Japan.
6. The cost of administering workers' compensation may be less in Japan.
7. The Japanese costing formula may defer some workers' compensation costs to future years or, alternatively, the U.S. costing formula may overestimate current costs.

Each of these seven reasons is evaluated below.

1. *Lower Statutory Benefits.* On balance, Japan's statutory benefits appear to be higher than those provided under U.S. laws. The only reason the benefits might be lower is that fewer workers may qualify for permanent total or permanent partial disability benefits in Japan because the worker must have suffered one of the listed Class 1 through 14 impairments or comparable handicaps. The U.S. system may provide permanent total or permanent partial disability benefits to some workers with impairments not listed or considered comparable to those listed in the schedule. As stated earlier, more research is necessary on this hypothesis. However, the list of specified impairments is so comprehensive and this list is extended to include so many comparable benefits that the effect of this difference in eligibility requirements is likely to be small. The effect is unlikely to outweigh the many ways in which, for a given degree of disability or death, the Japanese benefits are higher. Specifically,
 - 1) Japanese employees reserve the right to sue their employers under the civil code for work-related injuries or diseases. About 1,200 employees sue their employers each year under this provision.
 - 2) WACI covers injuries incurred while an employee is commuting to and from work.
 - 3) The percentages used to determine the replacement income for specified disabilities is usually higher.
 - 4) Japan imposes no maximum limit on the weekly workers' compensation benefit.
 - 5) Japanese employers are required to pay workers part of their wages during the WACI waiting period. (These payments, however, are not included in workers' compensation costs.)
 - 6) All disability and death pensions or lump sums are indexed to adjust the benefits for changes in average national earnings.
2. *More Restrictive Administration?* Of the possible explanations listed, the possibility that Japan administers its law more restrictively is the most difficult to evaluate. The author's qualitative judgement is that WACI administrators may be more restrictive, but only slightly so. Like U.S. administrators they are concerned about the problems associated with back injuries, heart diseases, and occupational diseases.
3. *Less Hazardous Industries?* The mix of industries in Japan by major industrial categories is so close to the U.S. mix that it is doubtful that the Japanese mix is less hazardous. For example, in both nations about 40 to 45 percent of the work force is employed in the more hazardous categories of mining, construction, manufacturing, and transportation and other utilities.
4. *Lower Accident Frequency and Severity Rates?* One important reason why workers' compensation rates are lower in Japan is that Japanese industrial accident frequency rates are much lower than in the United States, particularly for larger enterprises. For example, Table 5 shows for 1982, the latest year for which data are available for both nations, the frequency rates per 1 million

Table 5
Industrial Injury and Disease Frequency and Severity Rates,
Japan and the United States, 1982

Number of employees in firm	Work-loss injuries per 1 million hours worked	Work-loss days per work-loss injury	Work-loss days per 1 million hours worked
<u>JAPAN</u>			
1,000 or more	1.36	169	230
500-999	1.68	155	260
300-499	2.74	106	290
100-299	4.74	89	420
50-99	7.30	85	620
30-49	9.12	45	410
100 or more	2.98	107.4	320.0
<u>UNITED STATES</u>			
2,500 or more	12.3	n.a.	n.a.
1,000-2,999	15.3	n.a.	n.a.
500-999	19.0	n.a.	n.a.
250-499	22.2	n.a.	n.a.
100-249	24.0	n.a.	n.a.
50-99	22.4	n.a.	n.a.
20-49	17.2	n.a.	n.a.
1-19	7.8	n.a.	n.a.
All employees	17.5	16.8	293.5

Source: Japanese data provided by Workmen's Compensation Division, Ministry of Labour. United States data from *Occupational Injuries and Diseases* for 1982 (Washington, D.C.: U.S. Department of Labor Bureau of Labor Statistics, 1983). See text discussion of the comparability of data among the two nations.

working hours for employers of various sizes. For each of the employer size groups the work-loss frequency rate was substantially lower in Japan. In 1950 the frequency rate in Japan for employers of 100 or more was 40 per 1 million hours worked, much higher than the U.S. rate. Largely as a result of a series of Five-Year Industrial Injury Prevention Programs, the Japanese loss frequency rate decreased rapidly, dropping below the U.S. rate in the early seventies. Since that time the Japanese rate has continued to decline while the U.S. rate has remained about the same.

Japanese and U.S. rates, however, are not directly comparable. Japan counts as lost workday cases only cases that result in days away from work. The United States counts in addition those cases that result in days of restricted work activity. Restricted work activity days include workdays on which the disabled em-

ployee was assigned to another job on a temporary basis, the employee worked at a permanent job less than full time, or the employee worked at a permanently assigned job but could not perform all the duties normally connected with it. Of the lost work day cases reported for the United States over 90 percent result in days away from work. Consequently the frequency rates in the two nations are closer than Table 5 indicates, but the Japanese rate is still lower. Trend data should also be interpreted carefully because prior to 1973 U.S. data on industrial accidents were subject to a much larger margin of error than the present data, which are based on record-keeping requirements imposed by the Occupational Safety and Health Act of 1970.

Because workers' compensation costs are more closely related to workdays lost per 100,000 workers than to the claim frequency, the industrial accident severity rates shown in Table 5 are of special interest. The effect of the lower accident frequency rates in Japan appears to be more than offset by many more work-loss days per injury or disease. The larger number of work-loss days per 1 million hours worked in Japan would cause higher, not lower, workers' compensation costs.

A closer examination of the methodology used in the two countries, however, reveals that the U.S. severity rate understates the number of workdays lost per injury. If an employee's disability is continuing at the time the employer completes its annual report to the government on its occupational injuries and diseases, the employer is supposed to estimate the future number of workdays the employee will lose and add that estimated number to the workdays lost. Thus, if a worker has already lost 150 days of work during the calendar year for which the report is being prepared and is expected to be disabled for 170 more workdays, the number of lost workdays reported for that case should be 320 days. Most employers, however, apparently fail to add the estimate of workdays to be lost in the future, thus understating the loss severity. Consequently if, say, a worker is disabled for 10 years, only 100 days of which happen during the accident year, the employer would typically report for that case 100 workdays. The maximum number of workdays reported per injury is typically 250, the assumed number of workdays per year. In Japan, on the other hand, the reported number of workdays lost is 7,500 for death cases, 7,500 days for Class 1-3 handicaps, and 5,500 to 50 for Class 4-14 handicaps. For workers without physical handicaps the report tells the actual work days lost. (Until 1977 most firms in the United States used a similar system that assigned 6,000 to death and permanent total disability cases, 4,500 days for the loss of an arm above the elbow, and so on.) Another reason why the U.S. workdays lost per injury are less is that counting cases that result in restricted work activity in addition to cases that result in days away from work lowers the number of workdays lost per injury. If the U.S. severity rates were compiled on the same basis as the Japanese rates, the U.S. average number of work-days lost per work-loss injury or disease would be substantially higher. The work-loss days per 1 million hours

worked would probably be less in Japan, primarily because of its lower accident frequency rates.

5. *Work Ethic, Groupism, and Employment Practices?* Japanese employees have a strong work ethic and an intense desire to be a member of a group. Consequently, despite the high benefits currently provided by WACI, they may be less likely to miss work because of a job-related disability or to malingering. Japanese employers may also be more likely to find alternative employment for a person who might otherwise miss work because of an injury or disease. The importance of these factors is different to evaluate, but few would deny their positive impact. They should produce lower work loss accident and severity rates.
6. *Lower Insurer Servicing Costs?* Insurer servicing expenses are lower in Japan because all employers are required to purchase insurance from one national insurer. No selling costs are incurred and economies of scale are realized. Whereas in the United States servicing expenses are about one third of employers' workers' compensation costs, in Japan the corresponding proportion is about 15 percent.
7. *Deferral of Some Current Costs?* Generally U.S. costs are calculated on a benefits-incurred basis with reserves being established for benefits to be paid in the future because of accidents and diseases that have already occurred. In Japan only part of the benefits that the system is obligated to pay in the future, roughly those payable during the next six years, are included in present costs. If Japan were to switch to a benefits-incurred basis, the Workers Compensation Division believes that the payroll cost might be 1.4 or 1.5 percent. As pension benefits become more important relative to lump sum benefits, the effect of shifting to a benefits-incurred basis will increase. U.S. costs may be overstated (understated) because of reserves that are too high (too low), but no conclusion is possible on this point.

III. Summary and Conclusion

Japan's workers' compensation program is patterned after state programs in the United States, but some significant differences exist between the programs in the two nations.

One fundamental difference is that, at least in principle, in the United States workers' compensation is the exclusive remedy of the employee against the employer. The Japanese worker retains the right to sue his or her employer.

Japan provides essentially the same types of benefits as the state programs in the United States, but on balance the Japanese benefits appear to be higher. The indexing of most disability benefits to reflect increases in average national earnings is the strongest argument for this assessment that the Japanese benefits are higher. Despite these higher benefits, however, the average Japanese employer incurs lower workers' compensation costs per \$100 of payroll than the average U.S. employer.

Probably the major reason for these lower costs in Japan is Japan's much lower in-

dustrial accident and disease frequency rates. These rates have decreased dramatically and are lower today relative to the U.S. in part because of the Five Year Industrial Injury Prevention Programs started in 1958 and continued since that time. Other factors contributing to these lower frequency rates are the strong Japanese work ethic and desire to belong to a group and the paternalistic attitude of many Japanese employers.

A second major reason for the lower workers' compensation costs in Japan is its lower administrative and other servicing costs. These lower costs are attributable to the use of a single national insurer.

Finally, part of Japan's lower current costs can be explained by the funding of the system on close to a pay-as-you-go basis instead of a benefits-incurred basis. Part of the costs of accidents that have already occurred are being deferred to future years.

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